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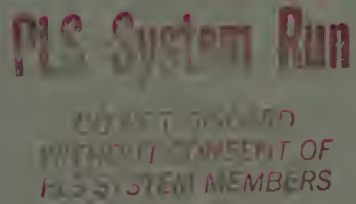

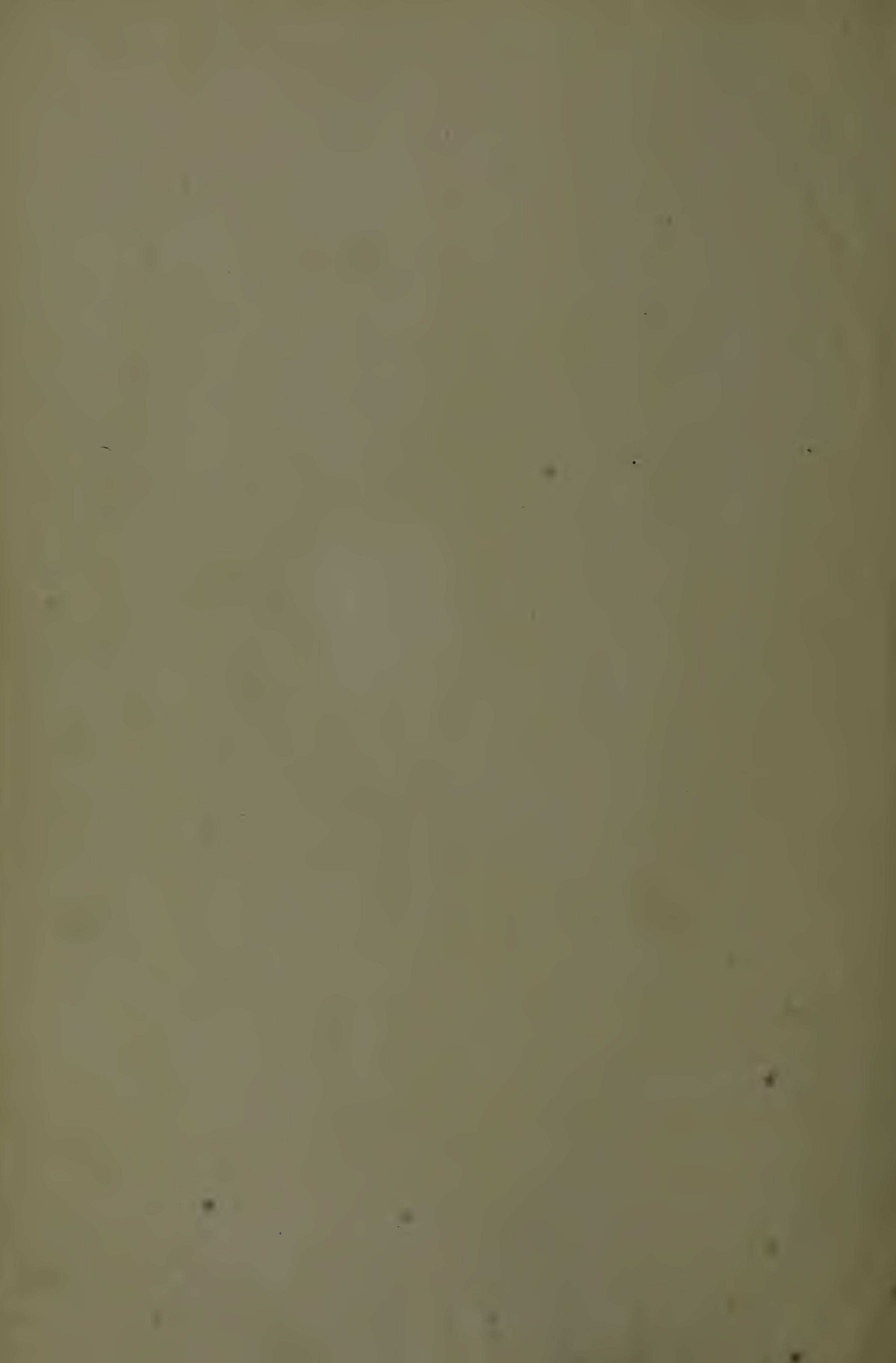

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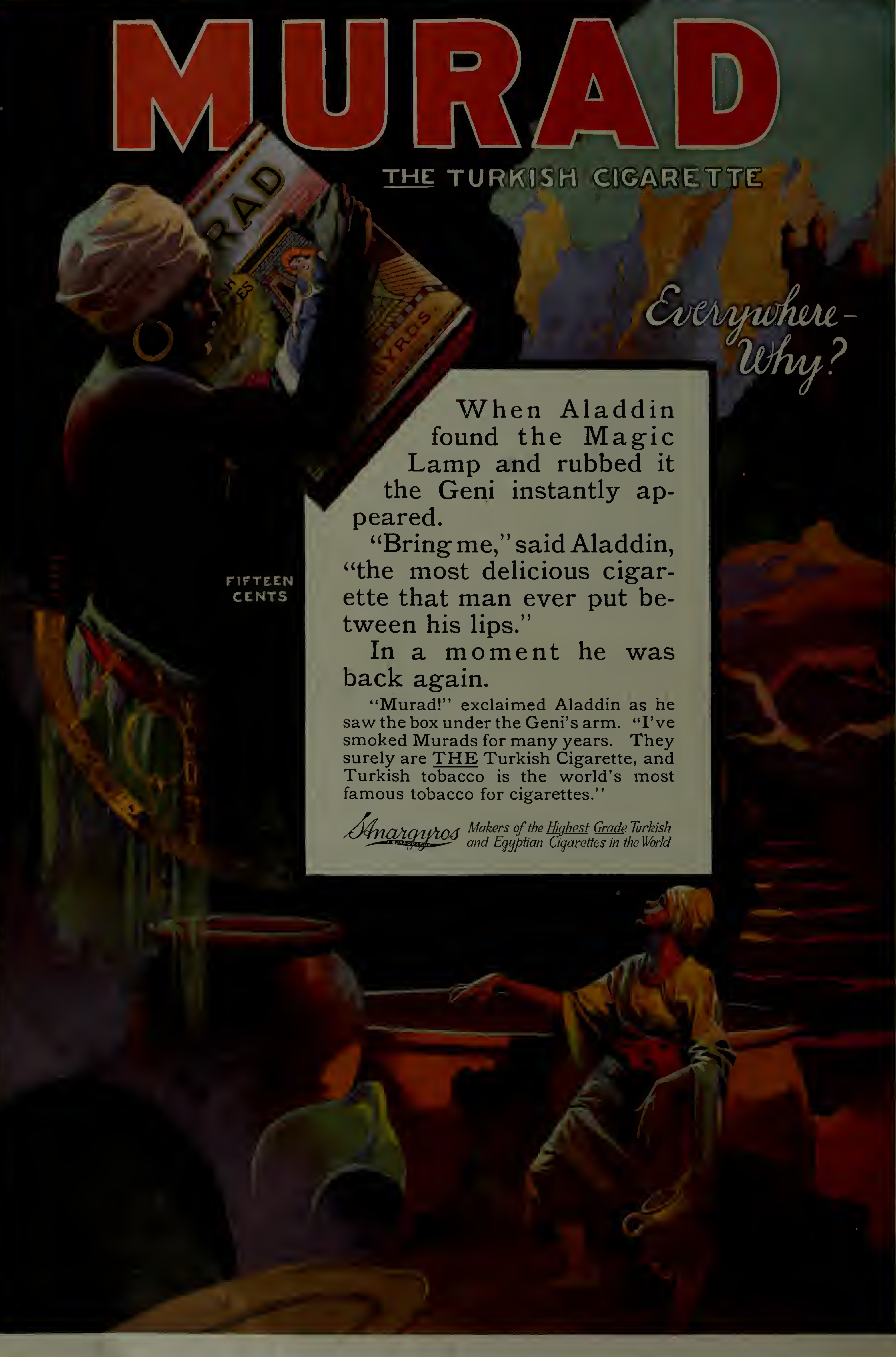
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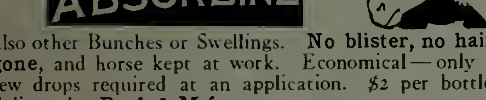

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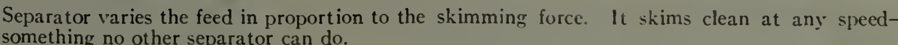

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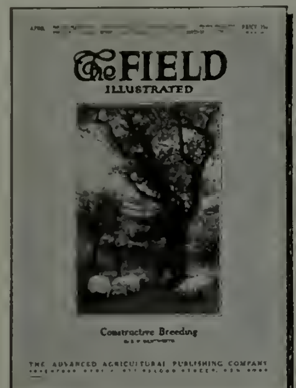

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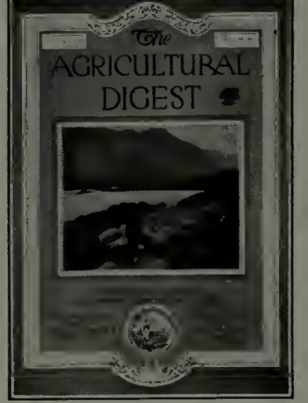
Constitution

Article II

The objects of this Society shall be as follows:

(a) To effect an organization non-partisan and non-political which by its unquestioned sponsorship and membership shall command general confidence and afford a common mouthpiece for the varied and diversified agricultural interests of the country on matters of National concern.



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FISHING IN IOWA

I BECAME inoculated with the piscatorial virus one summer at my old home in Iowa, one of those little towns which dot the landscape there about every five to seven miles. There are many streams in that country and anglers are plentiful. Many times that summer I was numbered among those anglers. I did not know at the time that I really liked fishing, but thought I was going merely because there was nothing else to do. But now it has come upon me that I must have loved the sport for itself alone.

No sooner had I reached home on my next visit than there was a call for me on the telephone.

"This is George," said a voice I quickly recognized. George is my friend; one of those old friends you always feel at home with no matter how many years you have been separated.

"Hello, George," I answered. "How are you?"

"Never mind about that," replied George hurriedly, "we can talk that over to-morrow. . . . My aunt says we can have Minnie (the horse), and I thought you might want to go fishing in the morning."

Fishing is more or less of a disease with George. He gets it by the divine right of inheritance, and

"Many times that summer I was numbered among those anglers"

by consistent practice. When the winds of winter are howling and the snow is banked to the top wire of those pig-tight Iowa fences, you can risk your last dollar that George is planning a fishing trip for the early spring. The first unwary sucker that wends its way up Wapsinonoc Creek from the river is in danger from George's generously baited hook.

We went fishing next day. A week later we went again, and thereafter during the summer we went again and again and again. At first we were quite civilized about it; we would wait till sun up, so that we could see to hitch up Minnie properly. But later we would plan our trips days ahead and when the glad morning arrived we would rise at two or three o'clock, before the first rooster had loosed his clarion call, and drive out of town while the night was still black, and the dusty road was barely discernible before us.

Oh, those fresh, dew-dripping Iowa mornings! Those quiet country roads, with bursting grain fields on either side! The tall elm trees, the osage hedges, the plump, timid quails that came tripping out before us; the beautiful tints of the morning sun climbing up from behind the bank of clouds in the east; the dark fringe of timber now coming into view along the distant river! Quietly we would move along behind old Minnie, through soft, dragging stretches of sandy road, up past the line of sentinel cottonwood trees marking the commencement of the river region; through worn and dilapidated gates, heavy and hard to move, and down the winding little road that took us to the first

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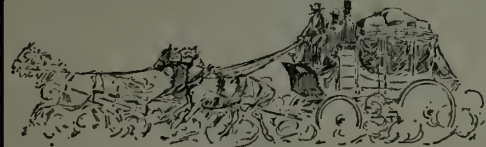

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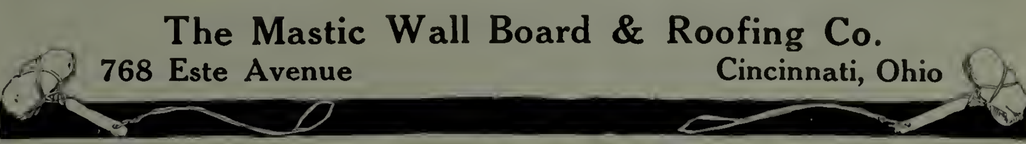

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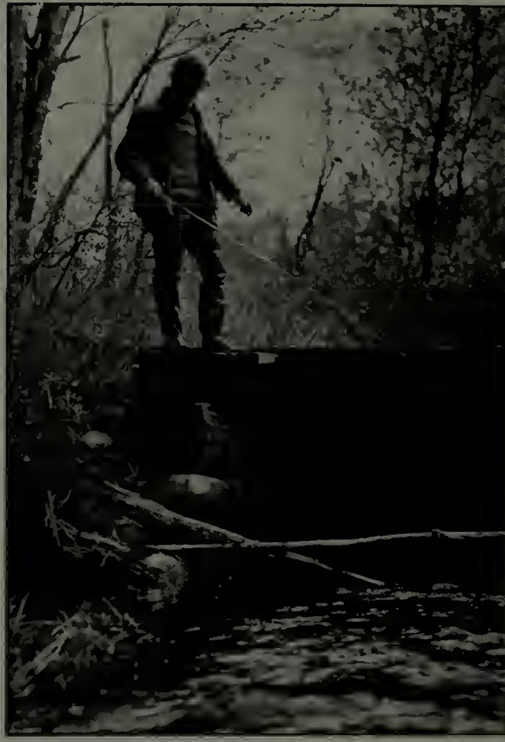
sloughs. Here we would stop and get out our net, to try for minnows. George would be whispering now; he always began talking under his breath while half a mile from our fishing place. Later in the day he would talk boisterously and freely, but in these first delicious moments, while the spell of the woods was upon him, he would speak in whispers only; this is a mark of your true fisherman.

The sloughs along these Iowa rivers, the Cedar in particular, are curious things. They catch the first overflow of the main stream each spring, and are every year given a new supply of finny creatures. Some of the sloughs dry up later in the year, but these are usually seined by an authorized game warden, and yield vast quantities of carp and game fish. The latter are put back into the river, but the carp are often distributed among friends of the game warden, or sold on the market.

But the larger sloughs never dry up. They extend for miles in the timber lying along the river, paralleling the main stream, and con-



There is always one good one under the old bridge

nected at intervals by shallow rivulets. It is in these rivulets that you are most apt to find your supply of minnows. Sometimes George and I would scoop up enough of the little wrigglers in two trials to keep our bucket supplied for a greater part of the day. On other visits we would put in an hour in vain efforts to get enough. Late in the season the rivulets dry up and the minnows are either eaten by the larger fish or swim back into the deeper waters.

I always disliked that job of getting minnows. It is hard work. My theory of fishing is to have an easy time, but I do not carry it to the extent some people do. I went out with one party of anglers last summer, who started in an automobile at nine o'clock in the morning, arrived at ten-thirty, baited their hooks, and got over on a high bank and talked about the Grand Cañon and Yellowstone Park till lunch time. After lunch, they baited up again and talked some more till four o'clock.

George and I were not as bad as that. We would work if it was necessary, and we knew by experience that the bass in those sloughs would rise to a minnow when they would not touch fish worms. So we got the minnows, thanks largely to George's persistence.

We fished usually in the sloughs during the morning. Croppies were the main catch as a rule, with the constant exception of dog fish and turtles, which abound freely in all those waters. I have seen George pull out dog fish till tears of rage sprang to his eyes and he would say things entirely out of keeping with his usual manner of speech. We hated the turtles also, for they would not only snap off a whole string of fish when opportunity offered, but once you got one on a hook it was next to impossible to get the hook out.

As I say, we caught occasional bass; small

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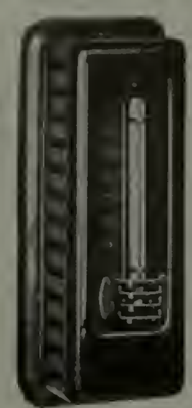

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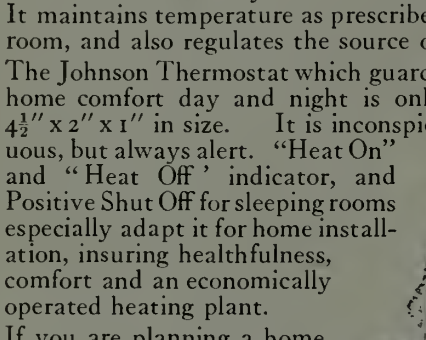

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fellows ranging from half a pound to two pounds in weight. Besides croppies and bass, the sloughs yield up many bull heads, or yellow-bellied catfish, which are delectable eating, in spite of their unprepossessing appearance.

After our lunch and hot coffee at noon, we would glance curiously at the magazines we invariably took along and seldom read, and then one of us would begin to wonder openly how things were going at the river—the great, mysterious Cedar, which always seemed so very fishy and yet which we had so often visited without avail!

There are fish to be had in the Cedar, quantities of them, but I think George and I were a little slow about learning the trick. It takes time and patience and usually a trout line to get them out. The line fisherman stands little show, except in certain localities and at certain times.

Usually we struck some spot where the stream was wide and our farthest cast would scarcely get us to four feet of water. This is an almost impossible proposition from the fishing standpoint. You may perhaps pull out an occasional channel cat or a blue cat, but generally speaking you get nothing under such circumstances but a fresh coat of sunburn, and after an hour or two of this you are glad to get back into the cool woods and the shady banks of a friendly slough.

Once, however, we made a haul worthy of mention. We got our lines into a deep swirl of water just beyond the pier of a railroad bridge. We fished more than half an hour I believe without result, when George began reeling in his line.

Where the Cedar River finds its way into Morgan's Slough

"What's doing?" I asked anxiously.

"Don't know," returned George, wonderingly, "but it feels as though there was something on."

He continued to reel in and to our astonishment brought in a two-pound fish of a beautiful, gleaming white, such as we had never seen come from the Cedar before. We wondered and exclaimed over it for some time, and then went excitedly back to our work.

Within two hours we had brought out fifteen of these fine fellows, which I think at that time, late in June, represented the catch of the season for that locality. We caught them all with worms, and while they were comparatively game, they usually swallowed the hook so deeply as to render them almost helpless. They did not strike or run with the line, but gave only a few slow tugs to let us know they were hooked.

We, in our comparative inexperience, had some trouble identifying these fish. Many fishermen described them as sheepsheads, but we consulted an illustrated encyclopedia and finally determined that they were white perch. Many more of them were taken from Iowa rivers that season, and they were fine in flavor and a very desirable catch.

Fishing in the streams of the Middle West is by no means poor sport, though old timers will tell you it does not compare with former years. The pike of other days seldom appears now, but if one knows how to set a trout line and has something of the fishing instinct for localities about him, he will generally be rewarded by a haul of rather generous proportions. We hear little talk of fishing in the interior these days, except in the lake regions, but when the spring freshets have subsided and you can tell what is river and what is land; when the suckers are running and the sinuous worm is dodging the early bird; when the days are getting languid and dreamy—I would as soon hear my friend George call up and mention something about fishing as anything I know. And I believe we would come as near having a day's real sport as those fellows who go to Palm Beach or Catalina, or up to Mackinac and sit around all day in a launch waiting for a "big one." ROBERT C. McELRAVY.

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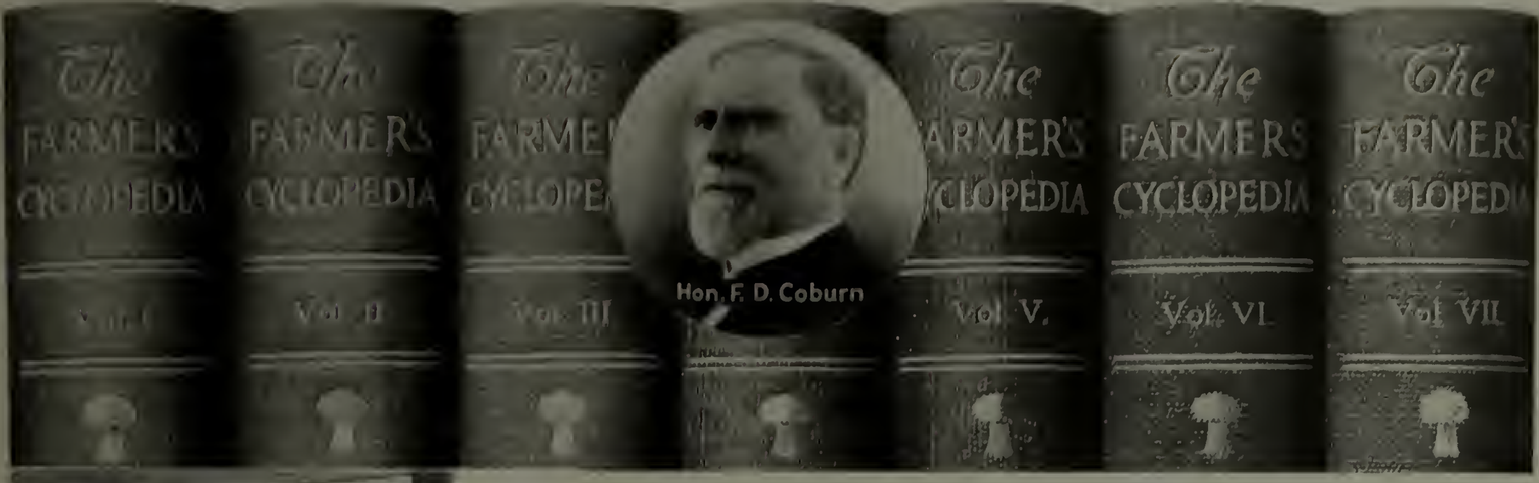

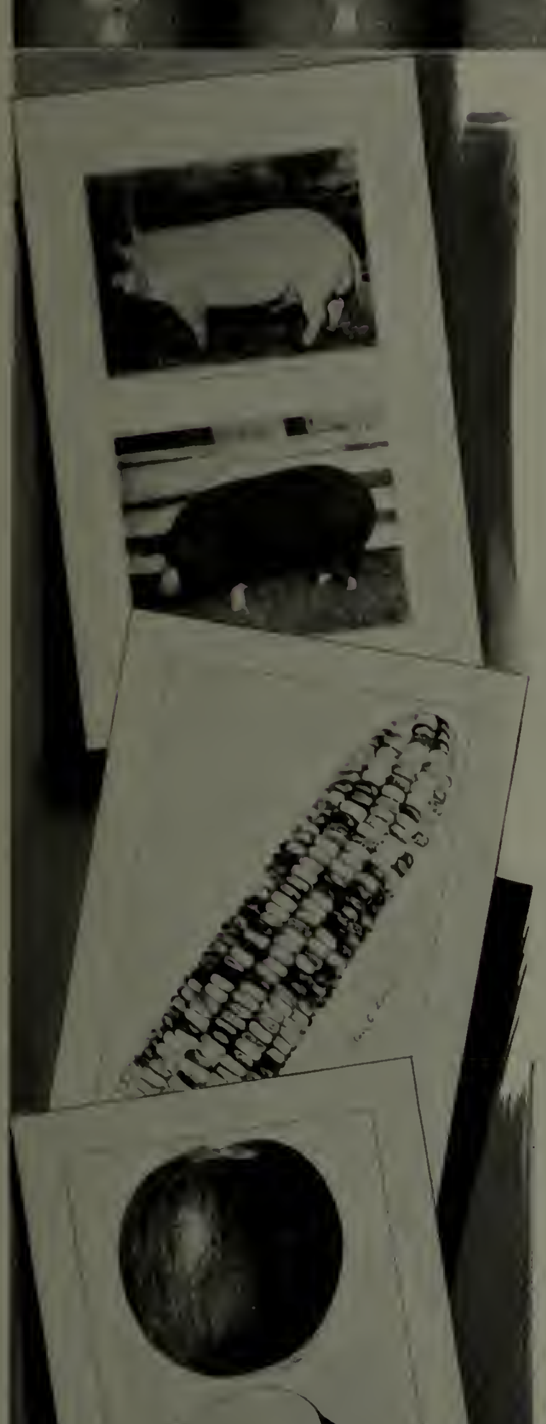

"The farmer who is not a book farmer is only one-half as good as he might be."

Country Gentleman, Editorial, January 29, 1916.

HOW very true this is! How much a farmer can learn by drawing on the experience of others through good reading. The doctor reads to learn what other doctors are doing in modern medicine and surgery. The lawyer reads to get the latest decisions. The civil engineer reads to learn the latest methods in his profession. And surely the *farmer* should read. His is a big business. No man can get the most out of it from his own unaided experience. To make larger profits, he must learn what others have found out. And President Wilson says: "The methods of our farmers must feed upon the scientific information in the state departments of agriculture—and, tap-room of all, the U. S. Department of Agriculture."

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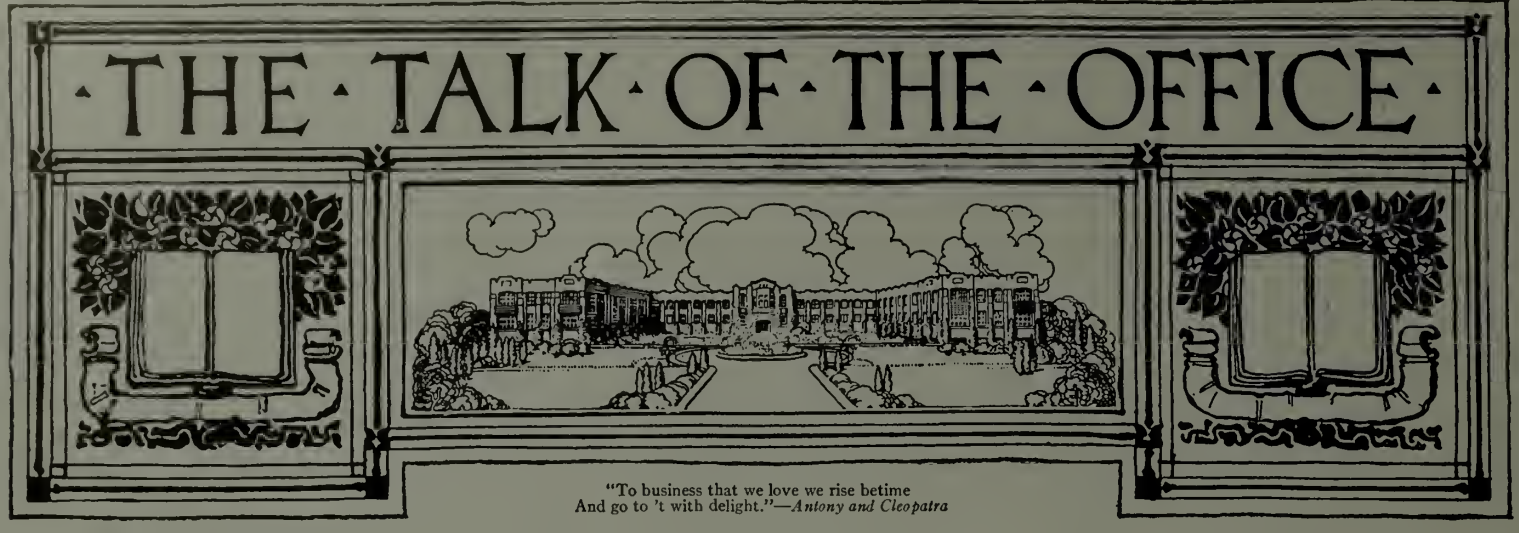

"To business that we love we rise betime
And go to 't with delight."—*Antony and Cleopatra*

FOR READING ALOUD

IT IS not often that a book of timely interest can come before the public a second time, long after the events which made it up-to-the-minute have passed, but such is the case with the latest novel of A. M. and C. N. Williamson, whose popular romances of travel have entertained so many people. The book we refer to is "Secret History, as Revealed by Lady Peggy O'Malley," which was partly laid in El Paso during the Mexican troubles of several years ago. One of the features of the story was the discovery of the plot of certain Mexican trouble makers to raid the Texas border city. Strangely enough, the events of last March on the Mexican border are rather a close parallel to the situation woven into the Williamsons' novel.

"Secret History" is a book which we can unhesitatingly recommend to our good friends as one to be read aloud, for it is light, clean, sprightly, interesting—and, besides, it is more timely than it was when it was published a year ago. It has many little touches and asides to please the listener, and will not drive him to sleep in an effort to think over it.

We publish here an interesting picture of a gentleman who was so absorbed in the fortunes of little Lady Peggy that he could not put the book down even as he walked into the sea for his bath. He almost lost the volume in the waves before he awoke to his situation.

It is a pleasure to be able to announce a new book by Mr. and Mrs. Williamson which will be published next month, and which we predict will be enjoyed by all lovers of a sprightly romance, by motorists, and especially by the thousands who read their earlier motor novel, "The Lightning Conductor." This book was one of the most popular of the Williamsons' early stories and in bringing their "Lightning Conductor" to America we believe they have achieved an equally interesting and instructive book.

Mrs. Williamson last summer spent several months in this country gathering the material for this book. She took a motor trip over several of the eastern states studying the historical associations of all places of interest and letting the beauty of the varied scenery sink in. In writing the story, which is told in the form of letters, Molly and Jack of the earlier "Lightning Conductor" appear, but this time not as hero and heroine, as in the course of years they have become a mature married couple, deeply interested in the affairs of some younger people we hope you will meet and like in the new book.

A BOOK ON THE RUSSIAN CAMPAIGN

Although very few war books have come from the Country Life Press, we feel that in Mr. Stanley Washburn's "Victory in Defeat" we have just published an important addition to the literature on the great war, and a book which will perhaps have definite historical value as time goes on for the first-hand picture it gives of the great sweeping campaigns of the Russian armies in Galicia and Poland.

He was so interested in the Williamsons' new book, "Secret History," that he walked into the sea at Nassau, Bahamas, before he knew it.

Mr. Washburn is an American war correspondent of wide experience who spent from October, 1914, to November, 1915, at the front with the Slavic forces as correspondent for the London *Times*. Last March he returned to Russia to follow the spring and summer campaign.

During his thirteen months with the Russian forces Mr. Washburn enjoyed unusual advantages for observation as he was with every active army but one, covered some 10,000 miles of territory from the Bukowina to the Baltic, saw many of the important battles and was the only American (with the exception of the American Military Attaché Lieut. Sherman Miles and Robert R. McCormick) to have any general access to the fighting lines. He discusses in illuminating manner the Russian leaders, the *morale* of the Russian troops, the Russian shortage of ammunition, and points out how far from any possible consummation was the German hope of effecting a separate peace with the Czar.

The author's experiences in Russia include a luncheon with the Czar, at the Imperial Field Headquarters, where he was decorated with the Order of St. Anne.

Mr. Washburn is a young man and fulfills in every way the popular idea of what a war correspondent should be. He "covered" the Russo-Japanese war for the Chicago *Daily News*, operating the dispatch boat *Fawan* outside Port Arthur, later serving with General Nogi's army. He was decorated with the Order of the Imperial Crown. Later, recuperating from a nervous collapse in Pekin, he received a cable message from his paper saying: "Proceed Russia direct how soon can you start."

"Start 9 morning," was his reply, and against the orders of his physicians he started for Constantinople. Russia was in the throes of the Revolution of 1906 and his object was to reach there as soon as possible. At Constantinople he chartered a small steel steamer and against the advice of all seafaring men in the Turkish capital started for Odessa. They were nearly wrecked in the Black Sea several times in the fierce winter gales, were the first ship to enter the port of Batuum on the Black Sea flying an American flag, and scored a beat on the newspapers of the world on the progress of the Revolution in Odessa.

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A list of the titles and the authors follows:

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Electricity, by Prof. John F. Woodhull. Ph. D., for more than twenty years Professor of Physical Science in Teachers' College, Columbia University.

Gardening, by Ellen Eddy Shaw, Member National Garden Association. Lecturer in New York and Massachusetts Schools. Supervisor of School Gardens and Nature Study, Botanic Garden, Brooklyn.

Home Decoration, by Prof. Charles F. Warner, for eight years Master of the Rindge Manual Training School, Mass. Twelve years Principal of the Technical High School and Director of the Evening School of Trades, Springfield, Mass.

Housekeeping, by Elizabeth Hale Gilman. Many years of practical experience in all branches of Domestic Science.

Mechanics, by Fred T. Hodgson, Superintendent of machine shops and construction of a Canadian railway. Editor, *American Builder and Woodworker* and *The National Builder*.

Needlecraft, by Effie Archer Archer, Needlework Editor of well-known magazines. Connected with New York Public Schools, Y. W. C. A., and Arts and Crafts Club.

Outdoor Sports, by Claude Miller, formerly connected with the editorial Staff of *Country Life in America*. Newspaper and magazine writer and enthusiastic sportsman.

Outdoor Work, by Mary Rogers Miller, Nature Study Lecturer at Cornell. Author of *The Brook Book* and of many magazine articles and booklets on Nature Study and Gardening.

Working in Metal, by Charles Conrad Sleffel. Wide experience in practical shop work and for twelve years Instructor in Metal Work at the Horace Mann School, Teachers' College, New York.

Guide and Index

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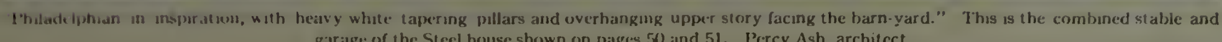
THE POET PROBABLY HAD NOTHING SO ELABORATE AS THIS IN MIND WHEN HE SIGHED FOR A LODGE IN SOME VAST WILDERNESS—BUT EVEN HE WOULD HAVE BEEN SATISFIED WITH SUCH A HOME. A LOG CABIN ON THE ESTATE OF MR. CHARLES S. WALTON, ST. DAVIDS, PA. (SEE PAGE 54)

COUNTRY LIFE IN AMERICA

VOLUME XXX May, 1916 NUMBER 1



"Philadelphian in inspiration, with heavy white tapering pillars and overhanging upper story facing the barn-yard." This is the combined stable and garage of the Steel house shown on pages 50 and 51. Percy Ash, architect

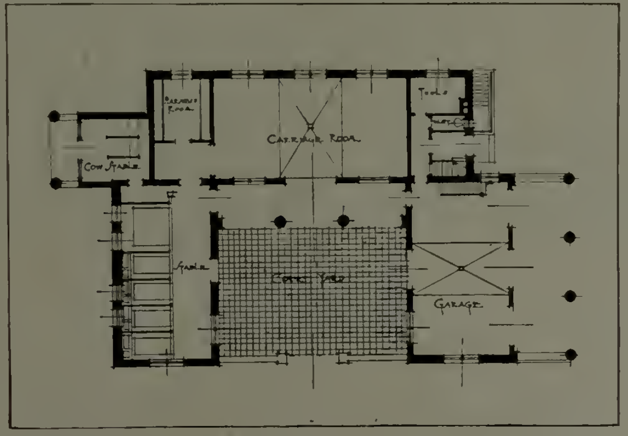
THE CONSISTENT FARM GROUP

By Alfred Morton Githens

WHY have an architect for a *barn?*"

Why not, if you have an architect for your house? Isn't a barn, with its cow stable, its lofts and feed bins and chutes, its conveyors perhaps, its system of stall-drainage and pits arranged so as to save the last pound of that valuable by-product called manure ($3.50 a yard I had to pay for the last I bought) isn't a barn as difficult to plan as your house? Isn't its sky-line of ridges, gables, and ventilators, its tower-like silo, its lower attendant tool shed, corn crib, and outhouses as prominent in the landscape as the roofs and chimneys of your house?

It seems reasonable to consider your country place as a unit. You might plan the house with your builder, who will look out for the practical details, will see that you have head-room for your staircase, and that the construction is sound; or if you employ an architect it might be worth while to consult with him about all your buildings and your grounds and garden as well.



Plan of barn-group for Mrs. R. White Steel, Bryn Mawr, pictured above, which utilizes three fronts for the three functions—stable and carriage-house, garage, cow stable. Percy Ash, architect

"But the delightful old farm-buildings of New England and the Middle States had no architects," perhaps you'll say. True; but the country builders then knew more of architecture than you realize. I have before me an old book passed down through several generations of them. It is called "The London Builder's Guide" and is dated 1748; between its worn brown leather covers are many things which architects could know with advantage. Quaintly didactic it is, and lays down the law in its old type and queer long s's; but its multitude of carefully engraved illustrations are definite and convincing. The old country builder, armed with such a book and familiar only with simple traditions of plan and composition, was quite wellfitted for the easier problems of his time. The builder and architect were one in those days. In difficult construction he was a child compared with the builder-contractor of to-day.

You decide, perhaps, to look further into the matter; to notice the more successful country places about you, and inquire whether the owners have found that an architect was necessary for

"On a private road . . . two farm-wagons and a white barn with carriage-shed projecting from it and tree-masses behind." Bailey & Bassett, architects

"The flag-paved terrace with its Windsor chairs seems to invite us." Milk would taste the better for coming from such a farmhouse. Duhring, Okie & Ziegler, architects

"A stable with long, low, sloping roof and church-spire ventilator." Inexpensive materials but a judicious use of these, well planted. Bailey & Bassett, architects

their farm buildings. You will not theorize; you will investigate, making exploring expeditions into the country in various directions to see as many such buildings as you can.

Let us imagine that you and I are about to set out on such a tour. We will examine the barns, the stables, and the outbuildings we pass, good or bad, as they come. We will look for the more interesting of each type and ignore the others, for we expect in such a ramble to find not necessarily the best in the countryside, but what we may consider good, representative buildings. We have blundered into a private road somehow, and hurry by two farm wagons and a white barn with carriage shed projecting from it and tree-masses behind, out through the open fields, past a stable with long, low, sloping roof and little church-spire ventilator; we speed by a great barn with lower stable-ranges bordering the sheltered barnyard. It resembles the old stone post-Revolutionary barns and invites investigation, but we do not stop; the buildings fit the sweetness of the countryside, but we have not examined them in detail.

In the next estate is a brand-new coachman's house and stable, on rather an ambitious scale. If there were a few carefully placed shrubs or vines, the building would seem more a part of the country. When you build you will save a little in the cost of construction and put it into planting. If you decide to have an architect, you must ask his opinion as to where he thinks the foliage should be massed; you will find him eager to help in this for the enhancing of his finished work and reputation; you need not ask him for an elaborate planting-plan, but by casually bringing up the subject, in a few minutes you will find out his ideal arrangement, for as he composed your building, the chances are that he has vaguely visualized a general scheme of planting, and it will do no harm for you to know it.

But we are on our way. Yonder, across the fields, those roofs recall the old Pennsylvania farmsteads. We pause and alight. These buildings are also new; there is no planting, and yet they seem to belong to the landscape and grow out of it. They apparently give the lie to my positive speech a few minutes ago. You laugh at me, perhaps. But there is an explanation, and it lies in the long eaves and ridges, the preponderance of the horizontal rather than the vertical, the tranquil rather than the staccato.

"A great barn with lower stable-ranges bordering the barn-yard . . . suggesting the old post-Revolutionary barns." Duhring, Okie & Ziegler, architects

We are interested and alight. The owner happens to be there and he takes us through the barred gate into the barnyard; we pick

"A small spring-house . . . its rectangles outlined in black timbers reminiscent of the cottages of Kent and Surrey." Duhring, Okie & Ziegler, architects

"Through the barred gate into the barn-yard." Again appears the fat plastered column of Pennsylvania farm barns. Mellor & Meigs, architects

our way through the dry litter and are shown a complete farm organism under one series of connected roofs—horse stables, cow stables, carriage house, garage, hay lofts, and granaries. He explains how he has followed the old system of fodder storage over the stables so that the hay and feed may be dropped through chutes, and no conveyors are needed. Under the great barn are the cows; in the lower wing the horses. He has something else for us to see, his architect's drawing of the completed scheme, including his residence, for his place is still in the making. As in the old farmsteads about Philadelphia, the barn is largest and most prominent. The arrangement, however, is conceived as a whole, with as much study put on the barn-group as on the house, with garden and lawn carefully thought out, and stone walls planned to connect all together.

Coachman's house and stable of Mrs. Elsie French Vanderbilt at Newport, before the planting had matured. Andrews, Jacques & Rantoul, architects

"Recalling the Pennsylvania farmsteads . . . long eaves and ridges, a preponderance of horizontal rather than vertical." Mellor & Meigs, architects

fruit trees; a clump of shade trees might interpose; in short, to retain a grouping of all the buildings, yet to have them separated by tree masses, studied orientation or careful placing in relation to the contours of the ground—this is one ideal. Another perfectly logical arrangement is to have two distinct groups, the house group and the farm group, quite far apart, with little or no relation in their group composition. This is the only reasonable arrangement if an architect is retained for the house and not for the other buildings, for there is no compelling need of carrying a similar style of architecture through the two groups, though a more impressive estate would be produced thereby.

The group might have been arranged somewhat differently if certain hard and fast conditions had not governed it, for the house might have been moved to one side so as to be as near the barn, yet not facing it. Some persons would doubtless prefer such an arrangement, prefer not to see continually the wheels of the farm machinery go 'round. For instance, the barnyard might be on the side of the barn away from the house and the barn appear merely as a background for vines or pleached

We resume our wanderings. Next is a peculiarly fascinating barn group. It has an elusive, leisurely grace that one feels but cannot describe. Everything about it seems near the absolute of perfection, the outlines perfect, the proportions perfect, the trees and vines and broad turf about it perfect. Again we alight. We investigate more closely. The exquisite detail we notice and the fine stonework laid in the Philadelphia manner; the walls are whitewashed where they might be

"A complete farm-organism under one series of roofs . . . stone walls connecting house and garden with it . . . a single composition." Mellor & Meigs, architects

road-system so that fodder may be easily gotten in and manure distributed. The prevailing winds must be taken into account so that no odors deluge the house in summer, if the house be near-by. One could go on *ad infinitum* with rules and precepts of what to avoid.

But we must hurry on. Now we pass several low cottages of rough-cast and whitewashed stone, built for the tenants or the gardener I suppose. They are well designed and surely add to the attractiveness of the landscape. Where the irregularity of the site allows it, they are fitted intimately into the slopes and hollows of the ground. One would be glad to be a tenant there! Yonder flag-paved terrace with its Windsor chairs and covered well-head seems to invite us to stay awhile, but we must on. A garage and greenhouse next; then another huge barn group, very evidently new, but, like the others, following old tradi-

Cottage of roughcast and whitewashed stone on Philander C. Knox's estate at Valley Forge, Pa. Duhring, Okie & Ziegler, architects

soiled by the proximity of the horses or cattle. The building is evidently Philadelphian in its inspiration, with the heavy white tapering pillars and overhanging upper story facing the barnyard. We criticize the rather heavy cornices of the ventilators perhaps, but otherwise everything seems just as it should be. We are taken through the buildings; the interior arrangement is compact and convenient; we notice the utilization of the three fronts for the three functions—stable and carriage house, garage, cow stable—and that, although separate, they back toward each other, but are only a step apart and therefore easy to administer.

Now this proper arrangement of parts in relation to each other is exactly what the average man thinks he can accomplish by himself. He is quite ready to acknowledge that he cannot handle the exterior, or "the elevations"; but he undertakes the plan without fear. His difficulties are sometimes quite primitive. We remember a certain neighbor who decided on the exact outside dimensions of his stable and did not allow sufficiently for wall-thickness; so when the shell was built he had room for one less stall than he needed and a foot or two left over at the end which has become a dirt-catcher and a place to stow trash that should be destroyed. He really made a mess of that stable. Some one told him of the danger of sun in the horses' eyes, and carefully avoiding facing his stalls toward the south, he managed to get his horses in a draught. Then the harness room is next the stalls and his buckles and fittings are sadly tarnished by the ammonia fumes. He seems to have had more than his share of misfortune, I suppose, but many are the pitfalls that await the bold and unwary. I have no doubt that planning seems to him the science of what to avoid.

It is an easy and natural error to place the dairy next the cow stable for convenience in handling the milk, but milk readily absorbs odors and so would become rather too reminiscent of its origin. Yet the farm is a machine, and convenience in management is of the first importance. All the buildings must be properly related to the

"Stable wings to the rear suggest the double rows of stalls within." The builders can hardly have left. Chas. Barton Keen, architect

tion, a garage and tool house half buried in low trees and masses of rhododendron, then a small spring house of another type. It seems an importation from England, with its pent-eaved window and rectangles outlined in black timbers, reminiscent of Stratford-on-Avon or the cottages of Kent and Surrey. It is built over a natural spring, whose waters lie between the straight stone paths of the lower room. The milk-cans are set neck-deep in the cold water to chill the fresh milk. These buildings are all designed to be unobtrusive and, as the back-

"An older building . . . satisfying as a piece of design." Again from the Bryn Mawr section. Keen & Mead, architects

"Another stable . . . its wall finished in the Spanish texture of contrasting rough and smooth stucco." J. W. Ames, architect

writers say, to "blend with the landscape"—of all qualities one of the most difficult to attain.

Now we reach more level country where a building is bound to assert itself, no matter what its design. Here they are grading the drives around an unfinished barn and stable, white and hard despite its gambreled roof, of good design and staid dignity, but crying out for proper anchorage to mother earth. It will seem quite different in a year with planting finished. The stable wings to the rear suggest the double rows of stalls within.

Next we pass another cowstable, just completed, its walls finished in the Spanish texture of contrasting rough and smooth stucco.

Beyond them is an older building, to me very satisfying as a piece of architectural design. Notice the breadth of roof surface and the relation of the right-hand dormer to it. The great second story hay door was to be the dominant feature, and that its dominance might be complete, the dormer sill is depressed below the roof slope.

But here is a familiar place, for we have seen it illustrated more than once in various magazines. Best of all we have seen perhaps, it illustrates the possibility of combining house, garden, barn, and outbuildings so that the rest would suffer were one withdrawn.

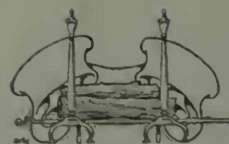
We study the careful placing of the barn, how its walls are made into a vertical garden by trellises and vine-masses; lest it be too assertive, its bulk is broken by tall poplars.

Well, to-day's pilgrimage is over. Most of the buildings we have seen seem to argue for the architect. Perhaps it is unfair to judge until we see what can be accomplished without him. In remote districts we might find attractive modern barns and outbuildings designed entirely by their owners and builders.

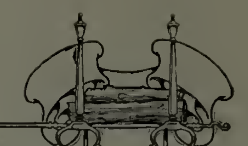
Of course your superintendent and the builder are familiar with other barns or stables that have been successful. What they will do, consciously or not, will be to duplicate one that they liked as near as they can; but the danger is that though successful somewhere else, it might not be so under the different geographic conditions of your farm.

As to the various esthetic qualities and relationships we have admired, though you yourself realize them, I doubt whether without both technical training and experience you could create them. After all, isn't it consistent to dismiss the architect altogether, or else let him help you in all your building operations?

The lovely vine-covered barn of Fairacres, Jenkintown, Pa., a part, with the poplars, of the garden's background. Wilson Eyre, architect



THE INFORMAL FIREPLACE



By John Taylor Boyd, Jr.

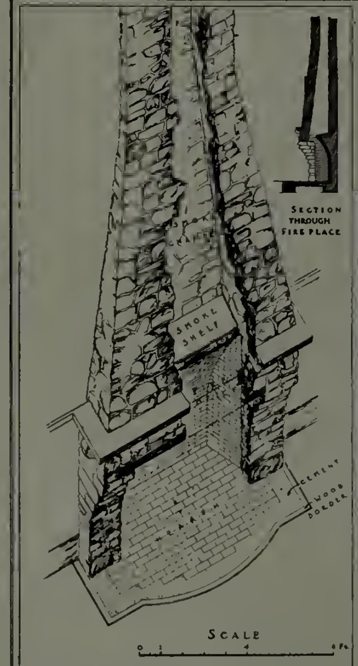
FIRE-places are altogether the most important features of the interior of a house. This is true not only of small dwellings where, except for the stairs, the fireplaces and mantels are the only bits of architecture in the whole design, but also in the case of the more imposing houses. No matter how much formal decoration is lavished on walls and ceiling, the fireplace is usually selected for special enrichment and emphasis as the keystone of the scheme of decoration for the whole room. From the beginnings of history the hearth has been the centre of the family and the symbol of the home, in its functions of giving forth light and heat and of providing the means of cooking, besides its more restricted use in modern times as nothing more than a source of pleasure and of relaxation.

The fireplace at Bear Mountain Inn. The construction of huge fireplaces like this calls for special considerations due to their great size rather than to any difference in character from the smaller types. Tooker & Marsh, architects

Such ancient race memories of the fireplace are never more strikingly personified than in the sturdy, rough constructions of camp and cottage—themselves a return to simpler and more natural ways of living. They are devoid of any features of highly developed architecture, and in their great size suggest to us the older uses of the fireplace in cooking and warmth-giving. Indeed, several of the examples shown in these pages are large enough for the roasting, over cordwood logs, of a row of ducks, a fat buck, or a bear steak in the true medieval manner such as Sir Walter Scott describes.

Though the informal type of fireplace may be rude, it need not be ugly or ungainly. Such fireplaces do not often come under the hands of architects, but are usually thrown together in a haphazard way by a local mason, without the slightest regard for form or proportion, and as a result are unnecessarily crude. In fact, the more form they have, so much the more will they resemble ancestral prototypes, for in times long past, even the humblest dwelling was built with a naïve beauty that rouses our envy to-day. All the fireplaces shown here were designed by architects, and it is worth while to note the resourcefulness brought to bear in their designs.

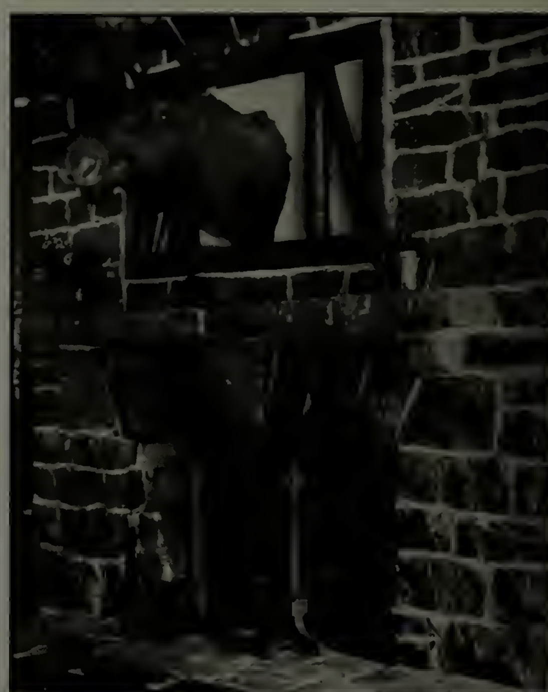
A simple fireplace crudely fashioned from local materials, but pleasing in proportions and effective in operation



Isometric drawing of fireplace, showing plan and construction

In addition to considerations of appearance, the construction of these chimney pieces, which contain many tons of masonry, should be carefully worked out in all its details. If one imagines that any huge recessed opening in a chimney will fill the order, he may be disappointed. The fireplace may not draw, or defective masonry may cause a conflagration or even a collapse. The details of fireplace construction are generally misunderstood, and I have often been surprised at the many curious notions people have in regard to them. When they come to build, owners imagine that successful fireplaces are a matter of chance, and they watch the construction with an anxiety that is not allayed until the fireplaces are tested out by kindling some wood in them. People have asked me, doubtfully: "Why can't they build fireplaces to-day that equal the old ones?" The answer is that not only can they build as successful fireplaces as the old-timers did, but they usually build much better ones. There is really no reason why a fireplace should not draw. And as to safe construction, chimneys are more carefully and more solidly built now than formerly, mainly because architects have insisted on tile flue linings and cement mortar.

In the matter of safety, the old builders often went far astray. The massive chimney of a very old house may be a perfect fire-trap, and it is a fact that most of the fires that break out in old houses are the result of defective chimneys—unlined flues built of poor masonry. Indeed, many of the stone chimneys in Colonial America were laid up in clay from the fields, with no



Typical hunting lodge fireplace at Lake Placid. It is well to remember that chimney, fireplace, and hearth, should rest on firm foundations

An interesting tiled fireplace in the Toronto home of Mr. C. S. Swayne, landscape architect, who designed it himself

had charred the wood of a packing case touching the radiator! It is evident, therefore, that a chimney should be a job 100 per cent. well done.

The size of the flue is the next important point to consider. It is scaled to the size of the opening of the fireplace in the room, in the proportion of about 1 to 10. For example, a fireplace opening 3 ft. 8 in. wide and 2 ft. 8 in. high represents an area of 1,408 square inches. If we take one tenth of this we have 140.8 square inches, which is the theoretical area of the cross section of the flue. Consequently a lining of the stock size 12 x 12 will be ample for the proper draught. Some authorities hold that the proportion of 1 to 10 is too low, that the draught resulting from it will cause the fire on the hearth to burn up too quickly, and, in addition, draw all the heat out of the room. In most cases the proportion of 1 to 12 is probably satisfactory, and I know of an architect who has designed countless fireplaces who is willing to make his flues much smaller than that. To prevent the too rapid escape of air, iron dampers are often built in the fireplace, though I agree with those who consider them superfluous in small size types. If such dampers are used it is well to remember that they are in place, and not inform the architect that his fireplaces will not draw, only to have him inspect the work and find the damper closed tight,—an incident which actually happened.

mortar of any kind—mere sieves for heat. As the clay may crumble or be disturbed by rats, the danger lurking in them may be imagined. In old brick chimneys, the absence of flue linings, and the thin walls, sometimes only four inches—one brick—thick, laid in lime mortar of poor quality, together with floor beams resting on the chimney, are a few of the features likely to cause trouble.

To make a chimney safe, the flue should be lined with terra cotta flue lining up to the top, and the joints of this lining be made of fire clay. The chimney around the flue should be eight inches or more thick, laid in mortar made of sand and Portland cement, without lime—in spite of the mason's protests. Some brick chimneys have walls only four inches thick, but this hardly seems enough. Recently an improved type of terra cotta flue lining has come upon the market which consists of a double thickness containing an air space between and a rabated joint between the pieces. This seems a desirable lining, and with it a four-inch wall might safely be used. In fireproofing a chimney, we should remember that it is not enough to prevent sparks from reaching woodwork, but that great heat must also be kept away. Investigations undertaken by insurance companies have revealed extraordinary cases of combustion; one instance especially, where heat from a steam radiator in a store-room

The unique recessed inglenook in the H. T. Hull boat house living room at Lake Placid, with grill work of peeled logs and saplings. Dennison & Hirons, architects

This fireplace in a log cabin on the estate of Robert W. Pomeroy, Esq., at Buffalo, N. Y., defies the rule which proscribes the inclusion of timbers in chimney construction

These are the principal considerations in chimney and flue construction, and they apply for all examples of whatever size. Equally important is the design of the fireplace itself. The isometric drawing on page 32, made from the architect's construction drawings of a fireplace in a Canadian camp, will serve to make clear the principles to be applied. In the drawing, the stones are removed from a part of the chimney-breast in front to show the smoke chamber, a large pyramidal open space just above the fireplace. The smoke from the fire on the hearth enters the smoke chamber from the fireplace through the throat, a long slit extending the full width of the fireplace over the front of it. It is at the throat that any metal damper may be installed, should it be desired. The bottom of the smoke chamber at the throat should be made flat and horizontal, forming a wide shelf—called the "smoke shelf"—for the purpose of deflecting any down draught in the chimney away from the throat, which might otherwise become choked from time to time and allow smoke to escape into the room. The flue with its flue lining leads up from the top of the smoke chamber several feet above the hearth.

As to the fireplace itself, the considerations are soon set forth. The opening into the room should preferably be somewhat lower than wide, and not too deep. The idea that the deeper a fireplace is the better it will draw

is a fallacy. For instance, a fireplace 2 ft. 8 in. wide need be only 1 ft. 4 in. deep, and one 4 ft. 6 in. wide, need be only 2 feet deep. The example shown in the drawing is 7 feet wide, 5 feet high, and 2 ft. 8 in. deep, though it corbels out over the hearth. In any fireplace it is well to splay the sides and to arch over the back up toward the throat, not only for the sake of appearance but also because the heat is the better radiated out from their hot surfaces into the room. The sides and back are lined with fire brick laid in fire-clay, unprotected stonework being liable to crack and disintegrate.

It is perhaps superfluous to add that chimney, fireplace, and hearth should be solidly built on sound foundations, should carry their own weight and nothing else, with no beams or joists resting upon them.

Such are the main features of fireplace and chimney construction as practised by many architects. It must be said that one may find plenty of examples which are different in one detail or another, yet which nevertheless work perfectly. Some people even omit the smoke chamber, and others follow certain old types in New England, where the throat is at the back of the fireplace instead of at the front. One may find many old chimneys which contain one flue serving two or more fireplaces. Still it is fair to say that, while the methods I have outlined are not the only possible ones, they have proved entirely successful in hundreds of cases, and I personally do not know of any instance where they have not been thus successful.

A rather unusual treatment—the fireplace raised and slightly recessed. Walker & Gillette, architects

A happy solution of the corner fireplace problem, which necessitates an irregular shaped fire box and the location of the flue at one side

When we build the large constructions of the informal camp type herein described, we have usually to deal with some special considerations due to their great size rather than to any real difference in character from the smaller types. In the first place, to make absolutely sure that the blaze of the great log fires will be drawn up the chimney, the flues are often made proportionately larger. In the drawing, the flue shown is 15 inches by 3 ft. 8 in., or in the ratio of flue to fireplace opening of about 1 to 8. There are no terra cotta flue linings manufactured large enough for such huge flues, and the chimney must consequently be built with great care and solidity to avoid danger. One well known architect was asked how he had made a certain colossal fireplace draw. "Oh!" he replied, "I was afraid one flue might not be enough, so I put in two!"

The construction of huge fireplaces must be carefully planned, for they contain many tons of masonry which must be supported and well braced to make them secure. If great arches are built, care should be taken to load them at the sides with enough mass to take up the thrust; or else they should be tied together with irons or with reinforced concrete. Referring to our drawing again, there is a steel angle iron support for the stones of the arch over the opening in front and another heavy channel beam to carry them at the back. This latter channel beam is part of a frame which extends into the jambs of the fireplace to the back of the chimney for the purpose of supporting the heavy masonry of the smoke chamber in front, which comes upon the edge of the corbels and might otherwise crush them down. Completing this reinforcement there is also an iron angle at the throat to support the firebrick arch at the back of the fireplace.

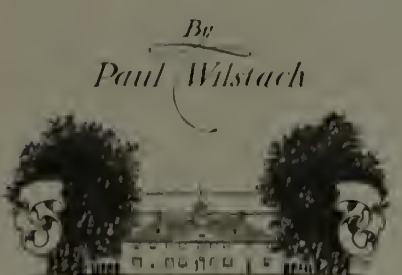
I have outlined above the main principles of good fireplace and chimney construction as carried out in architectural practice. But they are not the final words. As the structures are used they should be kept fairly clean and inspected from time to time to make sure that no defects develop. Like all other things that go into a house, fireplaces are but illustrations of the truth—often ignored—that there is no such thing in the world as an "automatic" device. The very simplest fixtures in plumbing, heating, wiring, yes, floors, walls, and roofs, need constant care and attention. Yet except for the most obvious and insistent things, like plumbing, this maintenance is too often overlooked. People prefer to wait for the appearance of the disease rather than to seek to prevent it.

A huge but well proportioned fireplace which proves that informality of construction need not necessarily mean ugliness or ungainliness

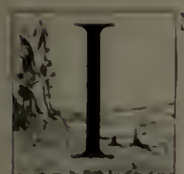
DOMESTIC LIFE AT MOUNT VERNON

By
Paul Wilstach

The old well house back of the kitchen



The gate for visitors who come by electric cars



IN COLONIAL days the mistress of a great house like Mount Vernon was more than a mere housekeeper. Her obligations extended beyond the mansion, into the many little domestic buildings which nestled about it.

When the widow, Martha Custis, came to her new home, the bride of Colonel George Washington, she brought with her John Parke Custis and Martha Parke Custis, her children by her first husband. The master and mistress kept these two with them until Martha died and John married, and took up his home nearby; after his death the aging and childless pair adopted two of his children, George Washington Parke Custis and Eleanor Parke Custis. So the Mount Vernon household numbered four during the last forty-one years of the General's life.

They were the nucleus of a busy and extensive life on the estate. The gradual accumulation of shoemakers, tailors, smiths, carpenters, wheelwrights, masons, charcoal burners, farmers, millers, hostlers, house and outside servants, and overseers, all with their families, constituted an army of several hundred. Everybody and everything that had no relation to the big house fell under the direct jurisdiction of the General. The house servants and all those connected with the domestic side of life on the place were the responsibility of Mrs. Washington.

She was a woman of methodical habits, with real love for domestic management, and a native energy which kept her hands busy at all times. Even when she sat down to visit or to rest, the knitting needles danced under her chubby fingers.

Her grandson gives this brief sketch of her domestic life: "In her dress, though plain, she was so scrupulously neat that ladies often wondered how Mrs. Washington could wear a gown for a week, go through her kitchen and laundries, and all the varieties of places in the routine of domestic management, and yet the gown retain its snow-like whiteness, unsullied by a single speck. In her conduct to her servants, her discipline was prompt, yet humane, and her household was remarkable for the excellence of its domestics."

Near the mansion grew up little houses for all sorts of domestic offices and manufacture. In one the shuttle bobbed back and forth through the great loom, in another buzzed a whole battery of spinning-wheels. Across the lawn in another of the little white houses stood the steaming tubs. There was no appointed "wash-day" on the plantation. Every day the laundry rang with the music of wash-board and mangle, beaten clothes and hissing steam. Its neighbor, the dairy, was scarcely less active with the gallons of milk to skim, the butter to churn, and the cheese to prepare. A near-by smokehouse lined with legs, sides, and shoulders hanging on crude forked hooks of natural wood, was the one quiet house in the little group.

After the fashion of most old Virginia homes, the kitchen was in a detached house next to the big house, and processions of pickaninnies carried the heaped dishes across the lawn to the family dining room. The altar of this temple was a great fireplace with an opening which would accommodate half a dozen grown persons. Here andirons held wood cut to cord size, and often oak logs which strained a brace of black backs to lift into place. Cranes of iron, wrought over the hill in the blacksmith shop, swung steaming kettles over the glowing coals. Quarters of beef, young suckling pigs, and rows of fowl, game and domestic, were roasted on spits. Corn pone and sweet potatoes nestled in the ashes. The plantation cooks knew the nice properties of all the woods, and were particular to have sassafras or beechnut, red or white oak, hickory, pine, or gum, according as they needed a slow fire or fast, or as the epicure demanded each wood's own smoky aroma.

When Mrs. Washington first came to Mount Vernon she refurnished it throughout. Some things she brought up from her former home in the York country and she retained a few things in the house which survived the days of Lawrence and Anne. Among the latter were the painting of the Battle of Carthagena, sent Lawrence by Admiral Vernon, the old lantern in the hall, and the brass window cornices and curtain bands in the west parlor, all of which have survived the changes of years and are to-day preserved in their accustomed places.

The most interesting feature of the great kitchen fireplace is the smoke-jack—a slender belt chain operating from a circular fan in the chimney that turns the spit. The chain runs over a flanged wheel at the end of the spit, and the draft from the fire keeps the fan in motion

In the main, however, Mount Vernon was refurnished by order on London. The Virginia Colonial dame of means shopped almost exclusively by mail order on England. Yet in point of time she was more distant from the London market than is Japan to-day.

Robert Cary & Co. were Washington's London correspondents at this time. Immediately the Colonel and his bride reached home, they made an invoice of needed furnishings and sent a long order, which included: "1 Tester Bedstead $7\frac{1}{2}$ feet pitch with a fashionable blue or blue and white curtains to suit a Room laid w yl Ireeld. paper. Window curtains of the same for two windows; with Papier Maché Cornish covered with the cloth. 1 fine Bed Coverlid to match the Curtains. 4 Chair bottoms of the same; that is, as much covering suited to the above furniture as will go over the seats of 4 Chairs (which I have by me) in order to make the whole furniture

The room of Nellie Custis, with the wooden high chair which she used as little girl when she, with her brother, was adopted by the General and his wife

uniformly handsome and genteel. 1 Fashionable set of Desert Glasses and Stands for Sweet meats and Jellys &c.—together with Wash Glasses and a proper Stand for these also. 2 Setts of Chamber, or Bed Carpets—Wilton. 4 Fashionable China Branches & Stands for Candles. 2 Neat fire Screens. 50 lbs. Spirma Citi Candles. 6 Carving Knives and Forks—handles of Stained Ivory and bound with silver. 1 Large neat and Easy Couch for a Passage. 50 yards of best Floor Matting.

"Order from the best House in Madeira a Pipe of the best Old Wine, and let it be secured from Pilferers."

This order further included hosiery of cotton and silk; half a dozen pairs of shoes "to be made by one

The old tool house, later a school room, at the corner of the garden

Didsbury, on Colo. Baylor's Last — but a little larger than his — & to have high heels"; riding gloves; a "Suit of Cloaths of the finest Cloth and fashionable colour"; a "large assortment of grass seeds"; "the newest and most approved Treatise of Agriculture"; also "a New System of Agriculture, or a Speedy Way to Grow Rich," and "Six Bottles of Greenhows Tincture."

This was despatched in May, 1759. In September Washington forwarded another order of about 250 items.

"From this time," he writes it will be requisite, that you should raise three accounts; one for me, another for the estate, and a third for Miss Patty Custis; or, if you think it more eligible (as I believe it would be), make me a debtor on my own account for John Parke Custis, and for Miss Martha Parke Custis, as each will have their own part of the estate assigned to them this fall, and the whole will remain under my management, whose particular care it shall be to distinguish always either by letter or invoice, from whom tobaccos are shipped, and for whose use goods are imported, in order to prevent any mistakes arising."

Quaint items arrest the eye all along these lists. There are "A light summer suit made of Duroy, 2 plain Beaver Hats, a Salmon-covered Tabby, Calamanco shoes, 6m Minnikin Pins, 30 yards Red Shalloon, 5 castor-Hats, 2 Postilion Caps, one dozen coarse shoe and knee buckles, 450 ells Osnabergs." In an order "for Miss Custis, 4 years old" were "2 Caps, 2 pairs Ruffles, 2 Tuckers, Bibs and Aprons, if fashionable, 2 fans, 2 Masks, 2 Bonnets," a "Cloak of Fashionable silk made to pack-thread stays," one fashionable dressed baby 10s. For "Master Custis, 6 years old" he ordered "1 piece black hair ribbon, 1 pair handsome silver Shoe and Knee Buckles, 10s worth of toys, 6 little books for children beginning to read, and 1 light duffel Cloak with silver frogs."

Other interesting articles in the early lists are some 200 carpenter's tools, an extensive provision for the pharmacopœia, "all liquids in double flint bottles," and these art objects for the adornment of his rooms; listed under "Directions for the Busts":

"4. One of Alexander the Great; another of Julius Cæsar; another of Charles XII of Sweden; and a fourth of the King of Prussia. N. B. These are not to exceed fifteen inches in height, nor ten in width. . . . 2 other Busts, of Prince Eugene and the Duke of Marlborough, somewhat smaller. . . . 2 Wild Beasts, not to exceed twelve inches in height, nor eighteen in length. . . . Sundry small ornaments for chimney-piece."

These objects have been wrongly described as having actually been a part of the furnishings of Mount Vernon, but when the vessel brought the other goods ordered, the invoice had these entries instead of the art objects requested:

Candle holder at Mt. Vernon

"A Groupe of Aeneas carrying his father out of Troy, with four statues, viz. his father Anchises, his wife Creusa, and his son Ascanius, neatly finisht and bronzed with copper, £3.3. Two Groupes, with two statues each of Bacchus & Flora, finisht neat, & bronzed with copper, £2.2 each, (£4.4). Two ornamented vases with Faces and Festoons of Grapes and vine Leaves, finished neat and bronzed with copper, £2.2. The above for ye Chimney Piece. Two Lyons after the antique Lyons in Italy, finished neat and bronzed with copper, £1.5 each (£2.10).

The interior of the spinning house. According to the old records, the output of this department for one year was a total of 1,365½ yards of cloth—linen, woolen, linsey, and cotton

"There is no busts of Alexander ye Great (none at all of Charles 12th of Sweden,) Julius Cesar, King of Prussia, Prince Eugene, nor Duke of Marlborough, of the size desired, and to make models would be very expensive—at least 4 guineas each."

Although the bills were itemized in pounds, shillings and pence, they were paid in tobacco. This plant was at once a crop and a currency. Washington, like other great planters, shipped his tobacco to London and drew against it in orders for merchandise.

The orders which were sent from Mount Vernon to London show as clearly as any other surviving evidence the taste of the master which he stamped on the life there. He did not believe in a false economy. There is rarely a question of price. But throughout the orders appear the three requisites: good, neat, and fashionable. Always fashionable, but never ostentatious. In one letter he asks for the "finest cloth and fashionable colour"; again for a "genteel suit of cloaths made of superfine broadcloth, handsomely chosen"; but, he writes, "I want neither lace or embroidery. Plain cloaths, with a gold or silver button (if worn in genteel dress) are all I desire." This excellence, neatness, and fashionableness in his personal attire was reflected in his house and its furnishings.

Mrs. Washington's bedrooom. After the General's death she occupied this little room in the south gable, above the library on the third floor, which was added to the original building by Washington after he inherited Mt. Vernon in 1752

The domestic life at Mount Vernon was simple and methodical. One of Washington's sense of order and organization could endure nothing else. Martha, either natively or by cultivation, supplemented him exactly. "Everywhere order, method, punctuality, economy reigned," said his adopted son. "His household . . . was always upon a liberal scale, and was conducted with a regard to economy and usefulness."

They both were early risers, though breakfast was not early for all the household. Washington in winter often made his own fire in the library and there, over his correspondence and accounts, did an immense amount of work in a few hours. Mrs. Washington rose when he did and directed the beginning of the day's domestic duties into easy and ordered channels. After breakfast he rode out on one of his horses to overlook the laborers on the various farms into which he divided Mount Vernon estate, and returned, according to Custis, "punctual to the hand of the clock, at a quarter to three . . . and retired to his room to dress, as was his custom." Mrs. Washington chose the first hour for religious devotion in her own room, an unfailing custom her life long. Dinner was a mid-afternoon meal after the Southern tradition. Washington rarely ate any supper, though it was always spread for his household and guests.

Devoted to their friends and neighbors as were the General and Mrs. Washington, there is, in their recorded utterances about Mount Vernon, more of a domestic than social appreciation of their estate. It was essentially a home to them. Washington's letters at the close of the Revolution are full of his joy to be again under "his own vine and fig-tree." When the household was again broken up by the call to the Presidency, Mrs. Washington wrote regretfully of leaving home: "I had long since placed all the prospects of my future worldly happiness in still enjoyment of the fireside at Mount Vernon." When at the end of eight years they returned home, Washington wrote of his relief to many friends. One passage, however, written to Oliver Wolcott, is significant of all: "For myself, having turned aside from the broad walks of political life, into the narrow paths of private life, I shall leave it with those, whose duty it is to consider subjects of this sort, and (as every good citizen ought to do), conform to whatever the ruling powers shall decide. To make and sell a little flower annually, to repair houses (going fast to ruin), to build one for the security of my papers of a public nature, and to amuse myself in agricultural and rural pursuits, will constitute employment for the few years I have to remain on this terrestrial globe. If, to these, I could now and then meet the friends I esteem, it would fill the measure and add zest to my enjoyments; but, if ever this happens, it must be under my own vine and fig-tree, as I do not think it probable that I shall go beyond twenty miles from them."

Candle molds

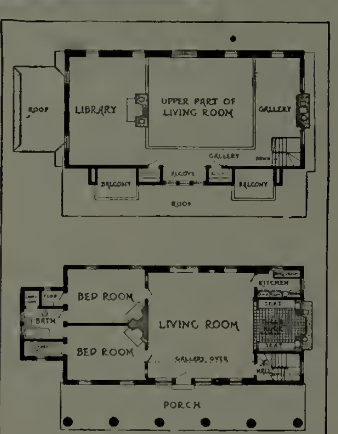
Rest house and flower-bordered path across vegetable garden

Looking down the lane that leads past the big brick barn to the boat landing. Butler's house at the right; and at the left the kitchen and the stepped wall which screens the stable from the riverside lawn

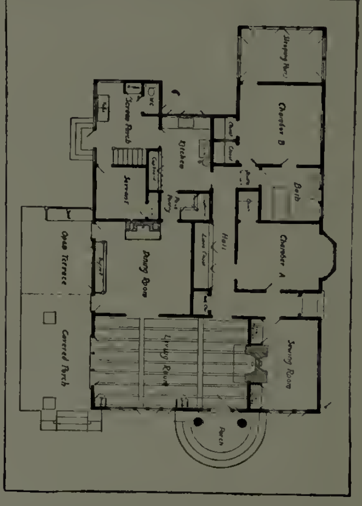
There is an almost universally successful combination in log construction and rough, well laid stonework. Pine Hills Inn, near San Diego, Cal.

Here is a log house as they build them down in the mountains of Kentucky

A white shingled type of summer home, overlooking the city of Williamsport, Pa. Chas. Barton Keen, architect. Plan at right



Plans of house at left, where the bedrooms are downstairs and the library above



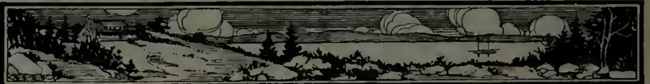
Plan of the Pasadena bungalow pictured just below, where everything is on one floor. Sylvanus B. Marston, architect

A new Adirondack type with a single-pitch roof. White Pine Camp, at Paul Smith's. Wm. G. Massarene, architect

The typical home of Southern California, its low-pitched roof shaded by the spreading branches of a great oak. Plan above at right

BUNGALOWS

Having some Value in Suggestion



Another example of the woodsman's skill in building of unpeeled logs

White stucco with white woodwork is not a very common combination of materials, particularly on the South Pacific Coast. S. B. Marston, architect

Floor plan of the Pasadena bungalow illustrated just below. Garrett Van Pelt, architect

Plan of the bungalow shown just to the right S. B. Marston, architect

A very simple clapboarded bungalow that has distinction by reason of its pergola porch. Plan at left

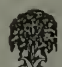
Stucco and shingles combined in a beautifully simple Pasadena bungalow. The wide overhang of the eaves belongs unmistakably to the buildings in this land of sunshine. Plan above

AND SHACKS

for Country Homes of the Informal Type

Another of the White Pine Camp group. The walls are of slabs sawed from the log and unplaned on the edges

FROM A COUNTRY WINDOW



THE FULNESS OF LIFE

MOST OF US are accustomed to mark the difference between country life and existence in a city, by comparing the quiet and leisure and peace of the one with the noise and hurry and turmoil of the other. All this may be true as far as it goes, but there is a deeper spiritual significance in the differences that separate the two modes of life than the mere surface effects.

The profound, basic quintessence of country life is its individualism. In farm life or life anywhere in the open places, the individual must meet and solve for himself the countless big and little problems constantly arising, which in their aggregate constitute human existence. The greater part of the farmer's food he himself, by his skill and labor, must produce. If for any reason he fails, there is no delicatessen store at the corner to make good his oversight or his error. Further, he must to a large extent be his own carpenter, painter, plumber, mason, and odd job man, for the simple reason that no specialist in any of these lines is readily available when need arises. He lives his life as an individual and not as a cog in a complex coöperative structure.

On the other hand, the city man has most of his problems of living solved for him by numberless specialists, each contributing a little to a community life. He produces neither food nor the other essentials and conveniences of life, which wait ready to his hand in return for his fulfilment of his special function in the community. Theoretically this coöperation results in the lightening of individual burdens by fusion of effort. In reality it destroys the balance of the individual's life and reduces him to the position of a cog in a machine.

In its individualism lies the infinite richness of country living. The urban dweller may have his path smoothed for him by the coöperative simplification of his daily problems, but the farmer in overcoming his own difficulties achieves the fulness, the completeness of a well-rounded life.

ON WINTER FLANNELS

MOST PEOPLE of refinement and breeding do not commonly refer, in general conversation, to their underclothes. In the best circles underclothes are something to be assumed but not mentioned.

No such modesty or restraint is felt by our neighbors in the Massachusetts hills. To them an undershirt is as properly a topic of conversation as a horse blanket or the fur of a woodchuck. Quite the same thing, in fact. Perhaps that is because underclothes play a much more prominent part in country life than in that of the city. Country people take their underclothes seriously, like their religion.

There is among our neighbors one Martin Beaman to whom underclothes are as important as his pipe or his Bible. To be sure, Martin is more than seventy now, with rheumatism in the right shoulder, and he cannot be too careful. It would probably be murder to hide Martin's winter flannels when the first snow flies—or to dye them blue.

Last April Amanda Beaman (that's Martin's wife) was discussing this matter with characteristic candor.

"It's been so warm this week," she said, "and Martin's seemed so het up and sweaty, that I've about decided to let him change, though it ain't rightly time yet. But I tell him at his age he'd better taper off gradual. If it don't turn cold again by Saturday night, I'll let him change to his heavy gray drawers but keep on his red flannel shirt. Then the next week he can change to his gray shirt. Then after that, if it keeps on gettin' warmer, it'll be most time to change to his thin flannels anyway."

There is something very intimate and neighborly about all this, and as the seasons change, my thoughts turn in friendly fashion toward Martin Beaman, for I know that Amanda has his welfare at heart and is directing some sort of seasonal change in his underwear. When the winds of late November howl and the white flakes begin to fly, I do not worry, for I know that the squirrels have a goodly store of hickory nuts laid away somewhere, and that Martin Beaman has changed to his red ones. Even the winter nights, when the mercury drops to ten below, have no real terrors, for I strongly suspect that Martin's cheerful underclothes are not hanging useless over a chair-back.

And when spring comes again, and the time of the bursting of buds and the singing of birds is at hand, I like to think of it as the season when Martin Beaman emerges like a butterfly from its chrysalis; for the snow is melting in the hollows, the rigors of winter are past, and I do not need the visible evidence of Amanda's Monday wash-line to tell me that Martin's winter flannels are hiding their flaming scarlet once more in the camphor trunk in the garret.

TOURING AND DETOURING

MUCH CAN BE SAID—and is said, daily—against the method of road building which makes the detour such an extensive part of motor touring, but there is not a little to be argued in its favor. What must be endured should be enjoyed, and, approached in the proper spirit, the least attractive conception can be made to yield a measure of enjoyment. This deeply rutted gutter which inevitably ushers in the detour —there is satisfaction in learning that the car springs will (speaking only figuratively) rise to the occasion. And this long run in low gear through bottomless sand gratifies our conceit, for a less efficient motor than our own would prove unequal to the test. To be sure, there are certain phases from which no possible enjoyment can be extracted, such as when we meet the other fellow with a car more impressive than our own and a vocabulary more expressive, or as when we come to a strip of mud into which some well-intentioned but senile person has dropped jagged stones to afford a footing.

These features and others are as much a part of the detour as is the detour itself of the national highway system, and a chart detailing "What to Expect When Detouring" would meet with universal application. First, there's the gulley just mentioned and the run through the sand, followed by a succession of ups and downs—mostly ups—with a black mud obligato in the hollows and a taste of country dust in the uplands as we pull up behind another tourist. Then there are the inevitable false leads and the unfathomable windings of the road, each of which seems to carry us further back from the highway. Every deviation, however, yields us more of the country's priceless treasure, until a suddenly revealed valley view or farm setting fairly grips our hearts in its beauty or its homely appeal.

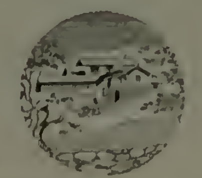
And then when we least expect it comes again the broad blue ribbon of the highway. Gone is the need for nursing the car, gone the dread of masked corners—but gone also is our tranquil contemplation of the wayside beauties, and we step on the throttle and become again as a unit of an express train running on through schedule.

The entrance steps and terrace wall of the Allen house were built of light yellowish brown stone taken from the excavation, which determined the whole color scheme. A. R. Kelly, architect

THE HILLSIDE SITE

What the Architects of the Pacific Coast have done with it

By
ARTHUR R. KELLY



One would hardly expect to find so much architecture in a garden where the surroundings are so rugged as in the Wattles garden. The contrast is startling. Myron Hunt and Elmer Grey, architects

IN HANDLING hillside property, the cardinal principle is to make the house fit the hill—to so plan it that the natural contours of the hill are changed as little as possible.

When the proper handling of a hill property is the most economical, and the most beautiful results are obtained by making the house fit the hill, it seems strange that the mistake of remodeling the hill to fit the house, should so often be made.

From the upper road the Habersham house seems to set very much in a hole, but none of the important rooms has this outlook, and from the inside of the house the steep bank is not in evidence. A. R. Kelly, architect

The selection of the type of architecture to be used is important; for instance, it is obvious that a formal Colonial type of house is not the sort for a hill site where the surroundings are broken and rugged; while a picturesque Swiss châlet, or an Italian or Spanish house such as we see among the mountains of those countries, would be eminently fitting for such a location.

On the other hand, some hill sites would permit of a formal and dignified treatment. These would necessarily be even in slope and with dignified and quiet surroundings, such as would be found in rolling country, not too close to the mountains.

One of the important points to consider is the exact location of the house on the ground. There are so many controlling features which determine this, that it is impossible to lay down any governing rules, but I have found out by experience that the location which could be left most nearly in its natural condition has been the most successful in the final results obtained. These houses have looked more as if they had grown there, and had a right to a place in the picture; while those in which a great deal of time and money have been spent in changing the contours of the ground look like a blot on the landscape.

I have also found by experience that the most attractive hill houses have been those which were set in the angle of the hill instead of on a protruding hillside, except in cases where the house has been the crowning feature of the hill or ridge. Here it can be made to tie into the hill in a most attractive manner, as do some of the old houses of the Italian mountains.

As to the external treatment of hill houses, there are a few things which are always essential. The most important of these is the slope or pitch of the roof, which should be in harmony with the visible and comparative hill slopes—not exactly the same, perhaps, but without a decided contrast.

In the Nordhoff bungalow the architects utilized the boulders and outcroppings of the hill to bring the whole building scheme into harmony with its surroundings. Designed by Myron Hunt and Elmer Grey

Another thing is to keep the mass of the second story back toward the hill as far as possible. This will often require that part of the second floor shall rest on the ground on a higher level.

Lastly, the color scheme of the house should be in harmony with its surroundings—not necessarily the same as the neighboring hills or landscape, but fitting for the type of house and the surroundings in which it is built.

Another view of the Wattles garden, showing from the outside the tile-capped stepped wall

To keep the steps broad and low, they were made to follow the gentle slopes of the contour of the hill

The view from most hillside sites is worth the climb to reach them. Nordhoff bungalow

In the Livingston Jenks house the masses have been so placed and the lines so drawn that the building looks as if growing out of the rock. Myron Hunt, architect

The McKeever house, designed by A. R. Kelly. Hill houses usually require numerous flights of steps

The Allen house before the planting had grown. The upper portion of the second story is on a higher ground level

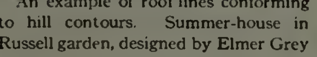
One of the greatest charms of the hillside house, aside from its views, are the different floor levels

Here the house follows the hill contour, eliminating long flights of steps

The Frost home, designed by A. R. Kelly. Although there is no planting around the house, it still ties into its surroundings in a satisfactory way

Following the hill's contour has entirely eliminated steps. Elmer Grey's own house

The Allen house after planting. It fits into the angle of the hill as if it were a component part of the site and really belonged there



An example of roof lines conforming to hill contours. Summer-house in Russell garden, designed by Elmer Grey

LIME & WEEDS, Inc

By H W COLLINGWOOD

THIS is a story of how lime and weeds brought a soil back to good behavior and the simple life after it had begun to get gay. Next to water, lime is about the most common thing on earth, while weeds are generally regarded as an affliction and a pest by most farmers. As a rule, afflictions are blessings dressed up as a sort of scarecrow. To a boy in a hot potato field, a blessing masquerading as a weed is thoroughly disguised. Sometimes a man's grandfather declares that a certain thing is a nuisance, and he engages in a death struggle with it. Son and grandson inherit the old man's prejudice, and they keep on fighting, never stopping to analyze or question the nuisance itself. It may be only by accident that they learn the truth. What grandfather called a pest and affliction in the light of elementary knowledge, has been evolved into a gentleman, unfortunately wearing the wrong tag.

That is about what happened on the Repp Farm in south Jersey, a country of light, active land and of quick crops. Most of these stories thus far have dealt with poor but proud farms, where pedigree ran to seed, and character was rocked to sleep. This one came back from a riot of high living on manure, and thus became a land of steady habits.

Down south of Camden, N. J., the country was cast up by the sea. For ages the water stood over it. The ocean is nature's great pocket-book. Earth squanders its plant food into the streams, and these rush it along to the member of nature's family that can be trusted to hold her treasures. I do not care for figures, but perhaps it will prove comforting to some of you to know that the volume of water on all the earth flowing into the sea in one year amounts to 6,524 cubic miles, and includes five billion tons of mineral matter held in solution! Most of us call this lost, but it is safer than in any bank ever organized, until the ocean banks it in sand. Sea water contains traces or tons of every known element, for the sea is the thrifty sister of the earth, who follows her brother, picking up the treasures he squanders and tucking them into her big pocket.

These sisters never treat their brothers in a businesslike way. The husband is expected to be a model of thrift and behavior, but the more worthless the brother, the more he is protected and excused. The ocean seems to have put that element into human nature. So when the water stood over south Jersey, she was kind to her brother earth, opened her pockets and covered him with riches which were well mixed in sand. Through ages the wealth of the sea was slowly deposited.

Then the earth acted like most other brothers. Having dug deeply into his sister's pockets, he shook himself and humped his back, so that south Jersey rose up from the water and crowded the ocean out of the house. For centuries it lived a lazy life, with sister's treasures buried in the sand. The red man raised a few beans and a little corn to put the first glimmer of civilization into his diet along with clams and flesh. The desire to make some sort of bread is the fundamental difference in food habits between wild and civilized man. Nature dropped in a few seeds, and a growth appeared which slowly added humus to the sand. Nature is the greatest farmer of them all. The man who brings her methods down to date is the best agriculturist. She made this south Jersey soil out of the ocean. Not long since a wise man bought a tract of abandoned land, sucked dry of available plant food, and located beside a shallow, fresh pond near the ocean. He put a hydraulic pump at work, and pumped the pond mud out over several hundred acres, just as the ocean emptied its pockets years ago. Then applying lime, and working all into the upper soil, he had a new, strong hearted farm of "virgin fertility."

Manure and then fertilizer were discarded in turn, and now only ground limestone is applied to the orchard. It is put on in spring and thoroughly worked in

When cultivation stops in July the weeds come in with a rush, check the growth of the trees, and prevent the escape of plant food from the soil

The ocean gave her brother sand, but not much sense. Lay up plant food treasures in sand and you can never get them out again without making use of watered stocks. You must put water into that soil and keep it there. You cannot keep it there unless you stuff the sand with organic matter. If you ever have the choice between a sand bank with a full chance to irrigate, and a rich clay bank where summer droughts are probable, take my advice and choose the sand bank. Water plays the double rôle of life giver and thief to the soil.

The problem on this quick, warm, open soil has always been how to hold water in the upper part, so that plant roots can take their food in baby fashion, for they must have soup rather than solid food. When properly handled this open soil will produce a corn crop 25 per cent. larger than the crop on an Illinois prairie, while the grain will sell for 50 per cent. more than it would bring on the Illinois farm.

This light soil has been handled in two widely different ways. The first proposition was that manure was a necessity on such soils. There must either be live stock kept on the farm, or stable manure must be bought. Dairying belongs by right to the drained clay or heavy loam soils which hold water well and are natural grass and corn lands. I know of a case, however, where a dairy was started on a light sandy soil. The first year a great corn crop was grown by using chemicals heavily. This corn crop was put into silos, and when fed gave out great quantities of manure. This manure put back on the soil gave more corn. Thus from that first starting with chemicals a great supply of manure was produced, and in the course of time that soil was changed in color and in texture from light sand to dark loam. It reformed itself with the manure produced from its own crops.

The warm, quick land in south Jersey is for the most part too valuable for live stock, and is put into vegetables or fruit, though this last year a strange thing has happened. This soil is naturally deficient in potash, and most of the crops grown in southern Jersey are heavy feeders upon potash. It is now impossible to obtain that element of plant food at any fair price. Therefore there are some farmers in this part of the country who plan to change their farming and keep more live stock to replenish the soil until they can obtain potash once more at a reasonable price. The first proposition of the fruit and vegetable farmers was to feed the soil by stuffing it full of manure and chemicals. From this developed the plan of feeding not the soil, but the crop, and leaving the soil to take care of itself in its idle hours.

Now on the Repp Farm, for some years, purchased stable manure was relied on to fill the soil with humus and provide plant food. That was before they realized that a catch or cover crop grown between the middle of July and frost could add more humus to the soil than carloads of manure ever would, while nature did all the hauling and the spreading for nothing. In some ways there is nothing better than stable manure for adding humus to the soil, and in other ways there is nothing worse. The chemists do not pay great attention to the actual plant food in this manure—it is the fermented organic matter which does the trick. The stable manure holds the water, and in this warm soil gives off its plant food freely, but you never can tell just how much you are feeding your crops, and it leaves the soil foul with weed seeds. In growing vegetables like cabbage or celery, these farmers found that you can hardly use too much stable manure, for these crops have strong heads. Rich manure carries nitrogen like a stimulant, and this certainly goes to the head and drives the plant into a rapid growth above ground. That is what you want in most vegetables, a quick, tender growth of leaf or stem. Fruit cannot stand such dissipation, and especially the peach and pear on this light, quick soil.

As years went by, the vegetables took something of a back seat on this farm, and orchards of peach and pear and apple came in their place. This brought new problems. It became harder than ever to obtain stable manure at a fair price, and these farmers had come to understand that it is possible to find substitutes for the manure, and that in any event manuring is a gamble at crop production.

You take this light, active soil, water it well, and it became a slave driver whenever you put organic matter into it, forcing the nitrogen to

break away from its keepers and go to work. You cannot safely handle a peach tree as you would a cabbage or a stalk of celery. The peach is a silly thing and cannot stand prosperity. You must give it an allowance of just enough nitrogen, and no more, and when it has had enough shut it right off without ceremony.

Now you never can do this when you depend on stable manure for feeding. You never know just how much nitrogen you are using, for stable manure contains so much water and straw that you can not tell just how much plant food you are giving out when you spread a carload.

And again, you never know when the nitrogen in manure is to become available. That is one thing about organic matter that you should remember. It may remain stubbornly solid all through the early part of summer, and then when the hot, moist August days come, that quick soil rouses the sleeping lion in that organic nitrogen and drives it out to work. That would be just what you want with celery or cabbage or corn, but it would surely drive pear trees to blight, peach trees to soft, colorless fruit and winter-killing, and apples to top rather than fruit buds.

That is what they found in that south Jersey orchard. The warm soil, stuffed with stable manure, rose up against those orchard trees in July and August like the mob in the French Revolution. It was a clear case of too much of a good thing on this soil, too much like a "sandy" man running amuck with no sense of humor to restrain him. The remedy was to substitute chemicals for manure, and start a cover crop at the right time to shut off the trees as soon as they had all that was good for them. When you use chemicals you know just how much nitrogen, potash, and phosphoric acid you put into the soil; but when you use manure, you guess at it, and you generally guess wrong. So, as the orchard grew into bearing, stable manure was discharged, like the high priced assistant who had become rather too large for his place. As a substitute for it a mixture of dried blood, bone, acid phosphate, and potash was used. These are standard chemicals, and when you use half a ton you know to the dot just how much nitrogen, phosphoric acid, and potash your trees are receiving.

As early as possible the soil is plowed or disked, and the fertilizer spread on. This work was formerly done with horses and mules, but now a tractor goes coughing up and down the orchard, tearing and turning the light soil over. From the time the fertilizer is put on until July, that soil is kept on the jump. It is constant and thorough culture, with a very large C. The object is to hold moisture in the soil and to make those trees grow. Under ordinary conditions water in the soil rises to the surface and will escape unless the road is blocked. But when it reaches the fresh stirred, cultivated soil, it stops, gives up its dream of freedom, dissolves an atom of fertilizer, and puts it into the mouth of a root. All this goes on through the hot June days. The peach and pear trees feel themselves swell and lengthen out, and they shake their sprays of fruit proudly. They begin to feel that nature has decided to make them rival the big oaks in size. Then just at the right time, when the trees have grown enough to satisfy the master's eye, work stops, horses and men and tractor get out of the orchard, and the soil stands idle. Water finds a clear path through the upper soil, and like all who suddenly take the road to freedom, stops feeding baby food to the roots and gets ready for travel. It would get fully away into the air at once if it were not for a smear of green which begins to show on the surface. The Honorable Mr. Weed, the gentleman wearing grandfather's old tag of disgrace, has stepped in to show himself off.

You will see the philosophy of all this. The trees have made all the growth they can stand. For their own good, the allowance must be cut off, and they must go to work and mature their fruit and their wood. Play time is over and business has begun. Most growers will sow clover or grain as a cover crop to check growth and hold the plant food when cultivation stops. On this farm they figured that the weeds would do the trick better, so when they get out of the orchard the weeds get busy, and within a week they are above ground.

Their ancestors came in those old days of stable manuring — ragweed from Vermont, pig weed from Iowa, lamb's quarter from New York, redtop from Illinois, and thistle from Canada. They all come and hold an International Convention in that orchard where the feeding is good.

In that warm, quick soil the weeds grow true to their reputation. They pump out the water and hold the plant food — nothing escapes them. I have seen the orchard in August with ragweed so high that it towered above the peach trees. One of the best peach growers in the country, who believes in high culture, saw that orchard in August and nearly cried with grief at what he called barbarous treatment of good trees. When he got into that forest of weeds and found on those trees the most beautiful peaches and pears he had ever seen, his grief changed to wonder, and then to admiration.

It seemed at first thought like a most slovenly and wasteful method, for have we not all been told that a weed is a pest and a nuisance? "Can any good come out of ragweed?" says the hay fever sufferer. Let him eat a few pears taken from this orchard, and then answer.

Consider the weed as a farmer before you decide. You can easily make four weeds grow where one blade of grass grew before. You do not have to make them — they grow themselves. Just go off fishing when cultivation stops, and they will do the rest. No cultivation, or seeding, or fertilizing, or spraying, or frost protection, or inoculation, or liming is needed. You just stop cultivating and the thing is done for you. What is done? The growth of the trees is stopped, the plant food left in the soil is held and cannot get away. The soil is well filled with roots, and you have a cover or humus crop larger than any civilized plant could make before frost. The friendly side of weeds as a farm hired man was shown in West Virginia where they analyzed all the worst offenders. See what they take from the soil and hold for you. The figures given in the following table represent the analyses of dried weeds.

	NITROGEN	PHOS. ACID	POTASH
Pokeweed	3 34	65	8 60
Common thistle . .	2 44	62	5 53
Sweet clover . . .	2 40	05	1 95
Burdock	1 85	96	3 07
Ox-eye daisy . . .	2 12	46	2 88
Wild carrot	1 65	62	4 21
Blue thistle	1 45	80	4 56
Lobelia, Indian tobacco	1 79	65	2 35
Briars	1 51	32	74
Milkweed, wild cotton	1 71	93	78
Redtop	1 39	.40	2 10
Canada thistle . .	2 06	45	2 74
Sorrel, ...	1.38	21	1 89
Ragweed, ...	1 36	.41	1 79
Goldenrod, ...	1 27	.39	1 62

See what potash miners many of these weeds are. Surely they are gentlemen carrying the wrong tag, and with no embargo on their potash. Who will not have a higher respect for burdock, as he picks the burrs off his coat, when he realizes that the dried plant carries more potash than many a boasted fertilizer? And also consider this — the burdock and the thistle, the daisy and the ragweed, seem able to get potash out of combinations in the soil which are too tough for the roots of our civilized crops. When these weeds have stored up the potash in their leaves and stems, the tenderer plants may come along and utilize it.

This plan of fertilizer and weed brought the farm back from the riot of stable manure to the simple life. Then another thing became evident. Practically nothing was lost as plant food from this orchard. A full ton of pears in the fruit will carry away only one pound of nitrogen, seven ounces of phosphoric acid, and two pounds of potash.

Fifty pounds of daisies will provide the nitrogen, and forty pounds of thistles will give the potash. More plant food went into the wood of the trees, but when the prunings are burned, and the ashes returned to the soil, a man could just about carry in a basket the chemicals required to replenish the loss on one acre.

So the next step was to drop out the fertilizer and use ground limestone. This is put into the soil in the spring, thoroughly worked in in the same way as the fertilizer.

Of course the great growth of weeds dies at frost and stands through the winter. In the spring the dead vines and stalks are plowed under, and with the roots provide humus for the soil. The lime hastens the decay of this mass of dead weeds, and thus provides plant food for the trees.

A skilled fruit grower can quickly tell when the trees need more plant food, and knowing this, it is easy to add nitrate or acid phosphate, and in that quick, warm soil the results will show in the tree inside of a week. Thus the work goes on in a circle. When cultivation stops the weeds come in with a rush, check the trees' growth, and prevent the escape of plant food. In the spring they go back into the soil, give up once more the plant food which they have held in their bodies like money in a bank all through the winter.

New methods of handling the soil are being worked out all the time, but the lime and the weeds brought the farm back to the simple life from a riot of high living, and held it there.

This is not a model laid down for fruit growers to follow. It is just a record showing how the wrong tag was taken off a farm gentleman, so that he whom grandfather had called a pest and an affliction had a fair chance to prove his worth.

As early in spring as possible the soil is disked. This was formerly done by horse power, but now a tractor goes coughing up and down the orchard, turning and tearing the soil

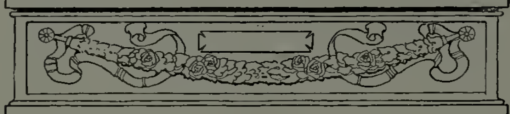
The orchard in blossom time. Constant and thorough culture from the time that lime is put on in spring until midsummer keeps the trees on the jump

MANTEL

Some of the early American craftsmen's work in Salem, Danversport and Peabody in Massachusetts and Portsmouth, New Hampshire

Copyright by Frank Cousins Art Co.

Detail of a mantel in the left parlor of the Samuel Fowler house (1809) Danversport, Mass. One of the early New England craftsmen—probably a ship's carver—has wrought well here with hand plane and gouge. The decorated moldings are all cut from the wood, not applied putty-work



One of Samuel McIntire's mantels in the Cook-Oliver house, Salem, dating from 1804. The top cyma molding is of composition applied to the wood, as is the molding below the frieze spot. The dentil course and the wainscot cap, seen in the lower corner, are cut by hand from the wood

A mantel in the Samuel Ham house, Peabody, Mass., dating from about 1800. A feature of interest is the top member of the column capitals, joined as one piece to cap both shafts

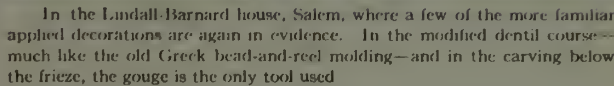
In the Larkin-Richter house at Portsmouth, N. H. The upper carved molding, here used instead of a dentil course, is a product of the New England craftsmen, probably inspired by the classic bead-and-reel

DETAILS

Photographs by Frank Cousins which are reproduced at a large scale to show the great beauty of the carved detail and the delicacy of the hand-planed moldings

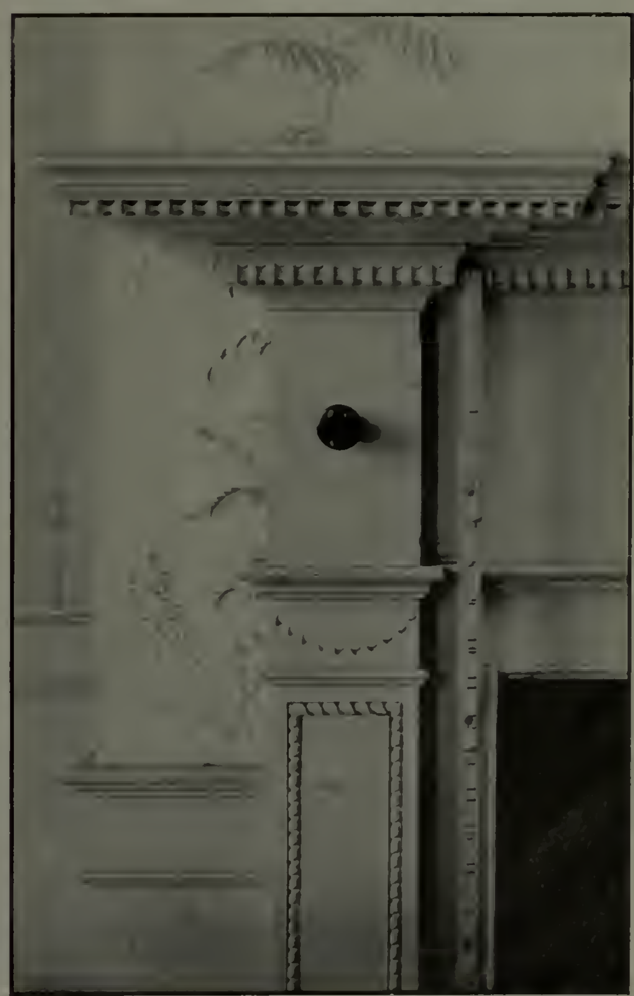
In the Lindall-Barnard house, Salem, where a few of the more familiar applied decorations are again in evidence. In the modified dentil course—much like the old Greek bead-and-reel molding—and in the carving below the frieze, the gouge is the only tool used

The old Choate mantel, now in the Merchants' National Bank, Salem. It was customary to huy these composition egg-and-dart, leaf, and bead moldings, with the various figure decorations, from English manufacturers



Here again, in the parlor chamber of the Samuel Fowler house is the vigorous hand carving of the early American craftsman. Nearly every example of this old carving, excepting those from the same workman, shows some new modification of a classic molding

In the west parlor of the famous Nichols house in Salem. Samuel McIntire, architect. In contrast to the applied putty-work shown in the picture above, note the better proportioned detail of these hand-wrought moldings



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HEARD IN THE LOCKER ROOM

BY HERBERT REED

The "Two Sport" Man America is rapidly building up the ranks of the "two-sport" men, a class rather restricted as to numbers hardly more than a decade ago. There are probably more conspicuous examples this year than ever before—men who have taken up the second sport not merely by way of diversion, but with the hope of ranking high therein. In any group of golfers nowadays there are sure to be a few first class tennis players, and the converse is coming to be true of the average tennis gathering. Golf lacks, of course, the element of pace that has come to be of such tremendous importance in American tennis, but the technique is no less fascinating, and it is the study of this technique that has done much to attract two of the most famous of our former tennis champions, William A. Larned and Maurice E. McLoughlin. The older man has been at it much longer than McLoughlin, the latter having taken the game up seriously only this year.

Copyright by International Film Service

McLoughlin in a new rôle. The ex-champion tennis player has taken up golf seriously this year and is here shown using the wood

How well Larned has fared after his three years or so of work on many golf courses may be gathered from his victory in the Lake Worth tournament at Palm Beach, where he fought his way through a respectable field, and not only won the tournament, but also turned in the lowest medal score. The former tennis champion plays a fairly orthodox game, a style worked out as carefully as his tennis method. It is not so brilliant, of course, for the reason that golf does not call for the wonderful display of footwork that marked all of Larned's exhibitions at the net. But the remarkable coördination of eye and muscle that he gained from tennis has proved invaluable in golf. There probably never was a man who needed less racket surface in tennis. I have seen many a Larned racket after a day's tournament play. Exactly in the centre there was always a discolored spot about the size of a silver dollar. Accuracy of that sort is a big help in any game, not to mention the value of years of experience in tournament tennis.

McLoughlin As a Golfer Just what McLoughlin will accomplish in the course of his adventures in golf is difficult to forecast. He has already turned in excellent scores. Partly because of the difference in years and partly because of the difference in disposition, the Californian has a style that shows greater freedom than Larned's. It is modeled somewhat on the lines of Findlay Douglas's, the body getting a great turn at the waist, both knees being bent, and the top of the swing being rather flat. It is not nearly as pretty to watch as that of Douglas, but in the main it is of the bold order that might have been expected of the Pacific Coast star. McLoughlin has taken up the game at a stage in his career that ought to be the most favorable possible. He needs another interest than tennis for a time, and the chance to become absorbed in the technique of a different game cannot fail to do him good.

Up to the present time, the Californian has done little experimenting with clubs. That will come later. He has, for instance, been using a putter of the vintage of 1895 or worse; but McLoughlin is a young man of ideas, an individualist, and if he sticks to his golf is likely to play the game unlike any one else.

It must be remembered that golf on the Pacific Coast is still rather a new game, despite the number of excellent courses, and most of the tennis players in that section have yet to take it up. It gained rapidly in favor last year with the advent of a real Coast champion in the person of Harry K. B. Davis, and the appearance of such men in tournaments as Heinrich Schmidt, H. Chandler Egan, and Chick Evans. If the Western Association finally decides to go to Del Monte for the annual tournament, that will mean another real lift for the game in that section. So the combination of tennis and golf on the Coast should not be uncommon in future.

Murray On Track And Court A rather uncommon two-sport combination was that adopted by R. Lindley Murray, who has now settled in the East and begun another whirlwind tennis campaign. Murray was one of the best track athletes ever turned out at Leland Stanford Jr. University; he is also a brother of Fred Murray, the national champion over the hurdles. He took up the middle distances while at Stanford, where track athletics are in high favor, and turned to tennis quite casually. His first appearance in the East will not soon be forgotten, not merely because of the fury of his play, but also because of his endurance. He played four matches in one day against first-class opponents at Sleepy Hollow. In the end, however, the heat proved too much for him, and it is probable that this time he will hardly attempt the impossible. A fine track athlete, and ranked No. 4 on his first appearance in the big tennis events of the East, he has shown plenty of versatility.

Photograph by Edwin Levick

Versatile Lawrence Waterbury. Sometime champion at racquets, and always in the front rank, he has applied the lessons of that exacting sport to polo with remarkable results

On his arrival from California this year, Murray set right to work both on canvas-covered courts and on armory floors. His terrific service and his reckless, driving net play made him a terror indoors, but it will remain for a study of his work when he gets out of doors at Longwood, Seabright, and Southampton to determine how much of a factor he is likely to be in the All-Comers. He has all the natural gifts of a great tennis player, but his type of play will need a lot of polishing if he is to work his way through the Easterners who have mastered the ground strokes, and stand a chance against William M. Johnston, the champion, who admittedly has a very nearly perfect style. Murray still has a tendency to pound himself to pieces, a dangerous thing to do against players of the calibre and type of R. Norris Williams, whose deep driving and passing strokes have made a heap of trouble in the past for men with a tendency to rush the net.

It is well to remember that it was not until he reached Longwood that Johnston showed anything like a command of the ground strokes which he executed so beautifully in the course of

Photograph by Paul Thompson

F. B. Alexander, one of the best court generals lawn tennis has ever seen, hasn't forgotten how to play baseball. He is shown at the finish of a hard line drive

winning the title, and I am inclined to believe that Murray will need much more work on turf than did Johnston before he really finds himself. At all events he is a distinct and a welcome addition to Eastern tennis, not merely because he is left-handed and picturesque, but because he is also a sportsman of the finest type.

Racquets Help Polo To the average observer, polo and racquets might seem to have little in common, but it is safe to say that America's international victories were won in the racquet court as well as in the field. Most of the good polo players go in for racquets, partly because the indoor game is a great conditioner for the galloping game, and partly because racquets, a game of tremendous pace, makes the man who plays it a hard and accurate hitter. Lawrence Waterbury worked out the combination to the extreme of efficiency, winning championships indoors, and playing in every international polo match as well. I do not think that any such uncanny stroking could have been worked up on the polo field alone. It was better than anything the Englishmen showed us, good as their mallet work was. Waterbury prepared for the internationals in the racquet court, and no harder form of training, nor one more valuable could well be devised.

Boy Tennis Makes Champions Baseball, of course, we have always with us, and not a few of its devotees are drawn from the ranks of the tennis players. Fred Alexander, for instance, keeps up the game of his youth, and Bob Wrenn occasionally gets into action on the diamond. Baseball is the birthright of every American boy, but even in the club sense it is rather too hard a game to keep up when one is out of the twenties. Then, too, there is a tendency nowadays for boys to take up golf or tennis seriously and stick to it, without any side excursions to the diamond. The result is that the two-sport men who continue to play baseball are fewer than they were a decade ago. The Californians built up their tennis by keeping the boys on the courts and off the diamond, and that tendency is now very noticeable in the East. Norris Williams of Harvard is an example, and so is Philip Carter of Bridgehampton, the golfer, not to mention Throckmorton, Beekman, and Rand, the last three among the most promising of the younger Eastern tennis contingent. Williams learned his tennis abroad under professional instruction, while Carter's golf dates back to the sturdy age of five.

Incidentally, to follow Carter, especially on the putting green, is a treat. This young man frequently sends them down from a distance of thirty feet, and does it without preliminary prayer or tiresome inspection of the green. He is the exact opposite in this respect of Heinrich Schmidt, another really great putter. It takes Schmidt something like three hours for a single round, and the process requires a full measure of careful mental and physical address, while Carter moves so fast that it is difficult for the gallery to keep up with him without running.

Photograph by Edwin Levick

Looking into an American shell equipped with swivel rowlocks. The men are seated over the keel a good deal higher than in the case of English crews. Most American college eights cling to this style of rigging

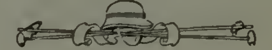
An Acid Test For a Golfer Colin S. Carter, the youngster's father, is a golfing enthusiast of the deepest dye. He has pursued the rubber-cored pellet in many lands, and in the course of one of these foreign invasions he had the honor of making one drive under conditions that would have staggered the coolest professional—driving with the gallery in front of the tee. And he is justly proud of the feat. It happened in Gibraltar, where he went ashore for a couple of hours to try the course. About half way around a regiment appeared, going through various evolutions. The soldiers at last were drawn up directly across the course. Some kindly disposed resident volunteered to see that Mr. Carter's game was not spoiled. He therefore explained to the commanding officer that the player was a famous American golfer who wished to complete the round of the course and whose time was short.

There was a sharp command, the soldiers marched and countermarched until they were halted in two parallel lines stretching outward from the tee, and leaving only the narrowest of lanes through which to drive. The troops presented arms and the American was told that he might proceed. The drive had to be almost exactly on the line of the flag, with a good 200-yard carry in order to clear the double wall of rigid humanity. The ball flew true and far down the living lane, the American's best drive of the day, and there were no casualties.

The Outlook for Rowing The college rowing season is this year of unusual interest because of the changes in certain coaching systems and the progress of the English idea. Guy Nickalls is now firmly entrenched at Yale, where he has developed a stroke that, while based on that of Oxford and Cambridge, has been modified to suit American boys who have not had the preliminary experience of the young Englishman. Now Harvard is to fall in line, for Wray is no longer in charge, and Robert Herrick, who coached the Harvard second crew that won the Grand Challenge Cup at Henley, will take over the work. He will be assisted by Haines, the professional who has been turning out the fast Union Boat Club eights in recent years.

It is a safe wager that no man who has studied rowing at Henley ever returned without bringing with him certain ideas new to this country. I hardly think Mr. Herrick will prove an exception, and I expect to see a Crimson eight at New London that will not slur the catch as too many of Wray's eights have done in recent years. It is possible, too, that there will be a few interesting changes in the Harvard rigging.

The University of Pennsylvania also begins the rowing season under a new régime. Joe Wright, formerly coach of the Argonaut eights, of Canada, will be in charge, and while it is practically certain that he will use American seating in his boats, he will continue to use the thole pins, a legacy of Vivian Nickalls. However, the thole pins seem to have justified themselves to a considerable extent, albeit a wordy warfare was waged over them for many years. Columbia, Cornell, and Syracuse, as well as Princeton, will continue to work along the familiar lines, while Stanford, which is one of the earliest eights in the country to get on the water, will again be seen in the big regatta.



A Polo Encampment at Point Judith? Despite the war and the consequent absence of international events, there is promise of a bright year for polo. The system of intersectional matches ought to bring out the best players throughout the country, with the prospect of splendid matches at Point Judith at the height of the season. While such a thing may turn out to be impossible this season, the time is coming when the Army will have a polo encampment at Point Judith, which ought to be an attractive feature of the Narragansett season.

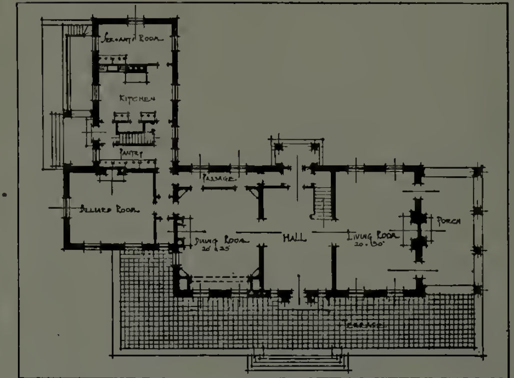
Under the direction of Captain Julian R. Lindsey, Lieutenant Garrison, Lieutenant Erwin, and others, West Point is getting to be a real polo school, with some forty good mounts available.

Photograph by Edwin Levick

Sweep-rowing, English fashion. The men are side-seated or, as some call it, "staggered," giving perhaps more leverage, but less certainty of an even keel. They are also rigged low in the boat and equipped with the much discussed thole pins

~ WINDHAM ~ BRYN MAWR PA.

Percy Ash Architect



The first floor plan, showing that although the house is a fairly large one it is of the simple central-hall [type with service wing

The garden front of Windham. In keeping with the traditions of Philadelphia and its suburbs is the characteristic Germantown hood over the first story windows

The dining room. The two doors at the end open into the same hall—a concession to architectural symmetry

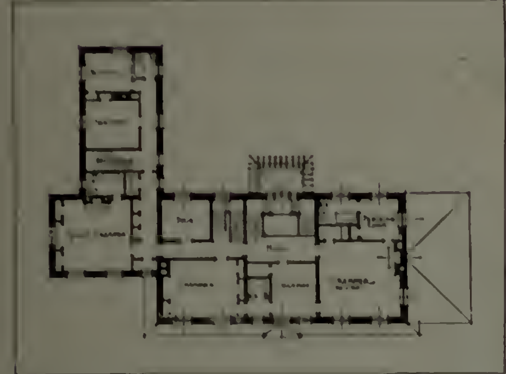
A mantel in the guest chamber over the billiard room

The garden end of the wide hall which is given an added air of dignity by the cornice and paneled wainscoting

In the garden the design is in broad, simple lines, securing an immediate effect that is quite satis- small trees,

THE HOME OF MRS. R. WHITE STEEL

Photographs by The Phillips Studio



The main stairway stops at the second floor, but a secondary one in the adjoining hall reaches additional rooms in the half story above

The entrance front. To the man who appreciates good masonry, the window lintels and arch work of the long, thin, mica-bearing Chestnut Hill stone are a delight

The stately mantel at the side of the dining room

In the living room fireplace and cornice one feels again the same sturdy note of architectural embellishment

fying, but with infinite possibilities of development by the addition of more perennial masses, and shrubbery

The stairway end of the main hall with its landing lighted by the big triple window which is directly over the front entrance doorway

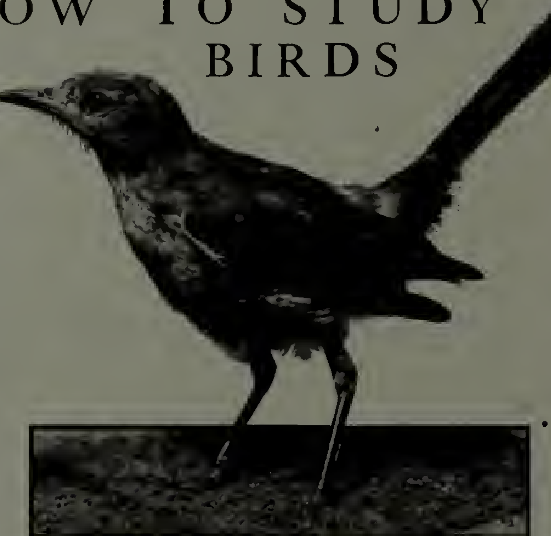
BIRD NEIGHBORS

CONDUCTED BY T. GILBERT PEARSON

SECRETARY OF THE NATIONAL ASSOCIATION OF AUDUBON SOCIETIES

[*Mr. Pearson will be glad to answer any questions relating to birds; for convenience, kindly address Readers' Service,* COUNTRY LIFE IN AMERICA, *Garden City, N. Y.*]

HOW TO STUDY BIRDS



The mocking bird is very common in the South, and seen frequently in the North, particularly in the Connecticut Valley

IT WOULD seem safe to assume that there is hardly any one who does not know by sight at least a few birds. Nearly every one in Eastern United States and Canada knows the robin, crow, and English sparrow; in the South most people are acquainted with the mockingbird and turkey buzzard; in California the house finch is abundant about the towns and cities; and in the prairie states the meadowlark is extremely well known.

Taking such knowledge, however slight, therefore, as a basis, there is no reason why any one, if he so desires, should not, with a little effort, soon get on neighborly terms with a large number of birds of the region, and spring is a most favorable time to begin such an effort. One may learn more about a bird's habits by closely observing its movements for a few hours at this season, than by watching it for a month later on. The life that centres about the nest is most absorbing. Few sights are more stimulating to interest in outdoor life than spying on a pair of wild birds engaged in nest building. Nest-hunting, therefore, soon becomes a part of the bird student's occupation, and I heartily recommend such a course to beginners, *provided* great care is exercised not to injure the nests and their contents. Be careful in approaching a wild bird's nest, otherwise much mischief may be done in a very short time. I have known

Young cedar waxwing. Members of the waxwing family are readily recognized by the crest

"dainty eggs" and "darling baby-birds" to be literally visited to death by well meaning people, with the best of intentions. Often the parents become discouraged by constantly recurring alarms and desert the nest; or a cat will follow the path made through the weeds and leave nothing in the nest worth observing. Even the bending of limbs, or the pushing aside of leaves, will produce a change in the surroundings, which, however slight, may be sufficient to draw the attention of some feathered enemy.

When one stumbles on the nest of a quail, meadowlark, or ovenbird, it is a good idea not to approach it too closely, because night-prowling animals have the habit of following by scent the footsteps. One afternoon by the rarest chance I found three quails' nests containing eggs. The next morning I took out a friend to share the pleasure of my discoveries. We found every nest destroyed and the eggs eaten. My trail the evening before lay through cultivated fields, and it was thus easy for us to find in the soft ground, the tracks of the fox or small dog which, during the night, had followed the trail, with calamitous results to the birds. When finding the nests I had made the mistake of going to within a few inches of them. Had I stopped six feet or more away the despoiler that followed probably never would have known that there was a nest near, for unless a dog approaches within a very few feet of a *brooding* quail it seems not to possess the power of smelling it.

When one starts out to hunt birds it is well to bear in mind a few simple cautions. The first of these is to go quietly, stopping to listen every few steps. Make no violent motions, as such actions often frighten a bird more than a noise. Wear garments of neutral tones which blend with the surroundings of field and wood. It is a good idea

Young long billed curlews—shore birds

to sit silently for a time on some log or stump, and soon the birds will come about you, for they seldom notice a person who is motionless.

A great aid to field study is a good field glass. A very serviceable one may be secured at prices varying from five to ten dollars.

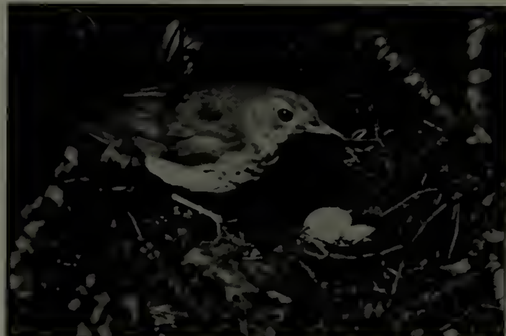
The bird student should early acquire the

Another frequently seen shore bird is the sandpiper—a young one

custom of making notes on subjects of which it is desirable to retain a knowledge. In listening to the song or call of some unknown bird, the notes can usually be written down in characters of human speech so that they may be recalled later with sufficient suggestion to make possible the identification of the singer. For many years in my field excursions I have kept careful lists of the birds seen and identified, and have found these notes to be of subsequent use and pleasure. In college and summer-school work I have always insisted on pupils cultivating the note-book habit, and results have well justified this course.

In making notes on a bird that you do not know it is well to state the size by comparing it to some familiar bird, as, for example, "smaller than an English sparrow," "about the size of a robin," and so on. Try to determine the true colors of the birds and record these. Also note the shape and approximate length of the bill. Perhaps this is short and conical like that of the canary, or awl-shaped like the bill of a warbler, or very long and slender like that of the snipe. By failing to observe these simple rules the learner may find himself in despair, when a little later he tries to find out the name of his strange bird by examining a bird book.

As a further aid to subsequent identification it is well to record the place where the bird was seen, for example: "hopping up the side of a tree." "wading in a marsh," "circling about in



A hermit thrush—one of the most elusive of birds—caught in the act of alighting on her nest

the air," or "feeding on dandelions." Such information, while often a valuable aid to identification, would in itself hardly be sufficient to enable an ornithologist to render the service desired. That a young correspondent of mine entertained a contrary view was evident from a letter I received a few months ago from an inexperienced boy enthusiast. Here is the exact wording of the communication: "Dear Sir: 10 A.M. Wind east, cloudy. Small bird seen on ground in orchard. Please name. P. S. All the leaves have fallen."

A convenient booklet of reporting blanks and directions for using them is issued by the National Association of Audubon Societies, New York City. When filled out, the blanks may be sent in and the species described will be named for you.

There are a number of inexpensive books which contain illustrations of birds in natural colors. One of these will be of the greatest aid to the beginner in bird-study. Among the most useful are Reed's "Bird Guides," one covering the birds of Eastern, and the other those of the Western United States.

One does not get very far in the work of bird-study without discovering that certain traits of movement are characteristic of various families, which is a long step taken in acquiring the power of identifying species. I have often been able to name the bird for a student upon hearing a statement of its approximate size and the character of its flight.

THE NEW BUSINESS OF FARMING

CONDUCTED BY F. D. COBURN

[Mr Coburn will be glad to answer any questions relating to farming; for convenience kindly address Readers' Service, COUNTRY LIFE IN AMERICA, *Garden City, N. Y.]*

HOW LARGE IS A PROFITABLE FARM?

WHEN Lincoln was asked how long a man's legs should be, he replied that they should be long enough to reach the ground. In like manner a man's farm should be big enough to supply him with steady work. His job is to raise food for the human family as cheaply as possible, and make a profit.

The world wants cheap food. Every cent that can be cut from the cost of the twenty million breakfast tables of this country leaves so much more to be spent in other ways. If the food of the family costs less, the children can have more and better clothing, the talking machine can have a few extra cans of Caruso or Mme Sembrich, or all can take an occasional joy ride.

We have these things to-day because food costs less than it did generations ago. Then it took the farmer's family and their united efforts to raise enough food for themselves with very little to spare, and required weeks for the New Hampshire farmer to haul a load of produce to the Boston market. It is obvious that there was not much for luxuries.

America has plenty of farm land. Labor costs more than land. So the economic factor is not the quantity of produce which an acre of land will raise, but the quantity which *a man* can produce. It is the man who raises at a profit two blades of grass where but one grew before who is the benefactor, not the one who forces a given spot to double its production regardless of expense. That may cost too much in labor, and labor is what we wish to save.

To adapt the size of the farm to economical horse labor is important, and the economic unit is not a two- but a four-horse team

In building up a farm business then, we must consider land in terms of labor. It is not good business to have so little land that labor is wasted, or, for any reason, used inefficiently. It is better to have a few acres idle at an interest cost of a dollar or two an acre rather than to have a three-hundred-dollar man sitting around in front of the stove.

It costs nearly as much to keep a team of horses as it does to keep a hired man. But a horse will do ten times the field work of a man. So, to adapt the size of the farm to economical horse labor is even more important than to adapt it to man labor.

A man alone on a farm is working at a disadvantage in numberless ways. The horses are idle while he is doing chores. If he takes a trip to town the whole machinery of the farm stops, for horses, tools, and man are all off their work. There are a thousand and one little jobs that two men can do in a minute that would take one man fifteen to do alone.

A man is non-divisible,—he cannot do two jobs at once; but part of the cost of a horse is the necessary oversight of his work by a driver. That may be divided, for one man can drive four horses as well as one, and much of the modern machinery is made for the use of a three- or a four-horse team. The result of this is shown in the census figures for ten years. In 1880 a man cared for twenty-three acres of crops, but in 1890 he was caring for thirty-one acres. This simply meant that by the use of four-horse teams a man was covering more land in the same length of time, for during that period the area that a horse could care for was unchanged. The saving was in the driver.

If one man tries to care for ten cows and two horses, the team will be idle much of the time while the man is doing chores. But if two men care for twenty cows and four horses, the team can be kept busy all the time, and there will be a direct saving in the time required for the care of the cows, for it does not take twice as long to look after twenty cows as it does to care for ten. The economic unit of man labor on a farm is not one man but two. The economic unit of horse labor is not a two-horse team, but a four-horse team.

This brings us to the unit of size for the farm. It should have at least enough acres to keep two men and four horses busy all the year round. Upon this as a basis we can build until we strike other factors which limit the profitable size.

Labor on a farm cannot be organized as in a factory. It requires individual initiative and is rarely of a kind at which a gang can work together. One man, or two, work by themselves, perhaps out of sight and sound of the next man. Weather, insects, or other conditions may cause a complete change of work at an hour's notice and the whole organization be upset. An overseer in a factory can inspect the work of a thousand employees in thirty minutes, but it would take him a year really to inspect the work of a thousand men on a farm. Moreover, the distance to the fields from the barn becomes quite a factor before we multiply that first unit of size very many times.

The biggest saving is between the farm too small to be efficient and the first unit of size, for the area farmed by a hundred dollars' worth of labor is five times as great on a 175-acre farm as on one of 30 acres.

Horse labor is more efficient on the large than on the small area. On a 50-acre farm one horse cares for 21 acres of cultivated crops, but on a 260-acre farm one horse will care for 49 acres; and a man will produce twice as much on a 150-acre farm as on one of only 50 acres. On the larger farms, then, the labor of horses and men—the chief items of cost in raising crops—is cut in half.

The small farm cannot afford sufficient machinery to do the work economically, but neither can the farmer afford to be without the machinery. He must overload his investment, per acre, in tools, for the same tools required to farm 250 acres are needed for 50. But in the latter case the investment, per acre, would be five times as much.

The equipment for 125 acres of land—horses, men, and tools—will, with very little additional cost, farm 175 acres. It is not surprising to find that the farmer's labor income jumps 58 per cent. with this additional 50 acres. When the farm runs above 200 acres, some duplication on machinery is required and the proportion of increased returns becomes smaller. At about 300 acres, the duplication is necessary all around, and the limit of economy under one management is reached.

The relative capital tied up in barns and house is much greater on the small farm than on the large one.

The records show that in one county in New York the average farmer having 80 acres realized only $370 for his labor, while the one farming 175 acres had $635, and the man cultivating 260 acres had a labor income of $1,000.

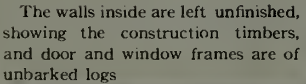
We should not, however, go to the other extreme and suppose that the larger the farm the bigger the return. At a certain point complete duplication of equipment becomes necessary, and the distances between fields will more than offset the economies practicable, and at this point it is better to divide the acreage up into separate farms.

Profit is the difference between the selling price and the cost of production. The producer makes in proportion to the difference between these. The passer-by is impressed by the sight of idle land. The horses eating their heads off inside the barn are not in evidence. It is therefore a popular conception that idle land means poor farming. Really it is the fat, sleek, underworked, well-groomed horses that mean poor farming, and the men spending their time around the stove in the store instead of riding on a gang plow behind a four-horse team.

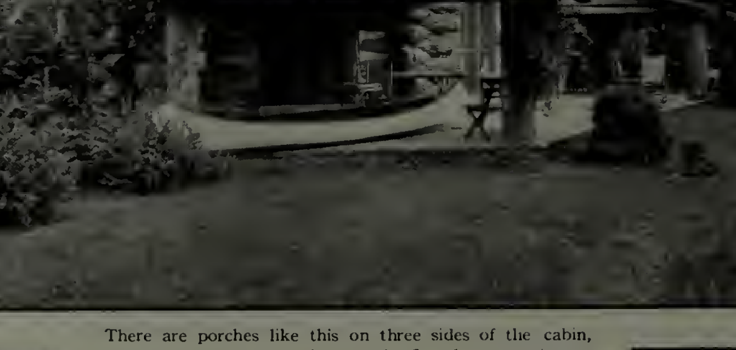
Land is only the vehicle for work, and is the least part of the cost of crops, labor being the chief item; hence land should be subordinated to labor. The size of the farm should be that on which a given amount of labor will produce the greatest result.

The figures given in this sketch are taken from statistics published concerning New York State conditions, but practically will hold, with due allowance for type of farming and topography, in any part of the country.

The bark-thatched roof of the main part of the cabin is somewhat reminiscent of the East Indian bungalow in shape and slope. On the north side of the house and close to it, are the tennis courts, in easy view from one of the broad verandas

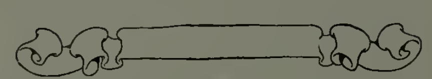


The walls inside are left unfinished, showing the construction timbers, and door and window frames are of unbarked logs



There are porches like this on three sides of the cabin, sheltered by extensions of the roof, the floor being continuous around the three sides (see frontispiece)

The living room fireplace. Note that the mantel is on a level with the top of the door, which gives some idea of its impressive size



A LOG CABIN
ON THE ESTATE OF MR. CHARLES S. WALTON
St. David's, Pa.

D. Knickerbacker Boyd, Architect

ROOF GUTTERS AND LEADERS

By. Benjamin A Howes

THE plumber is the householder's personal devil, his first entrance to the home must have been by way of the gutter and rain pipe. The English use of "leads," for flat roofs, and of "plumber" (or lead worker) for roofer, points to the progress of lead from roof drains to drain pipes within houses. Doubtless it was the truly demoniac behavior of joints stopped with lead in letting in rain which first gave the wretched plumber the reputation he has never since lived down.

But the development of external and internal plumbing has been in quite divergent directions. Inside, the proudest spot of the house is likely to be the gleaming nickel and porcelain of the sanitary equipments, grown from "exposed" to what might be called "displayed" plumbing, while outside the tendency is all toward disposing gutters and drain pipes and spouts as unostentatiously as possible. The gargoyle has fallen into innocuous desuetude.

But why gutters or rain pipes at all? The principal reason is clearly the protection of walls from discoloration, or disintegration from the dissolving acids which may be contained in the rainwater. Then the foundations and flower beds or lawns need to be sheltered from the dropping or spattering from the edge of the roof.

Hanging gutter and a decorative white painted leader head

Where the leader head and downspout are made to serve a decorative purpose

The drain pipe section is protected against damage from garden tools

The character of gutters and leaders depends first of all on the type of the roof itself, whether flat or pitched. The main motive of the pitched or inclined roof is, of course, to shed water, ice, or snow. It is usually made up of small units such as shingles or tile, articulated for expansion and contraction in extreme variations of climate. If metal roofing is used, it must be articulated for expansion both of itself and of the underlying roof structure. For flat roofs lead and copper have been given up for asphalt and pitch, which, if somewhat protected from oxidation, have a long life of viscosity and consequent impermeability. The better roofs of this type are also covered on top by brick or tile.

Why have we not gone on using lead for gutters and rain pipes, as in the days when leadworking was a traditional art, and ornamental gutters and leader heads the pride of the house owner? First of all, because of the cost, which would now be prohibitive. Moreover, lead is extremely heavy, and pipes sag and burst under strain or freezing, and are corroded by time. Other materials available are solid copper, and thin sheet-iron or steel protected by paint, tar, tin, zinc, or copper coating. But no metals are immune from corrosion. Rainwater carries dissolved dust and acid gases—sulphuric acid from coal-smoke, and carbonic anhydride from the air—and these will attack lead, copper, or iron, forming sulphates or carbonates, in addition to the oxides formed by the oxygen of the air, the action of the whole accelerated by dampness. The practical choice of material is governed by the relative cost, together with relative immunity from attack, and the conclusion is that we take either galvanized iron (zinc-covered sheet iron) or solid copper. Zinc, as regards iron, is electro-positive, whereas copper, tin, lead, and nickel are electro-negative. That is, if a minute pore reveals the iron under its zinc coating, the zinc in its dilute acid bath of rainwater, which sets up electric current, goes into solution and particles rush over to this exposed point of iron and unite with it, thus continually recreating the continuity of the coating. The other metals, being electro-negative, retreat, on the contrary, from the edge of any such exposed point, the iron going into solution and being deposited in its turn on the tin and the point going deeper. In simpler terms, tin, copper, and nickel plate are ruled out as drainage pipes because of pitting; zinc prevents pitting.

If price had not to be considered, nickel on copper would be an ideal material, because nickel is to copper as zinc is to iron. But in present conditions solid copper and galvanized iron are the practical choices. Galvanized iron has a life of six to eight years. Painted outside, the life of galvanized iron would be increased 50 per cent.; but an inside coating would very soon be washed and scraped away. Solid copper resists disintegration indefinitely, because the first surface corrosion adheres fast and itself forms a hard, protective coating.

The initial cost of copper is three times that of galvanized iron, including labor of erection; and this difference is somewhat increased by the practice of having copper work specially designed for each building, which means both more work and more material; while galvanized iron is used mostly in ready-made units. Fifty dollars will buy the gutter and leader equipment for the average house.

Cypress wood for gutters, if well chosen and seasoned, has a long life, but the difficulty is to secure it so that it will not twist, or the joints open, in stress of freezing, drying out, etc. For a damp, warm climate, such as that of our South, it does very well.

Masonry in the form of a dish-shaped channel in the cornice is also occasionally used for gutters.

As to the shape of pipes, it is clear that the circular section will carry more water for a given weight of metal, than the square. The square form is, however, of better appearance against a wall, both as regards its own shape, and in fastening. Each section may carry a lug by which it is fastened to the wall. The next upper section fits inside it, and the whole joint is covered by a ship-shape wall fastening in the form of a metal band; few people think that such a leader is anything but a single integral tube. This arrangement is especially desirable in that it allows easy inspection or repair of parts, and provides for expansion and contraction of the sections, and movement of the walls. Expansion is further met by longitudinal corrugations, as well as by the square form itself, which can take care of even a solid ice formation without breaking. The fact that cast-iron pipes cannot thus expand is one reason for not using them for leaders, except where they run down inside the building.

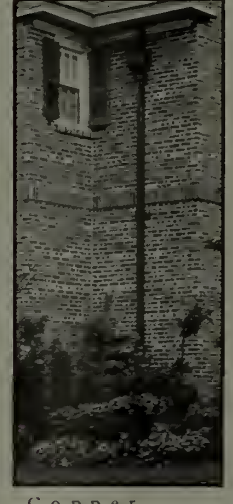
All leaders should set into a length of cast-iron pipe slightly above the ground level; first, because a thinner metal leader will rust from continual dampness there; and secondly, because the greater mechanical strength of the cast-iron pipe protects against blows, such as that of a lawn mower. The leader should on no account be free at its lower end, for the spouting of water is destructive to grading, may form ice on paths in winter, or even back up in the leader itself by the formation of an icicle.

Failing ability to connect with a public sewer or drainage system, these rainwater drains, in the case of small buildings on sandy soil, will take care of themselves at fifteen or twenty feet away from the house, if turned into a dry well—in sandy strata two buried barrels full of stone or gravel will serve. Otherwise a dry well of larger capacity will be required, or better still, the drain can be made to discharge at the surface at some convenient place. It is not desirable to turn rainwater into a private sewage disposal system, where it is liable to wash out the raw sewage.

Gutters may take various forms for hanging on eaves. Far the simplest is the semicircular gutter, with edges rolled for stiffness, hung under the eaves with heavy galvanized iron or cast bronze brackets. Or there may be one gutter inside the other; the inside one tipped to bring water quickly to the leader opening, the outside perfectly horizontal to preserve appearance. In no case is the gutter concealed in the roof structure desirable; it is difficult to make right in the first place, and almost impossible to repair; and it is dangerous because of the great variations of its own expansion and contraction from that of the roof structure proper. The simple hung gutter is preferable, especially as it may be made to look like part of the cornice.

For flat roofs the leader head should be enlarged at the point where it takes out of the gutter, to provide against the clogging of sticks and leaves. Otherwise the enlarged head may be placed against the wall, with a gooseneck leading down to it. Sometimes a copper wire basket protects the leader opening.

Circular-section leader with head, at Red Hill, the remodeled Patrick Henry house in Virginia



The real wrought lead rainwater head on Rudyard Kipling's old manor house in Sussex

Copper square-section leader and head, costing about three times that of galvanized iron

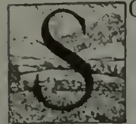
BETTER STOCK

CONDUCTED BY E. L. D. SEYMOUR

[*Mr. Seymour will be glad to answer any questions relating to live stock; for convenience, kindly address the Readers' Service,* COUNTRY LIFE IN AMERICA, *Garden City, N. Y.*—THE EDITORS.]

WHICH CALF IS THE BEST?

A PROBLEM IN PRACTICAL GENETICS AND WHAT IS KNOWN ABOUT IT



SOME TIME ago there was received by this Department, from a correspondent of an inquiring turn of mind, the following request for enlightenment:

"I have heard that a cow's first calf never develops into as good a cow as her succeeding calves. As I have a heifer with her first calf, which I am undecided whether to raise or not, will you kindly tell me what you know or can find out about the matter."

It quickly became apparent that all we "knew" about it was that we had never heard the theory advanced; and that the usual sources of information on all such subjects were likewise as empty of definite facts as Mother Hubbard's cupboard was of bones. The next step, therefore, in the interests both of our correspondent and of our own aroused curiosity, was to enlarge the field of our search and to seek, in lieu of published data, such opinions and conclusions as had been arrived at by men interested in practical animal breeding and in the theories and principles of genetics.

The first result of an appeal for facts from the offices of the leading dairy breed organizations and a dozen or more national authorities on such subjects, was the corroboration of our previous discovery that definite knowledge was conspicuously non-existent. For example, Professor L. J. Cole of the University of Wisconsin reported that "this is a subject on which we have very little accurate knowledge, and such attempts as have been made to determine the matter have been seriously questioned." Professor W. W. Smith of Purdue University wrote "so far as I have been able to determine, the question is still unsettled." Professor J. C. McNutt of the Massachusetts Agricultural College has "found it the prevailing opinion that the first calf from a heifer will not prove to be the equal of later calves," but he believes that "the opinion is not based on fact, because I have known of a good many instances where the first calf from a heifer proved to be the best producer among the progeny." Dean Eugene Davenport of the University of Illinois characterizes the subject as a "knotty question upon which it would be perfectly easy to dogmatize, and extremely difficult, if not impossible, to secure absolutely reliable data, at least without an amount of labor which has never yet been bestowed upon the subject." And Secretary C. M. Winslow of the Ayrshire Breeders' Association, while holding, in theory, that "a cow in the prime of her life ought to breed better stock than when young and growing," agrees that "to establish your reader's statement would require a great many experiments before it could be laid down as an established rule."

But in addition to these somewhat negative comments, our search resulted in the accumulation of original information derived from two sources—the opinions of individuals based on casual observation, and deductions resulting from the examination and analysis of records and data.

In the first of these two groups of evidence it is interesting to note that, while all the opinions are necessarily tentative and vague, yet every one tends to favor the chances of the first offspring. Professor F. C. Minkler of Rutgers College says, "It has been my observation that in case a heifer has been well grown and reached sufficient size and age before she is mated, her first calf will prove to be quite as useful and valuable an animal as any calf that she might later produce from the same mating. . . . It is to be remembered, however, that the personal equivalent or individual unit item is involved in each instance, and no definite rule could be firmly established concerning this, for the value of the individual depends quite as much upon conditions and environment as upon the breeding itself. Certainly there is no more variation in the individual merit of the first calf and any other calf, than between the seventh and the fifth calf, for instance, as it would depend largely upon the breeding matron during gestation and her general health and vitality." Professor Smith, already quoted, states that it is his opinion "that any handicap or advantage the first born may have it is not germinal or hereditary in origin. If there is anything in either theory it will necessitate the reconstruction of some of our fundamental principles of heredity as at present accepted." Professor McNutt can "see no reason why she [the first calf] would not be as heavy in production as later offspring, providing she gets as good care and has as good opportunity to develop"; and the observation of Professor T. L. Haecker of the University of Minnesota, as a breeder for thirty-five years, leads him to hold practically the same opinion. Director F. B. Mumford of the University of Missouri Experiment Station has been "conducting an investigation for six years which involves a comparison of the offspring of very young sows with the offspring of half mature and mature sows, and continuing the practice of very early breeding from generation to generation. There is no evidence to date," he continues, "that the powers of transmission of the young sows are in any way superior to those of the older mothers." Discussing the more general aspects of the question, however, he adopts much the same viewpoint as those already given.

Turning now to the conclusions based upon study and analysis of existing records, we have, first, the theories advanced by Karl Pearson, the English biometrician, and Mr. Caspar L. Redfield of Chicago; and second, the results of a preliminary examination of the records of the American Guernsey Cattle Club, most courteously made, of his own volition, by Mr. C. H. Hulburt of that organization, upon our request for information. As the most specific data at hand we can examine the latter first.

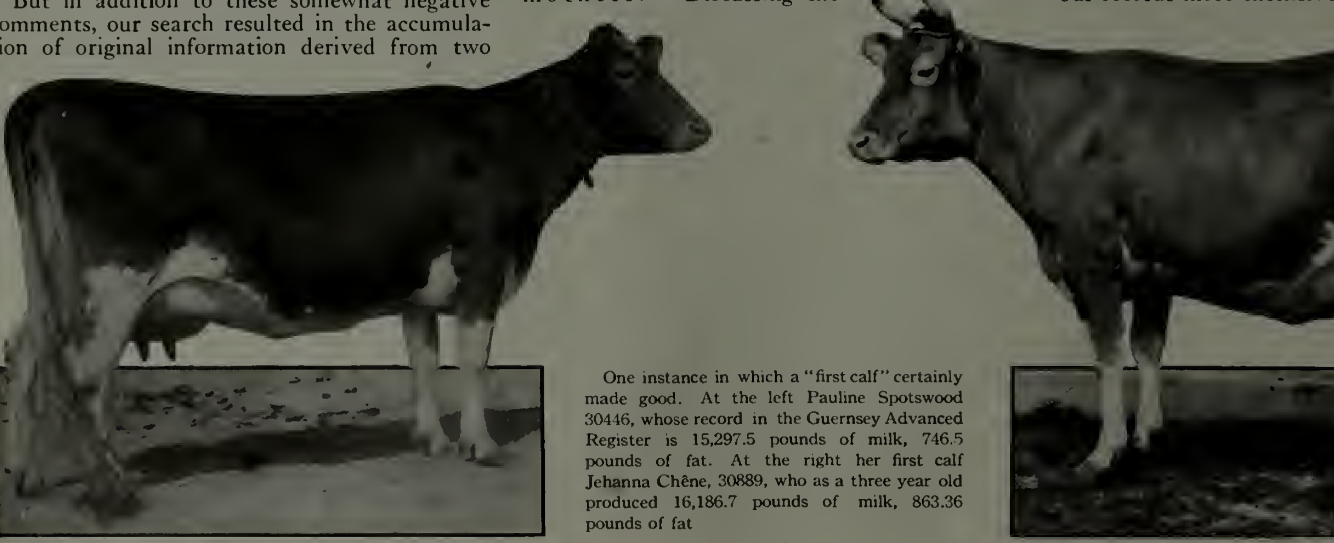
"We first prepared," writes Mr. Hulburt, "a list of the cows listed in our Advanced Register which have produced 600 pounds of butter fat or better, finding 274 such animals, of which 84, being imported (and of which we have incomplete progeny records) had to be disregarded.

"Of the 190 remaining cows there are 36 which we are sure are first calves (a few others may be). This makes approximately one calf out of every five that has produced more than 600 pounds of fat, a first calf; and if we may assume that there are about five progeny to every first calf from the average cow, we can conclude that the proportion of first calves in the Guernsey breed which have produced more than 600 pounds of fat runs about the same as the proportion of first calves to subsequent calves in the world at large.

"Looking farther we found a total of 89 daughters of the dams of these first calves, which are of such age that they might have entered the Advanced Register, but only 13 that have so entered. Comparing the records of these thirteen with the records of their first calf sisters, we found that in only three cases where more than one daughter of a dam has been tested has a later calf made a better showing than the first calf. (See page 68.)

"As a check on this analysis which, of course, took note only of better than the average animals, we took at random from our files the records of 36 first calves that had produced between 400 and 500 pounds of fat—or a fair average for the breed. Looking farther we found that in fifteen instances records had been made by subsequent daughters of the dams of eight of these thirty-six first calves. Comparing these two groups of records as before, we found that in only two out of the fifteen instances had later progeny made better records than first calves.

"It would appear from the above data—which, of course, does not cover a large number of animals—that the first calves were as a rule the best, and our interest has been aroused sufficiently in regard to this point so that we will go through our records more extensively and work the point



One instance in which a "first calf" certainly made good. At the left Pauline Spotswood 30446, whose record in the Guernsey Advanced Register is 15,297.5 pounds of milk, 746.5 pounds of fat. At the right her first calf Jehanna Chêne, 30889, who as a three year old produced 16,186.7 pounds of milk, 863.36 pounds of fat

out with a large enough number of cows to make possible a proper interpretation."

There are, of course, as Mr. Hulburt recognized and acknowledged, a number of factors that might easily affect the accuracy of the above deductions. The single fact that different bulls might have been, and probably were, involved in the production of the first and later calves is of considerable weight, since it is widely acknowledged that milking ability may be transmitted through sire as well as dam. "Furthermore," adds Mr. Hulburt, "a more mature bull might have been used on the dams when young than when they became older," thus introducing the influential factors of age, relative prepotency, etc.

This brings us to our remaining material, namely, the theories of Messrs. Pearson and Redfield. It is the claim of the former that he has established the fact that the first born in human families are apt to be inferior to the younger members of the families, especially in their liability to tuberculosis, insanity, albinism, etc., and he has obtained sufficient following to give rise to the existing lively controversy on the subject. However, in this discussion, according to Mr. G. M. Rommel, Chief of the Animal Husbandry Division of the U. S. Bureau of Animal Industry, and Secretary of the American Genetic Association, "most of the claims for positive conclusions have been definitely shown to be fallacious, and none are generally accepted." It seems hardly necessary, therefore, to attempt to apply Mr. Pearson's reasoning to, or connect it with, developments in animal breeding.

Mr. Redfield's theory, in-so-far as it is possible to summarize it very briefly, is that the age of an individual's parents is a vital factor in the determination of that individual's merit; the best specimens of humans being never the children of young parents, and the tendency of early mating being to produce progeny relatively weaker in all characteristics other than the tendency to do likewise. Although he has pursued the greater part of his studies in the field of human genetics, he also claims to have demonstrated that the greater the average age of ancestors in Holstein-Friesian cattle, the better will be the offspring as regards milk production, and has advanced similar arguments in connection with the standard bred American horse. Nevertheless, although at first glance his conclusions sound convincing, they do not, according to Mr. Rommel, seem to be warranted by his data, while another commentator states that "his methods are utterly unscientific and unreliable, and hence no confidence can be placed in his conclusion." This same position has been taken and justified at length by Dr. Raymond Pearl of the University of Maine in a review of Mr. Redfield's book "Dynamic Evolution."

Doctor Davenport, quoted heretofore, says in this connection: "Mr. Redfield's work seems, on the face of it, extremely conclusive, and yet we must remember that both mental and physical qualities are involved in his studies, and that in general the later children come after the family is comparatively well established and are likely to enjoy many advantages denied the younger ones, especially in middle-class families, from which most of our people come. Turning to the animal side, we are still confused among such animals as pigs and sheep. The young are very dependent for a considerable time upon the care of the mother, and experience shows that the earlier births have a much higher degree of mortality, the earlier young suffering more neglect from the inexperience of the mother than do the offspring of the same individual later on.

"All this would not be true to any appreciable extent among cattle and horses and we might hope, with sufficient study of the performance records in cows and horses, to get a good deal of light upon this question; and yet even here we are confused, because, in general, those females which prove themselves to be successful producers are very likely indeed to be bred to higher grade sires after their reputation is so established than in their earlier years.

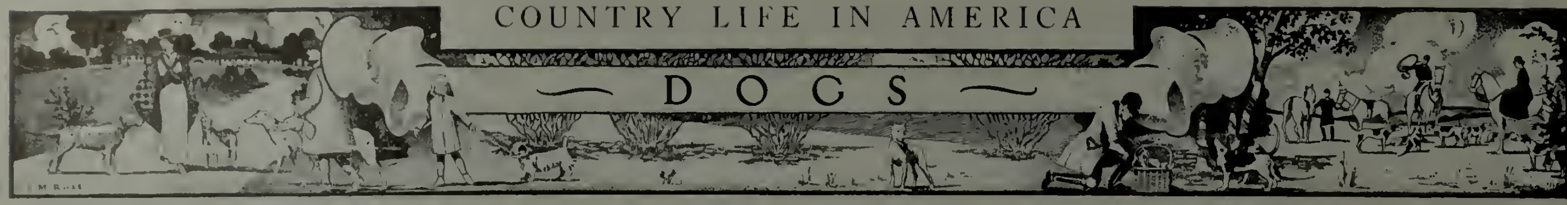
"Pretty nearly everything seems to me to incline to the conclusion that the later births have slightly better chances of success. Over against this is, of course, the old-time assumption that offspring of immature parents were inferior—an assumption which has never been maintained beyond the fact that the offspring of young and undeveloped families are frequently much below the normal at birth, but that they ultimately attain normal size is fairly well established."

With the opening of the National Capital Horse Show on May 6th will be inaugurated another outdoor horseshow season—a season of spirited competition, friendly rivalry, good horsemanship, good horses, good sport, good fellowship, and all amid the eminently fitting and harmonious surroundings of grass and trees and open sky. May the classes be large, the judging close, the decisions cleancut—and may the best horses win! The illustration shows Cocktail of Ashleigh Farms, a true Virginia hunter ridden by Roger Bayly, a true Virginia sportsman.

Thus we get a partial idea of the infinite and complex combinations of circumstances that interfere with every attempt to formulate a definite, comprehensive answer to our correspondent's question. Our advice to him, or to any other farmer undecided whether or not to raise a calf, would be, in effect, this: "Use your own judgment. If the animal is normal, of average development, born of healthy parents of proven merit, and if you can give it the care and treatment any farm animal deserves at the hands of those it lives for, go ahead and raise it, whether it be a first calf or a tenth. Of course, if the sire was a scrub and you have any desire or ambition to improve your herd, it would be better in the long run to turn the animal into veal or beef than to raise it for breeding purposes; but in such a case you have done only half your best until you have slaughtered also the scrub sire himself."

In a sense this is another way of saying that for all practical purposes the truth in regard to the relation of birth rank to merit is more interesting than valuable. "To the practical breeder," says Mr. Rommel, "the health and soundness of the immediate parents and ancestors so far as known, is of far more importance than speculation on the probable influence of the age of parents on the merit of offspring." Let such a breeder, then, whether he be working with dairy cows, beef animals, wool or mutton sheep, hogs, dogs, poultry or what not, develop a system and perfect a policy involving four fundamental operations, as follows: First, let him utilize every available means for testing and keeping track of the ability of his animals. In the dairy these will be the milk scales and the Babcock test; in the field of meat or wool production he can turn to the actual performances of his animals in the open market or in the show ring; and in every case a carefully kept record of feed, labor and other costs will provide data upon which to base a calm, sure, impartial and profitable judgment. Second, let him dispose of every animal shown by such tests to be unprofitable and therefore unworthy of having its characters intensified in succeeding generations. Third, let him breed the remainder of his females—only the best of *them*, if choice is possible—to pure bred, registered sires of proven merit or at least known and worthy ancestry. And, fourth, let him continue this testing and selecting and weeding out process and the combination of the best on both sides, for generation after generation. Thus, and only thus, will he ultimately attain to the highest pinnacle of success that destiny can prepare for him.

E. L. D. S.



CONDUCTED BY WALTER A. DYER

[*Mr. Dyer will be glad to answer any questions relating to dogs; for convenience, kindly address Readers' Service,* COUNTRY LIFE IN AMERICA, *Garden City, N. Y.*—THE EDITORS.]

THE RETURN OF THE MANCHESTER

By WILLIAMS HAYNES

THIRTY-ODD years ago the black-and-tan Manchester terrier was well known and well liked. In those days the solid, aldermanic pug was the pampered favorite of the drawing room, and a gayly spotted plum-pudding dog trotted beneath the front axle of every smart landau. To-day the phlegmatic pug has been nosed off the lap of Dame Fashion by other toy dogs, and in this age of motors the coach dog finds his old-time occupation a sinecure. But the Manchester terrier is coming back.

It is always difficult to regain a lost position, and especially so for a dog to win back a popularity that he has lost. "Every dog has his day"—sometimes it is short as the twenty-first of December; sometimes it is long as August in the Land of the Midnight Sun—but be his day long or short, once it has passed, only a dog of exceptional desirability can bask again in the sunlight of popularity. The Manchester terrier is such a dog. If he were not, the rather strenuous efforts that his good friends are making in his behalf would be fruitless, for, if he enjoys peculiar advantages, thanks to his own attractions, he also labors under exceptional handicaps.

In the first place, the Manchester must now compete with dogs that were unknown in his day. Thirty years ago, the Airedale was only a local celebrity in the vales of Yorkshire; the Scottish terrier had hardly stuck his black nose out of the Highlands; the Irish terrier was unknown in America. Nowadays, these three, and others too, are strong contenders for the affections of a terrier lover. The West Highland White terrier and the Sealyham are proofs that it is much easier to introduce, as the latest imported novelty, a new breed than it is to revive interest in a variety that has waned.

Secondly, the Manchester terrier can receive no help from his native land. The anti-cropping edict has practically killed the breed in England. All of that sensational publicity that comes with the importation at a fabulous price of a famous champion is denied, for there are no famous champions being bred in Britain. This means, moreover, that we must depend almost entirely upon the breeding stock we now have, with whatever help we can get from Canada, long a stronghold of the breed.

Thirdly, the Manchester terrier that from a bench show point of view anywhere nearly approximates perfection is very seldom seen. They are sound and healthy, easy to breed, and not hard to raise, but the extreme length of head associated with great shortness of back is always a difficult combination to find in one dog. The very exacting demands for color and markings are an even greater problem for the breeder.

Mrs. J. C. Liggett's Ch. Bad News. First in open and first winners at Boston; second open and reserve winners at New York

Finally, most Americans habitually confuse the Manchester terrier with the toy black-and-tan terrier. The toy variety was certainly bred from the Manchester dog, but the two differ as much in looks, disposition, and constitution as they do in weight.

These are four pretty tolerably good-sized stumbling blocks in the way of any breed—but the Manchester terrier is an exceptionally desirable dog. He is good looking—a clean-cut, aristocratic terrier with odd and attractive markings. He is wide-awake, intelligent, faithful, gamy. He is active, healthy, and sizable. Since he is all these things—and more too—the return of the Manchester to popularity seems wholly reasonable.

Though he has undergone some modifications, he is the oldest surviving smooth-coated member of the terrier family. He has had a paw in the making of every smooth terrier we have—even the Boston, which was bred from the bull terrier, which, in turn must acknowledge Manchester ancestry. He and the Scottish terrier are probably the only two terrier breeds that have anything like a clean, straight-bred ancestry that antedates the time of the dog shows.

The Manchester's origin is lost in a strange tangle of myths and mysteries, but we know that he was alive and flourishing two hundred years ago. His birthplace was probably in the Midlands, and his home has long been in and about the city of Manchester. When the dog shows put a value on physical points and supplied the incentive for careful breeding, the Midland metropolis bestowed its name upon this Midland dog, much to the open discontent of certain London fanciers of the breed who would have called him the English terrier.

In the Midlands his best friends were the mill operatives. In their humble cottages nothing was too good for the "black 'un," as he was affectionately nicknamed. He was born in the kitchen; he grew up with the children; he ate at the table: and when he died the whole family went into mourning. But he did not become a spoiled weakling. He had always to earn his salt. Saturday nights at the "pub" he must kill rats against time or in competition with his half-brother or his cousin. Other times he must take his turn at water rats down at the mill, at stoats in the hills, or possibly at rabbits on His Grace's preserves. About London his friends were more aristocratic. They did not need a dog for vermin destroying, and they developed the toy variety for their parlors. These tiny black-and-tan dogs became very popular in early Victorian days, but they were—and are to-day—different from their larger cousins.

It is the Manchester terrier of the Midlands, the bright, affectionate, game "black 'un," who is these days making the bid for popular recognition. Thanks largely to a coterie of Boston friends, Messrs. W. P. Wolcott, T. Dickson Smith, Arnold Lawson, and J. L. Frothingham, a Manchester Club was organized some time back, and owing to their efforts the shows last year had more entries than have graced the benches in some time. Canada has always had its quota of good Manchester fanciers, and all over the Middle West, especially about Chicago and Kansas City, there is a sprinkling of good dogs and devoted owners.

One of the biggest stumbling blocks in the path of the "black 'un's" general popularity is the almost universal misunderstanding as to just

One of the good Manchesters is Ch. Watlands Leader (at the left) owned by Mrs. Thomas W. Larsen

Mr. Alf. Delmont's Ch. Leeds Imitable, though a youngster, has been romping away with show honors. First limit, second open, and reserve winners, at Boston; and first winners at New Brunswick, Albany, Utica, Lancaster, Danbury, and Easton; first open and first winners at New York

Dr Charles P Knapp's Jean, A K C 182789 (left) and Jackaroo, A K C 162678, have been winning consistently at the Pennsylvania shows. At Easton they each took second open and reserve winners in their classes, and together first brace

what dog he is. He is not an effete toy. He is a dog as heavy as the fox terrier, and, because he is more racy in build, he stands even taller at the shoulder. He is a lithe, wiry, upstanding, active dog with a long, wedge shaped head; straight legs, good, sloping shoulders; and a short body with a deep chest and well cut-up loin. His ears are cropped and stand smartly erect. His tail, which is never cut, should taper to a fine point and never be carried above the line of his back. Roughly speaking, he is a black, smaller, more racy edition of his blood relative the bull terrier.

His disposition is exceptionally good. He is bright as a street urchin, but a little gentleman in manners. He is clever and very affectionate; lively without being boisterous, and very clean. He is utterly game, but not at all scrappy, and he has a reputation as a ratter that all other terriers can envy. He is hard as nails, and although his shiny, black coat is thin, still he is not delicate. Nevertheless it is not kind to ask him to tramp the streets on sloppy winter days or to sleep outside without protection on freezing nights.

The Manchester terrier indeed deserves better than he has had, and it is to be devoutly hoped that he will win back the general popularity that he once enjoyed. It would be a pity if the oldest smooth terrier—and such a nailing good sort of a terrier at that—should become extinct through lack of support.

* * * * *

A few supplementary remarks on the Manchester terrier seem apropos in connection with Mr. Haynes's article. It is certainly a fine animal, and it is a pity that the extreme requirements of the standard have discouraged so many breeders.

Head, symmetry, and color are all essential. Definite color and markings have been especially insisted on. The ideal Manchester should be a smooth-coated black dog with rich tan markings evenly distributed. The muzzle should be tanned to the nose, the tip of which should be jet black; there should be a bright tan spot on each cheek and one above each eye; tan under the jaw and throat, and tan hairs inside the ears; forelegs tanned up to the knees, with black lines on the toes and a black mark above each foot; hind legs tanned inside, but divided with black at the hock joint; under surface of the tail tan; breast, or brisket, slightly tanned on each side. Tan on the outside of the legs is a defect.

These strict requirements have tempted some unscrupulous fanciers to dye their dogs, though I doubt if this practice has been very prevalent in this country. Here the result has been rather a decrease in the breed, since perfect specimens are naturally difficult to get. I should almost be inclined to advocate a relaxation of these requirements, or at least suggest that it would pay to breed a less perfectly marked dog for general purposes, though this is always dangerous advice.

Mrs. R. T. Harrison's toy Manchester, Ch. Tiny Boy

The weight of the Manchester is given as 10 to 20 pounds, though the general demand has been for a dog weighing not less than 15.

The toy Manchester or miniature black-and-tan, while derived from the larger dog, has become a separate breed, and one not unpopular here in spite of its delicacy and timidity. The good toy is a handsome little chap, with the same shape and markings as the Manchester proper. The toy should weigh not more than 7 pounds, with the preference given to dogs weighing 5 or 6. There have been 4- and even 2-pound specimens.

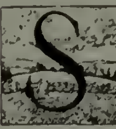
The ears of both breeds are cropped here, but not in England.

There are several varieties of toys that are more popular than the black-and-tan, though it has its hearty adherents. At the New York show in 1915, five were benched, and in 1916, three. At Southampton last year there were three, two at Mineola, and two or three at several of the other shows.

The showing of the large Manchester has been equally moderate of late—New York, 1915, nine; and 1916, eight; Southampton, 1915, five; Mineola, 1915, five. While I see no signs of a great revival of interest in the breed, I sincerely hope that Mr. Haynes is right and that the Manchester will come to his own again.

W. A. D.

THE NEWFOUNDLAND AGAIN



SINCE the publication of our article on Newfoundlands last October, I have received a number of letters from all parts of the country which indicate a widespread interest in the fine old breed and a sincere desire to see it reinstated.

The following is an extract from a letter written by Mr. Walter Geldert of Venice, Cal., early last November:

"I enclose herewith a picture of my old fellow who is now two and a half years old. At the kennel club shows he has taken four trophies and a gold medal, with a credit of thirteen points toward his championship. I am now conditioning the dog for the next show to be held in Los Angeles on November 11-13, and expect to get his championship.

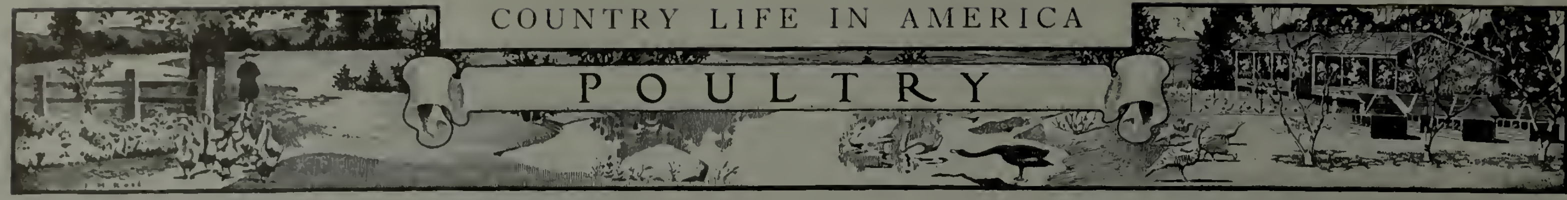
"This breed is very scarce here in the West and I seem to be the only one in the southern part of California to own one that has been exhibited in any dog show for the past three years. I am now trying to get some of the breed from the East."

Major II was shown at Los Angeles and won his championship. Then came the news of his death on January 17th—with none to fill his place.

For the story of the rise and decline of the Newfoundland, I refer the reader to COUNTRY LIFE IN AMERICA for October, 1915.

W. A. D.

Another Newfoundland gone to his reward—Mr. Walter Geldert's Ch. Major II

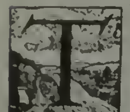


POULTRY

CONDUCTED BY F. H. VALENTINE

[*Mr. Valentine will be glad to answer any questions relating to poultry; for convenience kindly address Readers' Service,* COUNTRY LIFE IN AMERICA, *Garden City, N. Y.*— THE EDITORS.]

THE LOST ART OF RAISING TURKEYS



TURKEY raising seems almost a lost art with many who formerly were very successful. Whether the cause is diminution of vigor of the breeding stock, or conditions of environment, or other causes, is an open question. Still, many are successful, as evidenced by the large supply of excellent turkeys in market. The most critical time appears to be during the first few weeks of the life of the poult. Once past this critical period, they almost raise themselves, as one breeder phrased it.

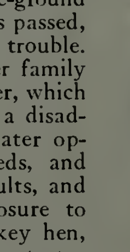
Here are some composite pointers gleaned from different successful turkey raisers:

One uses small colony houses with attached runs for sheltering the broods and mothers. These are moved to fresh ground every day. The houses are kept as clean as possible, whitewashed frequently, and lice and mites abolished. Shade is provided in hot weather.

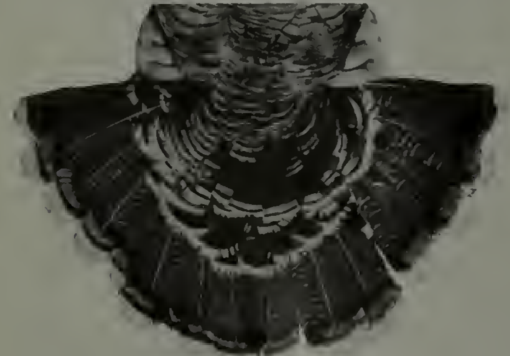
None is hatched before May. The first eggs are set under hens, the last being given to the turkey hens. The first poults that hatch are removed from the nest to avoid crowding, and are placed in a warm basket covered with flannel. They do not require feeding for a day or two. Some breeders feed first hard-boiled eggs, chopped fine, with a sprinkling of black pepper, with which is mixed the common sting nettle also chopped fine. Several give bread soaked in milk, squeezed dry, and with a little red or black pepper added. Sour milk or buttermilk is a favorite drink. The soaked bread is a good feed till the poults are well grown. Lettuce is frequently fed, and a number of successful feeders give chopped dandelions. When of sufficient size to range, they will get their own feed through the day, and a feed of sound old grain at night is sufficient. One breeder, once a week, gives a half teaspoonful of Epsom salts to a pint of milk for twelve poults, given before the morning feed. At night, a half teaspoonful of sulphate of iron to a dozen birds is given in two quarts of milk.

Filth, dampness, and vermin are the worst foes of young turkeys. Everything must be kept scrupulously clean. Until well grown, they must be kept out of the rain and wet grass, and their coops must be dry. A liberal use of insect powder will dispose of the vermin. When the poults "shoot the red" is a critical time. Some put a few drops of tincture of iron in the drinking water at that period, two or three times a week. Raw egg in milk, or a little fine-ground meat is also a help. After this period is passed, if they have good range, there is little trouble. The turkey mother is likely to take her family much farther afield than the hen mother, which is at the same time an advantage and a disadvantage. The advantage is in the greater opportunity for securing insects and seeds, and the herbage peculiarly suited to the poults, and the disadvantage is in greater exposure to marauding animals and birds. The turkey hen, however, is a much more vigilant protector than the common hen. She has the advantage, too, of greater hovering capacity when her charges need protection. F. H. V.

A flock of five months old Bronze turkeys starting out for their afternoon run in search of grasshoppers



A bronze tom owned by the Messrs. Bird—a blue ribbon winner at the last Madison Square poultry show



Showing the tail penciling of the Bronze turkey hen at the right

—and her well marked wing feathers. First prize at Madison Square.

TURKEYS — BREEDS AND CARE

THE TURKEY is one of the best and most profitable of our domestic fowls, and success is not difficult to achieve if we will but observe a few strict requirements.

The two main drawbacks to turkey raising are (1) the fact that turkeys must have a large range to do well; and (2) the great number of deaths among little turkeys during the first few weeks. However, in the first case there is always room enough on the average farm for a big flock of turkeys, and in the second case the poults may be successfully raised by any one who will carefully see to it that they are kept warm and dry for the first few weeks; after that they will almost raise themselves.

Turkeys are preëminently a wild fowl, and require plenty of liberty in order to be profitable in the highest degree. They can not be closely confined without affecting their health and vitality and profitableness, nor can they be given the freedom of a small-fruit or vegetable farm, for the reason that they will do destructive ranging. But on a grain or grass or stock farm where they can roam around at will and gather in the shattered grains, and bugs, worms, and grasshoppers, turkeys will return one of the best profits that can be made from poultry. They require no expensive housing or feeding, and holiday prices are always high.

There are a number of good varieties of turkeys —the Mammoth Bronze, the Black, the Buff, the Bourbon Red, the Slate, the Narragansett, the White Holland, etc. The Bronze and the White are the kinds most commonly raised, and both are fine birds. The Bronze is somewhat the larger of these two, but where a

white fowl is not objectionable on account of marauders or hawks, the White Holland will be found quite desirable.

Turkey eggs should not be set too early in the season. They will do better if one waits until late in April or until the month of May, according to latitude. The first batch of eggs which the turkey hen lays should be taken away from her and set under hens. Then she will soon commence laying again, and these last eggs she may be allowed to hatch for herself. By this means one can get two broods from her, while if she were left to follow her natural inclinations she would stop with the first clutch of eggs. This is all she would produce then in one season, and many of these youngsters might be lost by her trailing with them through the high, wet grass. Hens are not so likely to do this, and by the time the turkey hen has brought forth her second lot of youngsters, the grass has been cut and the stubble is short. Until about two months old, the young must be well protected from rains and dews, which are always fatal.

The White Holland turkey is handsome but not quite so large as the Bronze. Part of Mr. H. W. Macomber's flock

Doubtless the three things most disastrous to young turkeys, and that must positively be eliminated if one wishes to succeed, are dampness, cold, and vermin.

Every care and attention possible must be given to the obliteration of vermin on and about the poults, and they must be carefully protected from cold and dampness and inclement weather.

Fifteen eggs are enough for a turkey hen to cover. Upon setting her, dust the nest pretty thoroughly with insect powder. Shortly before the eggs are due to hatch, the hen herself should be dusted with the powder, care being taken not to disturb her too much. Leave the hen to come off the nest whenever she pleases. Then when the hatch is completed, remove the hen and poults to a large box and keep them confined therein for several days, especially if the weather is cold.

If warm, they may be at once placed in an A-shaped coop on the ground, which is desirable, as the coop may then be shifted around to new ground every day or two.

As to feeding the poults, stale bread soaked in milk is excellent for the first day or two. Then gradually change to wheat middlings (shorts), mixed moist but not sticky. Feed four or five times a day for the first few weeks, never permitting the feed to become soured. Chopped onion tops and dandelion leaves may well be added to their ration once in awhile, as these seem to have a tonic effect that is very beneficial.

Plenty of pure water must be supplied, while skim milk or buttermilk is fine for a daily drink.

At the end of four or five weeks, give the brood their entire liberty.

R. B. Sando.

[Editor's Note: The ration advised is very unusual and very meager. The best turkey raisers advise a small portion of hard-boiled egg mixed with the bread at first, and many of them use a bread made specially of ground corn and oats with the hulls sifted out, bran and middlings with a dash of pepper, especially if there is tendency to diarrhœa, the whole mixed with sweet milk if available. Cracked corn or wheat—only old, sound grain—may be added, after a little. Some advise cooking or soaking—the latter is preferable. Some feed at first curds or pot cheese. Sweet milk is excellent for turkeys of all ages. Some give a little green-cut bone when feathering begins, but this ought not to be necessary if turkeys have range and insects are plentiful. Emphatically all feed must be sound and sweet, fed little and often at first, with pure water or sweet milk at hand.]

MAKING A LATE START

THOUSANDS of would-be back-to-the-landers will move to country or suburban homes as late as April, May, or even June. Some of these will wish to make a start with poultry, and a few suggestions may be helpful to such. From past knowledge, I know that many of them will want to start with several breeds of fowls, pigeons, ducks, and possibly turkeys and geese. To the tyro, a word of caution—don't undertake too much at first. It's safer, more satisfactory, and profitable to start small and increase the number and variety of your pets, than to start on a grand scale and see them dwindle and grow beautifully less. Fowls and pigeons may be kept very nicely on the small place, but I don't advise ducks, geese, or turkeys. Further, one breed of fowls is enough for a starter. The solid colored breeds are easier to breed than particolored ones. Each individual should consult his own tastes and preferences in making a final decision as to breed.

Bronze turkey pullet, owned by the Messrs. Bird, first at Madison Square

April is rather late to start by buying breeding stock. One is not likely to have as much choice then, will probably have to pay much higher prices for the same quality, and it will be very late in the season before any hatching can be done. If one have birds of the sitting breeds he may purchase eggs, and the question of hatching them arises, for the hens don't sit to order. Broody hens may sometimes be bought or hired to hatch a few eggs, but this method is generally uncertain and often unsatisfactory. He may purchase an incubator, or better, if he has but little use for it, hire the eggs hatched in a public hatchery. This work is now done by many, a fixed price being paid. A brooder will be necessary to care for the chicks after hatching.

But the simplest and possibly most feasible plan for making a late start seems to be by the purchase of newly hatched chicks. If these are properly hatched from eggs from good, vigorous, healthy stock, and are not shipped too far or kept too long and too closely confined, this may prove the simplest method. One hasn't the bother or the expense of setting hens or incubators, with their accompanying annoyances.

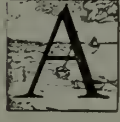
Another method of making a start is by the purchase of partly grown pullets. Several poultry farms make a specialty of these in response to a demand that has existed for some time. This does away with the necessity for even a brooder coop or colony house, as the pullets may be put right into the laying house.

Of course, these methods are suggested merely as an aid in getting a belated start, especially for the beginner. After one is established, he will probably want to have his own breeding stock, study selection and mating, have the fun of hatching and raising his chicks, and enjoy the results of his study, his planning, and his labor. But all these developments will come as a matter of course to the one who starts right, plans carefully and intelligently, and labors faithfully.

F. H. V.

Bourbon Red turkeys are not so numerous as the Bronze, but their adherents are loud in their praise. Bourbon Red tom owned by Mr. E. J. Reed

PROFITS IN TURKEY RAISING

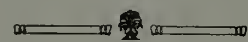


AT THE last Boston Poultry Show steps were taken toward the organization of a Turkey Growers' Club. Evidently the editor of *Farm Poultry* is not enthusiastic over the outlook. He says that, stated in a few words, the reason why turkey culture declined in New England and is not likely to be extensively revived, is that turkeys, under most conditions found there, are less profitable than fowls, and that, this being the case, only those whose interest in turkeys makes them willing to grow them although something else would pay better, will continue long in the business of turkey growing. It would be interesting to know what others who have been successful both with fowls and with turkeys, think of this view of the case. The buyer of a Thanksgiving turkey in our Eastern cities certainly gets the idea that there is money in turkeys.

F. H. V.

HERE AND THERE

St. Patrick Up to Date Just why St. Patrick drove the snakes from Ireland, and, indeed, whether he ever actually attempted or accomplished the task, are matters deeply enshrouded in the indecision of ancient legend. But there is neither mystery nor question as to the expedition and thoroughness with which the Bureau of Animal Industry is driving the cattle tick off the face of the United States. On December first, new areas aggregating 12,313 square miles in six Southern states were declared free of the parasite and no longer under the quarantine ban, making a total of some 50,000 square miles so liberated within the year. While this is magnificent progress, it is but typical of the efforts that have reduced the infested area of 1906, when the extermination campaign was begun, by considerably more than 33 per cent. A tick-free country is clearly in sight, and as one reason therefor behold the all powerful triumvirate—knowledge, individual effort, and whole souled coöperation.



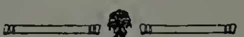
Wanted—Snail Farmers As an article of food in the United States, the snail is doubtless better known to a hundred frequenters of restaurants of our largest cities, than to one practical farmer. This may not long remain true, however, for the Federal Government has become sufficiently interested in its possibilities to have had an expert collect the facts regarding their culture in European countries, with a view to educating the American people to a better appreciation of the mollusk, and stimulating interest in a new industry. Conditions for profitable snail raising are said to be admirable in many parts of the country, especially the Mississippi Valley; and in comparison with oysters, clams, and other delicacies already valued by the American epicure, the snail can more than hold its own, as regards nutritive value, gastronomic worth, and the cleanliness of its habits. Who is to be listed as the first American commercial snail grower?

Sleighing At Sixty-Five M. P. H. A Seattle, Wash., man has invented a sleigh, propelled by an aeroplane engine, for use in carrying mails over the frozen trails of Alaska. The motor drives a propeller attached to the rear of the sleigh and is able to do sixty-five miles per hour on need. It has an enclosed cab large enough to accommodate six passengers or pretty close to a thousand pounds of mail. The whole outfit weighs only 1,100 pounds.

The Mystery Of Plant Asphyxiation The injury of trees by gas, though not uncommon in cities, is fortunately a rare occurrence in the country. Even there, however, some will be interested in the findings of recent experiments designed to ascertain just how and under what conditions this injury is produced. It appears that when passed through the soil, illuminating gas is broken up into various groups of constituents, some, such as the odor-giving ones, being quickly absorbed by the soil particles and having no ill effects on the roots; and others, notably ethylene, remaining in gaseous form in the spaces between the soil particles and causing the injuries already mentioned. A low concentration of gas seems to have a stimulating effect, causing abnormal development of the root tissues, increased hydrolysis of starch, etc. A high concentration, on the other hand, rapidly kills the roots and consequently the entire plant. As a practical suggestion it is mentioned that etiolated (in the sense of blanched or only partially vigorous) sweet peas are extremely sensitive to the effects of gas and, growing where there is thought to be danger from this source, will indicate its presence before other species suffer injury or at least show signs of it.

Is Her Desuetude Innocuous? Rumors were in the air some weeks ago that the hull of the "interned" racer, *Shamrock IV*, had undergone serious deterioration as a result of her enforced and extended period of idleness. The existence of any foundation therefor was promptly denied after a careful examination that found things "in tiptop shape" and the yacht in "as good condition to-day as she was when she was put into the slip in 1914." Yet the impression remains that the unhappy sequel of her creation and brave trip across the Atlantic must be more or less harmful, even if in a negative way. There is, for instance, the huge sum she represents, now hoarded up and benefiting no one; there is the inevitable change that comes with age to every animate and inanimate thing and that must lessen speed, efficiency, and worth in some degree; and there is the healthful sport, the clean enjoyment and excitement of multitudes, and most of all, the active good fellowship between the yachtsmen of two nations, all of which are rendered impossible while the boat hibernates in dry dock. Into how many cracks and crevices of our life has the hand of war inserted its iron finger! How many and how varied the appeals that arise for a renewed world peace and for the pastimes and avocations that depend upon it, and that brighten the pathway of man's existence!

"Sweets To the Sweet" Running a motor car on a diet of candy sounds fantastical enough, but that is figuratively what we may be doing some day, if recent experiments by the Royal Automobile Club of Great Britain may be taken at their face value. This organization has been conducting a series of tests with a newly found motor fuel, which consists principally of alcohol obtained from the waste products of sugar refining factories in Natal. The name natalite has been bestowed on the new product, which is said to give quite as satisfactory results in so far as power goes, as does gasolene, while several points of actual superiority are claimed, first among them being cleanliness. If gasolene continues to prove as volatile in price as it is in chemical nature, we shall be forced to cast about for some satisfactory substitute, and we shall keep our eyes on natalite.



Automobiles Becoming Less Wild The casual reader of the daily press is apt to get the impression that as the numbers on automobile license tags gradually approach infinity, his chances for dying a natural death decrease even more rapidly. Certainly accounts of accidents involving motorists, especially in the larger cities, form a regrettably frequent type of news items. But in fairness to the machine, which receives, in our opinion, much more than its share of the blame for such catastrophes, the facts should be examined in their relative aspect. As a result of such an examination, the Federal Department of Commerce reports that "from 1909 to 1914 the number of automobiles in the United States increased more than twice as rapidly as the number of fatalities caused by them." That is, the five-year increase of 775 per cent. in number of cars has been accompanied by an increase of only 315 per cent. in automobile fatalities. Why this improvement—whether because of more easily controlled cars, more careful driving, or increased education of the masses to their use—we will not attempt to guess. Let us rejoice that conditions *are* better, but—has the limit of improvement been reached? Is not a total of even 4 persons per 100,000 too heavy to let us rest in complacent inactivity?

"Lo, The Poor Indian!" From the pen of Cato Sells, Commissioner of Indian Affairs, there has recently gone out to the employees of the United States Indian Service a message and an appeal that rings with sincerity, logic, and justice. Its spirit may be common enough among the little corps of active Indian workers and sympathizers, but it is not often enough expressed outside that circle of enthusiasts, nor even realized. "Save the babies," is the keynote of Mr. Sell's message, "wage with renewed vigor the warfare against the arch foe of efficiency—disease." Not long ago such a duty would have been no less unthought of than unnecessary; in his native circumstances the Indian held a better chance for health and vigorous life than most white men. But civilization has, unfortunately, brought with it degeneration, and the responsibility therefor has descended from the shoulders of our forefathers to our own. We are facing the inevitable result—an Indian problem, but, as Mr. Sells, succinctly remarks: "We cannot solve the Indian problem without Indians. We cannot educate their children unless they are kept alive."

School Children As Census Takers As this paragraph is written, the final arrangements are being made for the taking of a new and entirely unique sort of census in the State of New York. The value of the agricultural data obtained every ten years by the Federal Census Bureau has suggested to Commissioner of Agriculture Wilson the desirability of a more frequent report upon the actual farm resources of the Empire State. He is therefore enlisting the services of some 500,000 school children who, by the time this note appears, will have reported upon the number of horses and of cattle on every farm in the state, and upon the quantity of important farm crops produced on them in 1915. Should the plan work out satisfactorily, there will probably be another census of the condition of growing crops taken in June in the same manner. The advantages of this innovation are numerous. The data will be of tremendous value to the state and to local agencies such as farm bureaus, etc., in suggesting the development and needs of different sections; and this value will increase as new figures are supplied annually, or oftener, for comparison. The investigation will not only prove interesting to the school children but will greatly increase their knowledge of conditions in their state, county, and community; and it will supply splendid material for subsequent analysis and study. Finally, in the nature of publicity, the scheme must inevitably stir up the interest, the self respect, and the ambition of the farmers themselves, and thereby result in better farming and more of it.

A Record of Good Roads That Every *Taxpayer* Should Read

The Old Macadam Road

In the old days before the automobile, the roadway that MacAdam invented a hundred years ago was good enough for anybody. It was hard, smooth, fairly dustless and easy to maintain at slight annual expense. Its durability varied, of course, with the traffic but it would go for some ten years or more without serious reconstruction.

The Automobile Arrives

Then came the automobile storming down MacAdam's smooth highway with a vicious abrasive thrust of its powerful rear wheels and scattering MacAdam's expensive materials to the winds.

And macadam roads promply went out of date.

There are still some road builders who are trying to make them serve in this day of fast traffic, and find that they are either the custodians of melancholy lanes of loose stone or are engaged incessantly in expensive repair and reconstruction.

Tarvia Roads

To make the road once again stronger than the vehicle, modern engineers employ bitumens of which the best known and most used is Tarvia.

Tarvia is a tough, coal tar preparation. It is not an oil and does not track or smell. It is not a dust-layer but rather a dust-preventer. Its use also adds greatly to the life of the roadway since it cements the road into a tough, slightly plastic matrix that withstands automobile and horse drawn traffic to an extent that is remarkable.

How long will they last?

How long the Tarvia bond would withstand traffic has not been known till recently but some of the early Tarvia roads are now ready to testify. For instance:

Newton Boulevard, Newton, Mass. Treated with "Tarvia-A" nine years ago. Still in good condition.

A nine year record

Newton Boulevard, Newton, Mass., was tarviated for five miles in 1906 and 1907. It is a great automobile thoroughfare and before that time its maintenance was difficult and costly. The original 1906 treatment has never been renewed and repairs have been too insignificant to compute. At the most an inexpensive renewal of the top coat of Tarvia will make it good for another long period.

A ten year record

Bellflower Avenue, a fine residential street in Cleveland, Ohio, was built with Tarvia in 1905. The photograph below of this paving was taken in 1915 showing its fine condition after ten years' service without renewal or repairs, a record obviously impossible for plain macadam on a city street like this.

Bellflower Ave., Cleveland, O. Constructed with "Tarvia-X" in 1905. Note its present good condition after 10 years!

A six year record

This was on the fashionable Lake Shore Drive in the city of Chicago where plain macadam would probably not have lasted through a *single winter*.

Lake Shore Drive, Chicago, Ill. Reconstructed with Tarvia in 1909. Heavy traffic but still good in 1915 as above.

As to the future

Such veteran Tarvia roads are the forerunners of a host that will be recorded a little later when the great mileages of Tarvia work that were built in 1909, 1910 and 1911 have reached a ripe old age.

Those early Tarvia roads were crude compared with the more scientific and more durable construction of today.

Different grades of Tarvia

Tarvia is made in three grades: "Tarvia-X" for new or rebuilt roads and pavements, "Tarvia-A" for surface application, and "Tarvia-B" for dust prevention and road preservation.

A word to taxpayers

You, as a taxpayer, are paying for roads. If you have dusty plain macadam, you are paying enough to secure durable, dustless Tarvia roads, for the latter, owing to the saving in maintenance expenses, cost no more in the end.

Remember that dusty roads are not signs of economy, but of wasteful and antiquated methods.

Fac-simile of label appearing on "Tarvia-X" barrels.

Special Service Department

In order to bring the facts before taxpayers as well as road authorities, The Barrett Company has organized a Special Service Department, which keeps up to the minute on all road problems. If you will write to nearest office regarding road conditions or problems in your vicinity, the matter will have the prompt attention of experienced engineers. This service is free for the asking. If you want *better roads* and *lower taxes*, this Department can greatly assist you.

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One of nature's themes which we should follow in our planting. The two kings of the Northern forest—white pine and white oak—intermingling their branches like brothers. Each is twice as beautiful by having a perfect foil

TWO KINGS AMONG TREES

By Wilhelm Miller

"A WHITE PINE dearly loves to touch elbows with a white oak," exclaimed a friend one day, reining up before an imposing illustration of his discovery, near Westbury, N. Y.

The accompanying photograph shows another case of pine and oak growing together, at Salem, Mass., and gives some idea of the incomparable dignity of these two kings of the forest. For the white pine is certainly the king of Northern evergreens, as the white oak is of Northern deciduous trees. One of the finest sights in nature is the intermingling of their branches, as if each recognized in the other a mate or brother.

Such a picture calls to mind Hawthorne's famous pen portrait of Philemon and Baucis, after their transformation into trees. "One was an oak and the other a linden tree. Their boughs—it was strange and beautiful to see—were intertwined together, and embraced one another, so that each tree seemed to live in the other tree's bosom much more than in its own. As the breeze grew stronger the trees both spoke at once—'Philemon! Baucis! Baucis! Philemon!'—as if one were both and both were one, and talking together in the depths of their mutual heart."

Here is a theme worthy of the best landscape gardeners and photographers. Doubtless there are in America a few fine examples of a perfect marriage between two trees. Perhaps you have such a pair of old trees on your place, or a pair which is tending toward that ideal. But, alas, the practical gardener is painfully aware that most trees which intermingle their branches are unhappy mates—one domineering over the other, and both needing the art of the tree surgeon for the removal of dead branches, the sawing off of stubs, the painting of wounds, and sometimes costly internal cleansing and buttressing to enable them to withstand the storms of another century.

Sentiment is twice admirable if married to practicality. Let us, therefore adopt this ideal of blending a pair of trees, and try to realize it.

The slender needles of the white pine

Some different types of oak leaves; 1, jack oak; 2, white oak; 3, red oak; 4, black oak

To succeed we must take off the rosy glasses of family affection, through which we have been accustomed to look at our ancestral trees, and see them in the cold, pure light of fact. See whether a temporary tree is spoiling a permanent one. See whether we must choose now between having one good tree or two poor ones. See what surgery each tree requires, and estimate the cost. Stand at the gate or wherever your house is first visible, and see whether one tree hides the view of the house, while the other frames it.

Walk the porch and see whether two trees frame your outlook as effectively as one tree would do. In many cases it will be profitable to remove the short-lived silver maple, box elder, poplar, or willow that is crowding your long-lived oak, red maple, beech, or sycamore. For the cheap, quick-growing and less desirable trees do not intermingle amicably, as a rule, with the slower growing and finer species.

But if your two trees do blend beautifully, how can you preserve your "royal marriage" and make the most of it? Perhaps there is some small, showy tree near by, quite perfect in itself, that distracts attention from the main thing—a Japanese maple, blue Colorado spruce, or double tree hydrangea. Why not move away the distracting element?

Or perhaps the trees on your lawn are all like storks, standing on one leg, i. e., with no lower branches preserved. They will then be unrelated objects. Why not tie them into groups by means of shrubbery? Nature suggests this sort of thing; in the photograph you can see some tall bushes or small trees behind the big oak and pine, which tend somewhat to draw the big trees closer together. But would they not look better if they were low bushes, with every branch preserved, and all forming an island of vegetation, little higher than the grass, but harmonizing with the foliage overhead? Perhaps juniper and scrub oak might carpet the ground to perfection, each seeming the child of one of the majestic parents that tower above.

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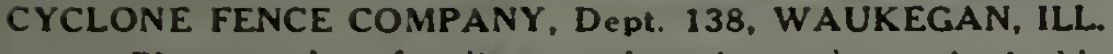

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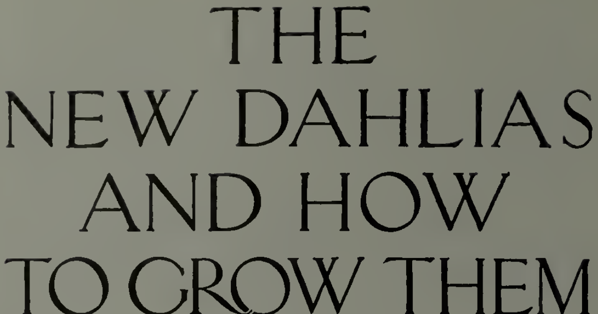


THE NEW DAHLIAS AND HOW TO GROW THEM

BY· HOBART·A·WALKER

The new peony-flowered dahlia Lusitania, showing the relative size of the pompon type

THIS is intended to be a practical talk by an amateur to amateurs, the word being in this case used in its literal translation, "a lover" of flowers. Perhaps the results of my ten years' experience may be of some slight help to them.

There are two classes of dahlia growers; those who grow for show purposes and those who grow purely for pleasure. The first named class consists principally of professional growers and gardeners who have no other business cares to distract them, and whose principal object is to produce single specimens of flowers of enormous size properly tuned up and prepared for exhibition. To my mind the clusters of dozens of smaller dahlias, which grow as nature intended them to grow, are far more interesting, and it is to the growers of such dahlias, really amateurs, that I address myself.

Professional growers classify dahlias as Cactus, Show, Fancy, Decorative, Pompon, Peony-flowered, Collarette, Single Cactus, Single and Semi-peony flowered. Some of these classes are so closely allied that the professionals themselves disagree as to their classification. Personally I think that four classes would be sufficient to cover every known variety, and my suggestion would be that the names of these four classes should be Cactus, Decorative, Pompon, and Single. The others are only slight modifications of these.

The lover of dahlias may have an abundance of these wonderful flowers if he chooses, from July 1st until the first hard frost, although it is by nature an autumn flower and is at its best in September and October. The best results are obtainable if it is recognized as an autumn flower, the queen of the autumn garden, and therefore it is a great mistake to plant the bulbs too early. When I took up the growth of this interesting flower I could not resist the temptation to plant the bulbs during the warm days of May, when the call to nature was strong, but recently I have planted my bulbs later and with far better results.

A decided objection to the early planting of the bulbs is that by September the plants have grown perhaps six or eight feet tall and require very careful staking, as the stalks are brittle and tender. It seems as though the cool autumn nights bring out in all their perfection the variety and brilliance of color for which the dahlia is famous.

The middle of June is plenty early enough for the planting of dahlias and there are many reasons for this. Some people raise the objection that by this time the shoots have grown materially and it would seem that nature intended the bulbs to be planted. The advantage gained by this premature growth of the shoots is that it is easy to determine which bulbs are sure to produce sturdy plants. There are many firm, healthy looking bulbs which for some reason have no spark of life. At planting time these long sprouts may be cut off near the base and they will grow out again, producing a better plant than if the long, delicate sprout is used. Another great advantage in this late planting is that the ground can be worked over, pulverized, and fully prepared, and if the weeds are kept pulled they will become so discouraged by planting time that they will give no further trouble.

Almost any soil will produce good dahlias if not too heavy or full of clay. I have grown good dahlias in coal ashes. If the soil is heavy, a mixture of coarse sand is advisable, as the roots must have ventilation and drainage.

Looking from the house down the flagstone centre walk of the author's dahlia garden

May-sown seedling dahlias, photographed in September, given no more care than sunflowers

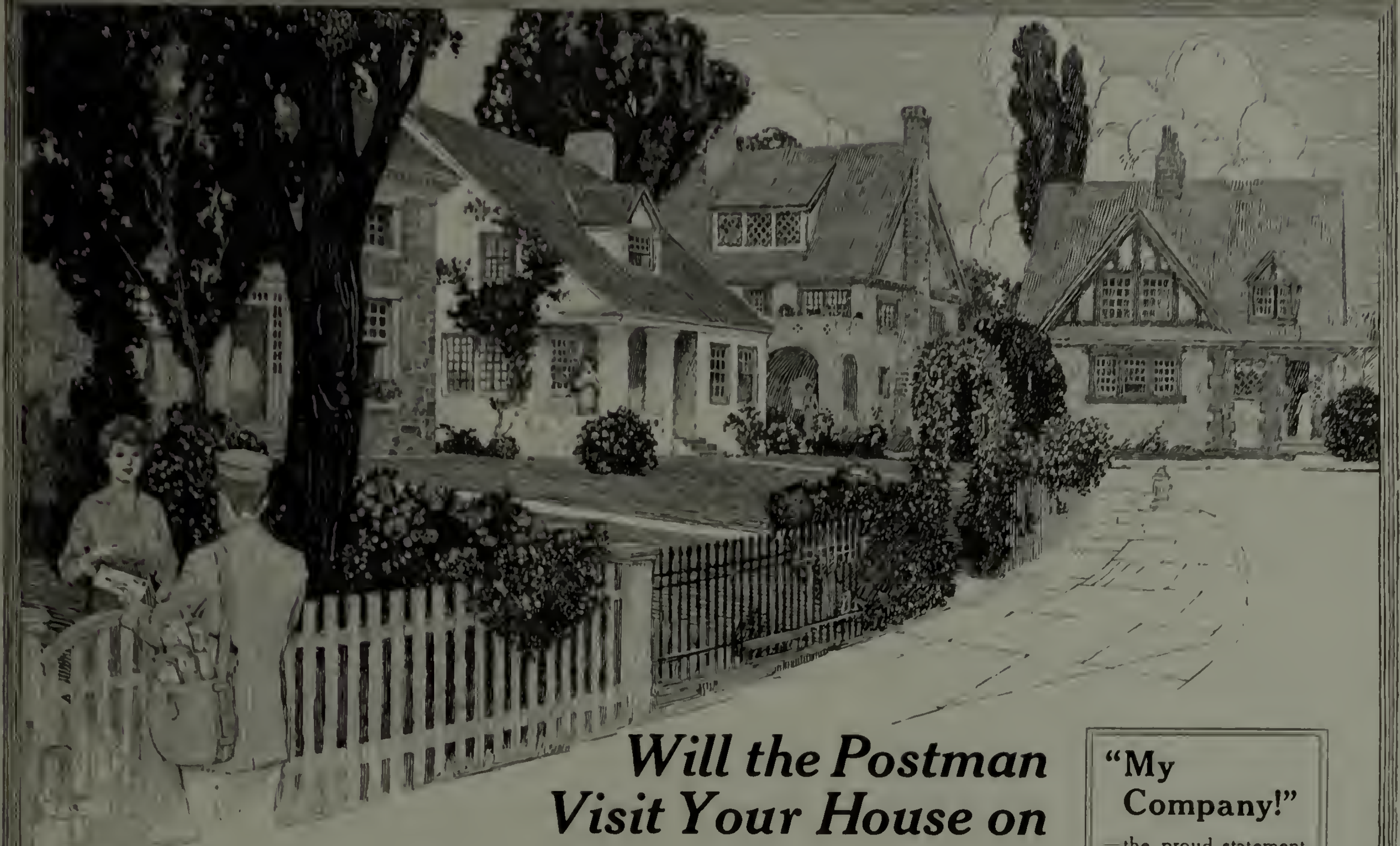
Give your dahlias plenty of room. They should be planted three feet apart and in a sunny location. In dry weather they must have plenty of moisture. Watering with the hose night and morning is sometimes necessary.

The only fertilizer which I have used is a trowelful of bone meal in each hill at the time of planting. Care must be taken to cover the bone meal with about three inches of earth before planting the bulb. I use bone meal because it never contains the seeds of weeds, a fault common to most manures. The holes should be dug about eight inches deep before the bone meal is put in. Then the bulb should be laid flat and covered to a depth of about four inches. After covering, a slight depression may be left to hold the surface moisture. It is best not to plant other flowers near dahlias, as they are hearty feeders and require a great deal of nourishment from the earth as well as an abundance of moisture. If the autumn flowers are desired it is best not to allow the buds appearing in August to mature. They may be picked off as fast as they appear. It is advisable to plant at least two bulbs in each hill so as to be reasonably sure of at least one stalk.

After the leaves are turned brown by frost, let the plants stay in the ground for a week or so. Then cut off the stalks and remove the roots, shaking off the earth as much as possible; store them in boxes between layers of newspapers, and put away in the cellar in a dry, cool place. They must not be allowed to freeze and must not be placed too near the furnace. If they are cared for exactly as one would care for potatoes there will be no trouble. The stalks and leaves may be left on the ground, as they provide a good mulch.

There is such a wonderful variety of form and color in dahlias that it is almost impossible to keep posted as to the many varieties. My advice to the amateur is to attend the dahlia shows and try to secure bulbs of the varieties which appeal to him most.

Here are the main types at the disposal of the modern dahlia grower: first, at left, the Single; next the old-fashioned form called the Show type; third, the Decorative type, in which both petals and form tend to flatness; then the regular Cactus type in a variegated color; and finally, an extreme development of the Cactus form. There is also the Collarette type, not illustrated



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He will be a busy postman, indeed, because he will stop at many a home. At the comfortable white home set back in its garden; at the big, handsome brick house on the hilltop; the great houses along the city streets; at quiet apartments, and at little, unassuming cottages which were bought through years of sacrifice and work.

Each of these will be a cheerful house when the postman rings, for at each will have been left the check with the Prudential name on it, that will mean money for the coming month.

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So he will have sowed in his youth or his middle age and have reaped comfort in later years.

And in other of those homes the bread-winner will have gone, but he, too, will have realized what a Prudential Policy meant. And through his foresight his widow and his children will receive a check on Prudential Day each month. There are no bad investments, no business worries for those who have the Prudential Monthly Income Policy. Their money comes to them regardless of fire, flood, or hard times.

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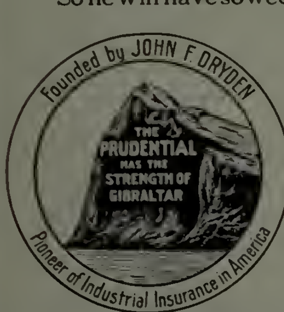
For the dollars and cents of these policyholders had developed a Company having its beginning in a basement office in 1875 to a point where in 1915, its policies numbered 13¾ Millions, and the amount of insurance in force was 2 Billions 810 Million Dollars!

Thus Prudential policyholders have acquired control of the Company, and beginning this year, will receive their proportion of the Company's earnings.



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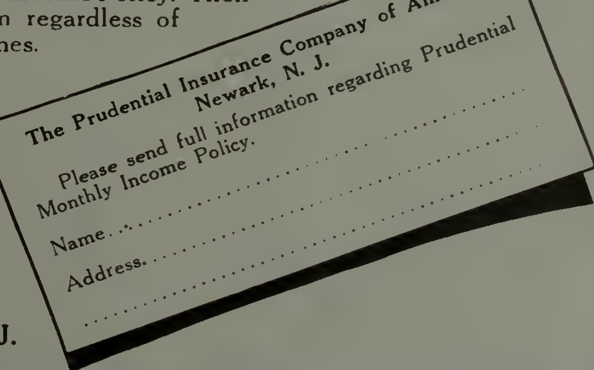
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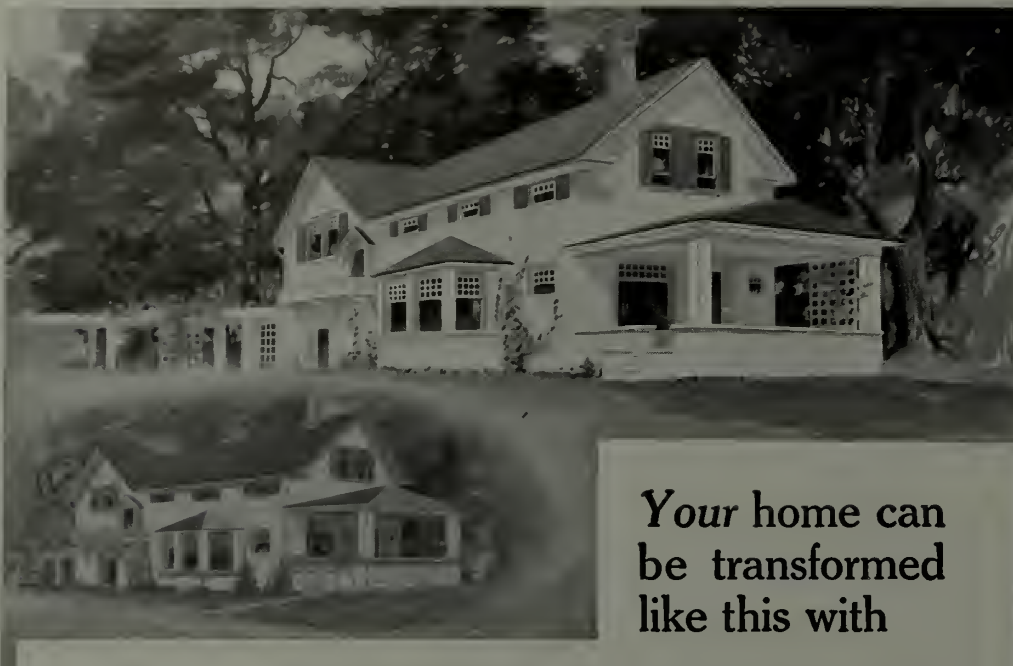

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MORE ABOUT THAT "BEST CALF"

N CONNECTION with the conclusions reached by Mr. Hulburt of the Guernsey Cattle Club, as to the relative merit of first and later calves, in the article on pages 56 and 57, the following tabulation of his data is interesting:

NAME OF DAM	FIRST CALF'S YIELD LBS. BUTTER FAT	LATER CALF'S YIELD LBS. BUTTER FAT
Dolly Bloom......	632.34	906.89*
Bessie of Belle-Vernon 2d......	642.34	395.22
Champion's Elsie..	692.87	745.75*
Yvernelle.........	694.64	357.42
Hazel of the Glen..	656.51	319.11
Nellie Tostevin of Mapleton	637.71	664.01*
Indian Belle	696.45	469.27
Elite of Maplehurst	602.37	370.91
Sibylla's Lass	600.76	393.94
Cottie of Belle-Vernon.........	703.59	356.22
Langwater Rosie ..	751.62	547.73
Alexa of the Glen..	700 98	411.14
		556.25
Robinson's Princess	725.65	437.78
Average	672.14	495.11
Falco............	426.29	414.50
		342.69
		344.15
Lady Rotha 2d....	396.45*a*	436.04*c**
	414.99*b*	524.20*d*
		606.79
Berkshire of Helendale	499.18	418.61
Aura 2d..........	442.41	386.07
		287.87
		392.37
Lady Gemsey 4th .	455.79	476.30*
		477.38
Tritoma's Blanche.	413.13	383.24
Camelia of Lebanon	453.86	437.44
		386.33
Ula Doyle 2d	468.77	372.03
Average......	431.21	417.86

This gives the comparative performances of first and later offspring of average (lower group) and better than average (upper group) Guernsey cows, the records for the latter being taken from the Advanced Register files. In all but five out of the thirty cases (those indicated by asterisks) the first calves outdid their later born sisters. Records marked a, b and c, d are the results of first and second tests of the same two individuals.

However unwise it may be to draw absolute conclusions from these figures, nevertheless they are certainly interesting. The results of Mr. Hulburt's promised more thorough investigations will be well worth waiting for.

It is interesting also to note that Director Mumford, quoted earlier in the article referred to, believes that "modern biologists would agree that the first offspring of an animal inherits the same capacity for development that is inherited by the later offspring, at least so far as the qualities transmitted by the mother are concerned.

"The inheritance of first offspring may differ from the inheritance of the later offspring, but the qualities contributed by the mother must be essentially the same. Age does not change the constitution of the germ plasm. Environmental influences which effect the soma or body cells do not influence the germ cells in a qualitative manner.

"What an animal actually achieves depends very largely upon the environmental influence after birth. The offspring of very young mothers may be born with the same inherent qualities or capacities for development, but because of insufficient nutrition supplied by the young, immature mother, may fail to develop to the same degree of perfection as the offspring from the same mother when she is older and able to produce more milk and possibly give better care."

E. L. D. S.

Plan Your Home for Electric Convenience

WHEN plans are being drawn is the time to provide for baseboard outlets and lamp sockets from which to utilize the great housekeeping help of electricity.

Important among electric conveniences are the built-in vacuum cleaner and the Inter-phone. These are recognized as standard equipment in new houses where fullest efficiency in home management is desired.

To put in the piping for the cleaner and the wiring for Inter-phones is a simple matter when the house is going up. The additional cost is slight. The only visible parts are inconspicuous openings in the baseboards, covered by hinged lids, where the cleaner hose is connected, and neat wall plates for attaching the Inter-phones.

Inter-phone in bedroom. Wires connect with any rooms on the first floor, as indicated.

This illustration shows the baseboard outlet for the vacuum cleaner. The cleaning hose can be carried from room to room.

The stationary electric vacuum cleaner has reached its highest efficiency in the type manufactured by the Western Electric Company. It is thorough in its removal of all dust and dirt, is economical to use, and operates at the turn of a switch.

The Inter-phone provides for instant communication from room to room, is immeasurably superior to the ordinary electric bell or buzzer, and can be installed at a comparable cost.

"The Electrical Way in the Home" is the title of a booklet describing every possible domestic application of electricity. We will send this to you on request, together with full information on the vacuum cleaner and Inter-phone described above. Ask for Booklet No. 242-B.

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A No. 5-25-W IDEAL Boiler and 500 ft. of 38-in. AMERICAN Radiators, costing the owner $245, were used to hot-water heat this cottage. At this price the goods can be bought of any reputable, competent Fitter. This did not include cost of labor, pipe, valves, freight, which vary according to climatic and other conditions.

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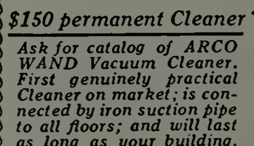
They are absolutely safe. They have every improvement—designed by many experts in our factories in America and abroad. They bring quicker buyer or tenant for your building, or secure a larger loan. *Fully guaranteed.* Made in sizes for flats, stores, schools, churches, public buildings, farm and city homes, *old* and new. **Write us for "Ideal Heating" catalog (free). Puts you under no obligation to buy. Now is the time to buy.**



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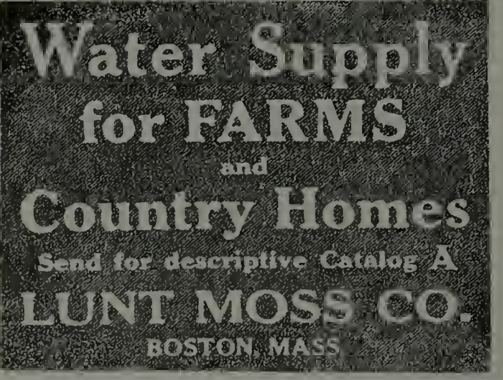

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lose half of their charm unless they are tinted with the soft, velvety colors of

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You can get Cabot's Stains all over the country. Send for stained wood samples and name of nearest agent.

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Cabot's Stucco Stains—for cement houses.

Stained with Cabot's Creosote Stains
Slee & Bryson, Architects, Brooklyn, N. Y.

THE SUMMER-HOUSE WHICH FURNISHED ITS OWN THATCH

T WAS Joe's idea that *we* should build a summer-house. (Joe said "we" but he meant "he").

Joe, you must know, was our man of all work. He had worked for us or we had worked for him (take it either way, going or coming, and you can't miss it) for upwards of ten years. He was a handy fellow; could turn his hand to almost any household or outdoor duty and make good at it, but his hobby was building. Of him it could be said "the sun never came a wink too soon, or brought too long a day," if he could only be building something.

After dotting the rear of the place with poultry houses of all descriptions, dog kennels and "houses" for every conceivable purpose he could think of, using up every stray board, stick, and post that he could lay hands on, it naturally seemed as though building operations would have to come to a standstill.

So, when Joe broached the idea of building a summer-house, I said (knowing perfectly well the absolute dearth of building materials) "All right, go ahead—let us have a summer-house by all means!" I thought that I was perfectly safe in giving my assent to the proposition, even at the

The self-thatched summer-house

moment mentally preparing myself to turn down any application to buy posts or lumber. To my great surprise no such application came.

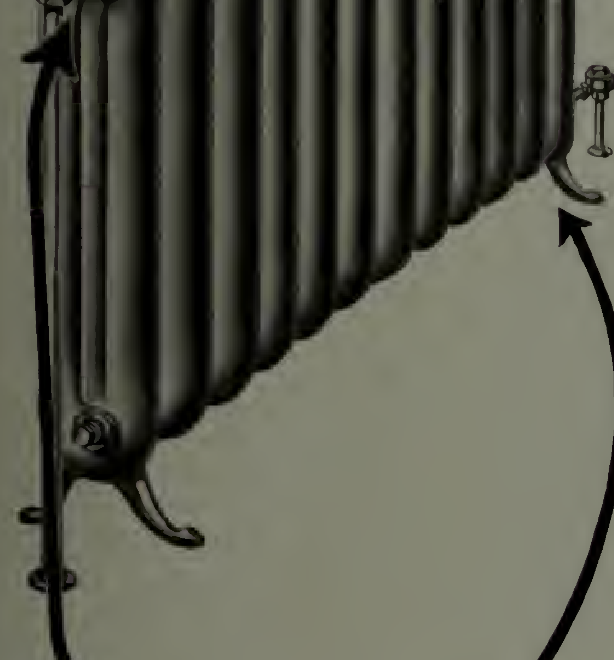
In the rear of our place are three immense willow trees. What was my astonishment, shortly after Joe had taken his departure, to notice a curious and furious waving and bending of the branches among those same willow trees, and lo and behold! there was Joe high up in the tree sawing away for dear life! Saw, saw, saw, *crash!* Down came tumbling a post for the prospective summer-house.

I had to laugh. Yes, I really did. Sometimes—not often, but sometimes—Joe actually gets the better of me. This time he scored, all right!

As for the willows, the heavy tops were really all the better for being thinned out. So, I said (to *myself*, of course) "That's one on you," and the work on the summer-house went merrily on.

The posts were trimmed and cut to proper length, and set in eight holes, three feet apart, forming an octagonal shaped upright foundation, on which a pyramid shaped top was built. To the top and upper parts of the sides were nailed short strips to form simple geometric designs; while nailed to the apex of the roof was a fine spherical ornament which Joe had cut from the top of an old gate post—a prize which he had been holding in reserve for a long time as a fitting finish for some especial triumph of architectural skill. Within the summer-house, at a suitable height, a seat consisting of short strips of the smaller branches, halved and with the bark left on,

Regulate the Fire From Upstairs



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Does away with all pounding in pipes. Radiator heats immediately all over. No hissing air valve to spurt water.

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You can set the Dunham Thermostat in advance to provide two temperatures—one, whatever you desire for comfort during the day and evening; the other, whatever you decide the house should be kept at during the night. The Thermostat, once set, thereafter automatically controls the amount of heat so that these temperatures are maintained without further thought or attention.

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"Little Oases of Coolness"

For shady nook or fair stretch of grassy lawn, there is a Mott Fountain that will help to beautify it. All Mott Fountains can now be equipped with self-supplying motor pumps. No expensive piping or water waste. Write for particulars.

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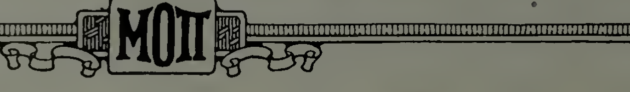

were nailed at right angles to seven of the sides, the eighth being left open as a doorway.

Now there have been thousands of summer-houses built in the past, and certainly no one will question me when I say that there will be thousands of others built in the future, far more elaborate and pretentious than the one that Joe built. Then what is there remarkable about this summer-house that it is deserving of mention?

The willow posts, ruthlessly chopped off top and bottom began to send out shoots and *grow!*

The first thing I knew there were long, green, feathery leaved shoots extending from the tops in all directions. At first I thought that this was a spurious growth which might flourish for a few weeks or days and then die off. But no. Like that notorious turnip of Mr. Finney's, they "grew and they grew" and they not only did no harm, but, quite to the contrary, solved the question of a thatch for our summer-house. As the shoots developed they were interlaced among the strips on the top and sides of the summer-house, forming a roof so unique and so attractive that it is exclaimed over by all who see it.

And when it is explained to them that the posts themselves are actually growing and forming the beautiful green top, it is only *seeing* that really convinces them.

Truly, we (I suppose I should say Joe) had builded better than we knew.

Katharine E. Willis.

LEGUMES IN THE GARDEN

FOR twenty years I have been trying to work out the problem of using the soil and natural forces so scientifically or rightly, as to get the best foods, sufficient for a small family, from a few acres, in a way that the work will not be burdensome, but rather a pleasure and recreation. The soil we may consider as our work shop in which we direct and utilize natural forces so that they work for us, in the production of material foods. Probably foods that are the most pleasing to the minds of most people are luscious fruits, the best vegetables, nuts, milk products, and eggs. The problem for the person who farms a few acres is to get these with little money cost.

A recent discovery of great value is the law of influence of legume plants on non-legumes, by association. Science has lately given us the fact to work with, that when non-legumes grow close to legumes, the protein content of the non-legume is considerably increased, because of its association with the legumes. This fact has been proven by conclusive experiments. The main cost in feeding the family cow and poultry on the small place, is for protein foods, i. e., those which contain more protein than any of the other elements. To feed these animals such protein foods as alfalfa, clover, beans, and pea vines, cottonseed meal, linseed meal, and other protein grains means a largely increased production of milk and eggs. These are necessary to balance the cheaper carbonaceous foods, as corn fodder, timothy, etc., which usually cost little on the farm. In other words, people who keep cows and poultry under ordinary conditions pay grain bills which make their milk and eggs cost them about one half market price. One point to be considered in buying the class of protein grains to balance cheap carbonaceous roughage is that dry protein in grains is less digestible than is protein in succulent foods.

Now I am ready to show how the recent discovery regarding the association of plants can be made use of on the small place, to save the cost of necessary purchased foods. Alfalfa is good for this purpose, but all soils will not grow alfalfa without a year or two of preparation; but most soils, whether sod or cultivated ground, can be made to grow some kind of corn the first year. To grow corn or meadow grasses alone for animals necessitates the large grain bill mentioned.

The best solution of the problem of feeding animals on a small place is the following practice, which leads up to successful alfalfa culture, which is the highest type of agriculture, and should be kept in mind as an ultimate end. When planting the corn, mix with it one third soybeans. If twelve quarts of corn are planted per acre, use eight quarts of corn and four quarts of soybeans. Select the kind of corn that will mature in your locality. Probably on the small place sweet corn will be the most desirable and the surplus ears not used in the family can be fed to animals; then select a

SLEEVE-VALVE MOTOR

Limousine

$1750

MODEL 84 B
F.O.B. TOLEDO

IN these Willys-Knight models the economies of huge production are applied to *closed* car prices for the first time.

And now that the prices are so low, thousands of people are driving closed cars the year around.

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And the sleeve-valve motor will serve you at the height of its efficiency for literally thousands of extra miles beyond the useful life of any other type of motor.

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The Limousine is $1750, the Coupe $1500.

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They mold me of clay and then burn me for days in fierce heat, until I am hard as the solid rock, strong as iron, and yet lighter than anything else of equal strength.

I am made for you in many forms, so that no matter what your building problem, I help you to meet it with economy of money and time—and above all, with safety—absolute safety—from fire.

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Address—

Readers' Service Department, Doubleday, Page & Company
Garden City New York

variety of soybeans that will ripen with the corn. If you plant Squantum sweet corn (which is the best of all medium early kinds) or Pride of the North field corn, then plant with it Medium Green soybeans. After mixing the seed evenly you can plant with seed drill, corn planter, or by hand, but not so thick that the corn will completely shade the ground or crowd out the beans. Cultivate the crop as you would corn alone, but thin the corn where there is not sufficient room for the beans to develop well. The beans will grow up straight and will not wind around the corn so as to prevent its growth. At the last cultivation sow between rows of corn a cover crop of rye, vetch and field turnips, which will make late fall pasture for the cows. Cut the crop when the corn and beans are in the milk stage, or before the ears and beans fully ripen. If one has sufficient animals to warrant the silo, to ensilo the crop is the best disposition of it, but if not, feed what you can in the green state and dry the remainder as you would corn stover for winter, i. e., cut and put in shocks in the field.

Now about results. The beans are worth five times as much as the corn in the food elements, because of the greater amount of protein they contain. They have taken the protein or nitrogen from the atmosphere, which the corn plant cannot do, and have stored it in the roots and stem. But this is not all the beans have done. The roots of the beans working near the corn roots in the same soil, seem to have a good influence on the corn roots, in stimulating them to absorb more protein from the soil than they do in normal growth, and the protein content in the corn is increased probably one fifth. The result is a balanced ration for most domestic animals. Cows fed on corn and soybeans, so grown, give the usual flow of milk without other food, as some farmers in New York have demonstrated. One farmer especially can be cited as getting very satisfactory milk production with only corn and soybean ensilage.

Where only the family cow and a flock of poultry are kept on the small place, it may be that the best way to grow this combination crop is to plant corn and soybeans together and soybeans alone, in each alternate row, because of the value of the beans for poultry. The bushes of soybeans, pulled just before the beans ripen so that they will not shell and waste in handling, can be hung up in the poultry house as one hangs up cabbages. The poultry will pick off the beans, after which the bush on which they grew can be fed to the cow. The beans, being very rich in protein, are one of the best foods for egg production, and will save a good part of the grain bill for the fowls. Green alfalfa in summer, and in winter cut alfalfa, or better, alfalfa ensilage and dry or ensiloed soybeans, are very close to a balanced ration, so the feed of purchased grain can be much reduced.

In this connection I will say that the same principle stated about soybeans and corn operates with all legumes and non-legumes. The protein content of timothy and this class of grasses is increased by growing near clover and alfalfa, also in oats by growing near peas, so there are good reasons for sowing these crops together.

The whole story about legumes has not been told, for they enrich the soil for all crops. The legumes make a deeper root growth, and leave organic matter and nitrogen in the soil; and manure from protein fed animals is a better plant food. In this soil so enriched, we can grow the finest fruits, vegetables, etc. Follow the corn and soybeans with alfalfa, and we can so scientifically direct natural forces that the food problem becomes less of a burden. W. H. Jenkins.

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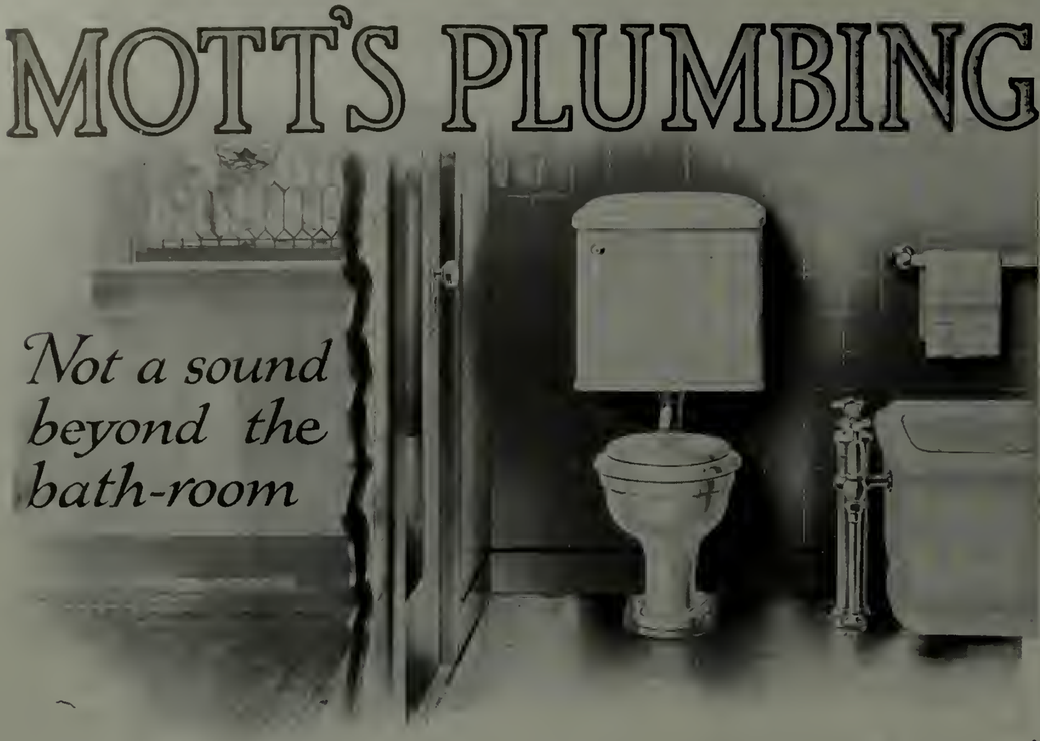

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PAINTING THE HOUSE

WE PAINT our houses for two distinct purposes; for looks and for preservation. One of the satisfactory features of a frame dwelling is that we can change its outward clothes every year or two to suit our tastes or those of fashion. Incidentally we preserve the wood by the process and prolong the life of the structure.

The question of how frequently we should paint is one that we often decide according to the state of our bank account, but in reality it is one that should be governed by conditions of climate and the house itself. In building a frame structure one should consider the cost of repeated paintings in advance, for if this important work is unduly neglected the house will deteriorate rapidly. The value of good painting is well attested to in the numerous old structures, which for upward of half a century have withstood the ravages of climate and wear with scarcely any of the important timbers rotting. Without proper protection from the weather by good paint they would have long since decayed and fallen down.

At the seashore the disintegrating effects of weather on paint are far greater than in inland and mountainous districts. Wet climates are likewise more destructive to paint than dry, and by the same token an unusually long rainy season affects paint so that it may begin to show signs of peeling off within a year or two. At the seashore where the house is greatly exposed to the elements, repainting must often be made every second season, and touching up in parts should be done every spring. The question of how often a house should be painted is therefore an open and very elastic one. A good deal depends upon the quality of the paint and the character of the workmanship too, and these must be taken into consideration when trying to estimate in advance the probable cost of keeping a house in a good condition of repair. At the outside, however, it should be understood that on an average a house needs repainting once in every three years, and in many cases every other season.

The fall or spring is the most suitable time for painting, fall being preferable on account of the more equable climate. In October it is apt to be dry, clear, and free from high winds and other atmospheric disturbances. Then, too, most of the insects have disappeared, and the dust problem is really the only one that must be solved. The importance of selecting the proper season for outside painting is apparent when we remember that a sudden hard shower frequently damages newly painted surfaces so that they must be entirely repainted. Likewise a heavy wind storm sweeping up clouds of dust immediately after painting may darken the paint to such an extent that the surface is practically spoiled.

In figuring on new work painters always, if they intend to do a good job, consider carefully the character of the exterior woodwork. Outside woodwork varies greatly. One house may have only clean, clear clapboards, and another will show so many knots and sap holes that painting over them becomes a somewhat involved job. A house made of poor, cheap lumber will require a good deal of sandpapering, puttying, and shellacking before it is ready for the paint brush. If the knots and sap holes are not properly treated in advance they will furnish weak places for the rain and moisture to enter the wood. All of this means a good deal of extra labor, and sometimes it is a question whether the extra cost of painting such a house does not counterbalance any economy in the wood. A good clean wooden surface, free from knots and sap holes, with every stick of timber properly seasoned and shrunk, will take paint freely and the surface will present a perfect skin of protection from the elements.

A point to be remembered is that the cost of the labor is usually from two thirds to three fourths of the total cost of the job of painting. Sometimes where special stenciling of the lines upon a brick wall are required, the cost of labor far exceeds even this average estimate. Consequently, the labor cost must be considered with a due regard to the final excellence of the work. Good workmanship next to good paint determines the ultimate durability. The first coat must be worked in thoroughly and applied very thin. The object of this is to fill crevices, pores, and knot and nail holes. They must have all the paint worked in them that they will absorb. This furnishes a smooth surface for the second coat. It is not an unusual idea that a certain thickness of paint ap-

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For the man of moderate means who wants a summer bungalow in the mountains, a cottage at the shore, a garage or poultry house on his lot there is a Hodgson Portable House.

Save time by buying Hodgson Houses, instead of building. They are ready to ship, and being made in painted sections, they are quickly and easily erected by unskilled workmen. Save money, too—no middlemen's profits, no waste. The finest quality of workmanship is combined with the best quality of lumber obtainable.

Hodgson Portable Houses have proved practical in all seasons and under all weather conditions. For illustrated catalog address

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Send for the "Famous Brushful." Spread a few drops of Enamolin on any white woodwork in your home. *Enamolin will positively make a white spot on your white woodwork.*

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Wash Enamolin with soap and water, Sapolio or Pearline. You can not injure its wonderful porcelain-like surface.

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Apply Enamolin over any wood, iron or cement surface. You will be amazed at its remarkable spreading qualities—over six hundred feet to the gallon.

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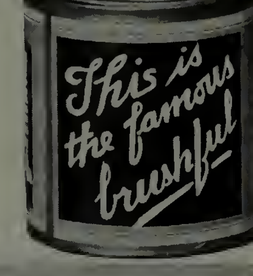
We have a mighty interesting little book, "The White Spot," which we will gladly send on request, together with sample panel and our sample can, "The Famous Brushful." Address Suburban Dept.



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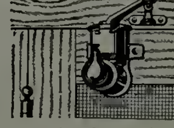

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plied in one coat will answer as well as two separate coats, provided time and weather permit the former to dry thoroughly. Nothing is further from the truth. At least two and sometimes three coats are necessary for a good job.

In estimating the cost of painting it is usual to secure certain outside measurements and then compute the cost per square yard. Thus the cost of painting outside surfaces varies in different parts of the country from 10 to 12 cents per square yard for one coat, 20 to 25 cents for two coats, and 30 to 35 cents for three. This is on new buildings. Old work costs rather more, owing to the necessity for scraping and cleaning in places. Usually old work is based on an average estimate of 13 to 15 cents per square yard for one coat, 20 to 25 cents for two coats, and 30 to 40 cents for three coats. On brickwork there is also some variation according to the condition of the building and the cost of labor. Usually on new brickwork the cost can be placed at 15 to 18 cents per square yard for the first coat, 20 to 27 cents for the second, and 26 to 30 cents for the third coat.

Estimates for painting cement surfaces are generally at the rate of 15 cents per square yard for the first coat, and 20 to 25 cents for the second. Pillars, posts, doorways and window frames, as well as piazza ceilings, are frequently finished in the natural wood, and then varnished occasionally. The cost of varnishing should be estimated at 15 to 18 cents per square yard for the first, and 25 to 35 cents for the second coat. This estimate is not, however, based on the highest labor wages or for special high grade varnishes. If both of these are desired the cost will be rather higher. Hard wood trim, with polishing, filling, and two coats of hard oil well rubbed down, ranges from 40 to 80 cents per square yard.

To ascertain the total surface to be covered for all flat work whether in brick, wood, cement, or stone, the height and width of the building are multiplied together, and all area openings are added. On clapboard walls one square foot is added to each square yard to make allowances for under edges of boards. Plain cornices are measured by multiplying the length by one and one half times the girth, and bracket cornices must be measured by multiplying the length by three to eight times their girth, depending upon their ornamentation and intricate pattern. It is in painting such broken surfaces that the labor cost mounts up high. Sometimes the labor will equal three or four times the cost of the materials used.

All outside blinds should be estimated by multiplying the height by twice the girth if they are stationary blinds, and three times the girth for rolling slats, and the height by twice the girth for shutters. Measure door frames all around, and multiply by double the girth of all exceeding six inches in girth, and count all girths under six inches as one foot. Paneled doors are measured by their square and then doubled, and edges are measured twice on account of lock face and butts. Plain window sash measurement is obtained by multiplying the height by one and one-half times the width, and if fancy sash by three times the width. Porch and other columns when plain have their height multiplied by one and one half times the girth, but when fluted by twice the girth, pressing the tape in the flutes. Chimneys, conductors, spouts, barge boards, and crestings are computed by multiplying the length by four times the girth. In dipping roof shingles estimates are based on four hundred square feet for each thousand shingles.

These measurements, though apparently somewhat intricate and minute, are not difficult for any householder to obtain for himself, and once obtained they will prove reliable data for future paintings. Often they can be obtained from the blue prints without laying a tape measure to a surface. In having a new house built it is a good idea to secure such data and file it away with the plans where they can always be reached for ready reference.

After a calculation of the amount of surface which painters estimate in contracting for a job, it will be found that liberal allowances have been made for waste. That is, a certain amount of paint may be wasted in the operation and considerable time consumed in going around the small corners and inside spaces of cornices and window frames. The spreading power of various typical paints differs considerably in buildings and also in the colors. Thus on wood, ten pounds of red lead will cover about 112 square feet for the first coat, and 252 feet for the second coat.

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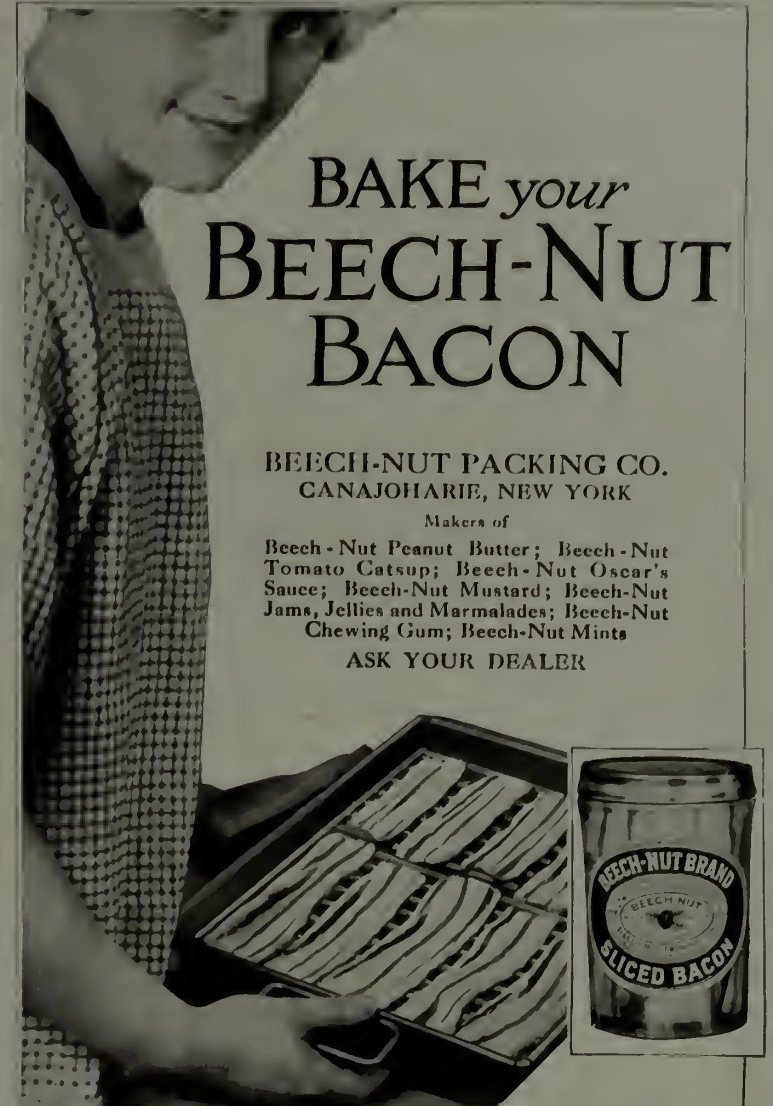

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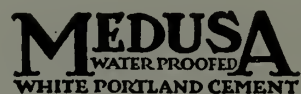

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White lead will spread out over 221 square feet for the first and 324 for the second coat, while oxide of zinc has a spreading capacity of 378 square feet for the first and 453 for the second coat. Red oxide, ten pounds, will cover 453 for the first and 540 for the second coat. Raw linseed oil will cover 756 square feet for the first and 872 for the second coat; and ten pounds of boiled linseed oil has a spreading capacity of 412 square feet for the first and 540 for the second coat.

On plaster, ten pounds red lead spreads about 324 square feet, and white lead on size walls will cover 362 feet. Oxide of zinc, ten pounds, will cover 594 square feet, and raw linseed oil on unsized walls 55 square feet. Ordinarily we do not have to consider metal surfaces, but as metal shingles and even metal sidings are being used more and more for garages, barns, greenhouses, and even for houses, it is well to take them into consideration in dealing with the paint question. Ten pounds of red lead will on metal surfaces cover about 477 square feet, white lead 648, oxide of zinc, 1,134, red oxide 879, raw linseed oil 1,417, and boiled linseed oil 1,296 square feet. This spreading power of paint is based upon careful thinning out of each coat in the proper way. If one uses much more than these quantities for painting any surface it may be assumed that the paint is being applied too thickly.

Paint contractors generally base their estimates of the amount of paint needed in this way: the surface measurement is first obtained by the method described, and the total area is then divided by 18. This will give approximately the number of pounds of white lead in oil that will be needed to do a good three-coat job. Or to secure the estimate of the quantity needed in gallons of white lead paint for a good two-coat job, divide the total area in square feet by 200, and the result will be a safe guide to go by. Of course this is merely approximate, but in any first class job where good paint is used the difference in the amount of paint will be very slight. One may in this way make pretty shrewd estimates as to the probable cost of exterior painting of his house, either with or without hired labor to do the work.

We do not as a rule paint the inside of the house as often as the exterior, but brightening up and freshening of worn parts go on more or less regularly inside. The cost of the interior painting of an average frame house will almost equal the cost of the work on the exterior. Much less paint is required for this work, but there is less flat surface to go over and more corners and small details to attend to. It is the labor rather than the paint material which makes the interior cost so much. Then in addition to this, more of the surface work must be polished and rubbed down in hard oil or varnished. These cost more than mere flat painting with ordinary white lead or oxide of zinc. In making this estimate of interior painting, wall and ceiling painting or decoration is not included. Neither is the treatment of mantelpieces and grill work. It is therefore approximately safe to double the cost of the outside estimates to secure right figures for both exterior and interior painting.

A good many householders do their own house painting, and the cost is thus cut down materially. The job of painting is not difficult if one can take his time at it. This is especially true of houses of plain lines with little cornice and detail ornamentation. Very little experience is needed to apply the paint to a plain, flat surface. The chief thing is to work each coat in thoroughly, spread the paint out thin and smooth, and give plenty of time between coats for drying. The second coat should never be applied until the first has had ample time to dry thoroughly, or the paint will begin to peel off or crack within a few months.

George E. Walsh.

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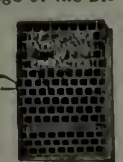

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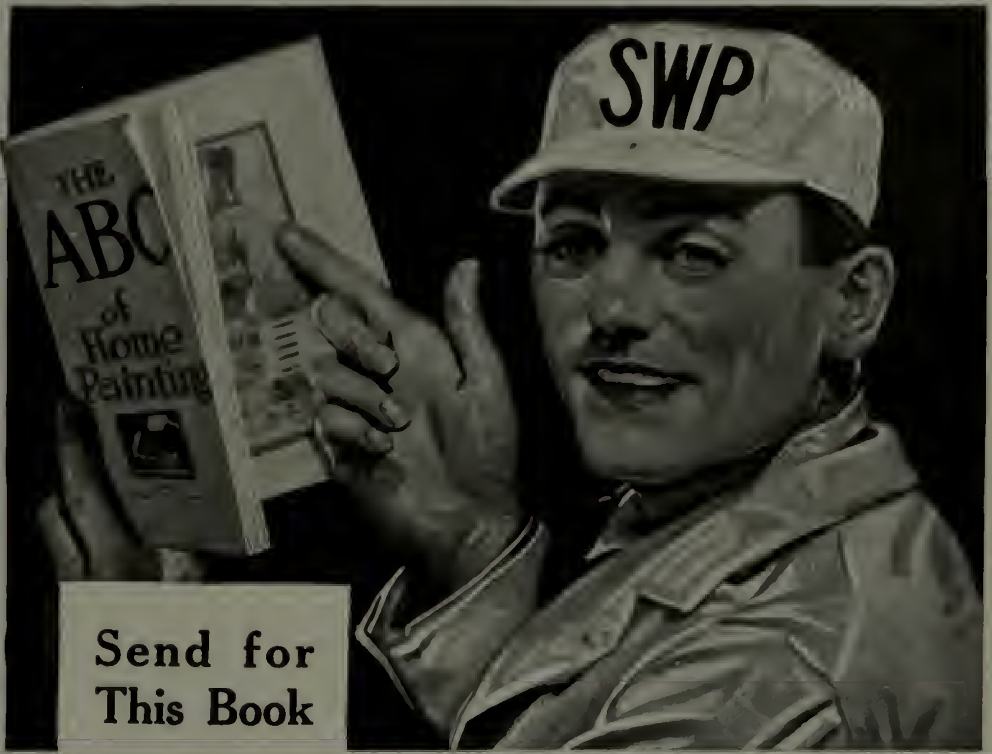

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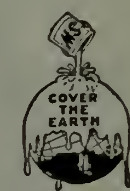

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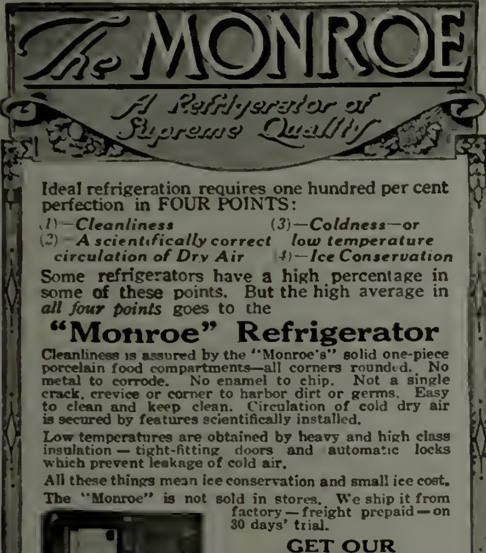

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HE WAS, indeed, an adorable pet, as well as quite an unusual one. Certainly nothing could be smaller, or daintier, and just as certainly nothing attracted more attention on the steamer than this tiny midget in feathers—for this little bit of pulsing life was a baby hummingbird.

We had been spending a week at Avalon, Santa Catalina Island, and this little Allen hummer had been turned over to me for safe keeping, it having fallen from the nest, the whereabouts of which were unknown and no amount of searching revealed. The only thing to be done was to take him and supply, as best an ignorant mortal could, the food he needed. It seemed an almost hopeless task for, while the sweet in the form of sugared water could be supplied, to give the little thing the insect food it required would be almost impossible.

Buzz, for so we named him, was, I judged, scarcely two weeks old when he came into our possession. He was fully feathered but could not fly, although he frequently tried, and his buzzing wings helped him to move about. Sometimes when we came home he would be missing and only his sharp "peep," or buzzing wings would reveal his whereabouts. At such times we were in constant fear of stepping on him, and soon learned to place him where he could not fall.

His upper parts were a glossy-green with gray unders, and a showy little tail of rufous red, edged

Baby Buzz sitting in a teaspoon and sipping sweetened water from his bottle

with black and white. The mature birds have a good deal of rufous in their make-up and are very handsome. They are abundant on Catalina Island, nesting in the big eucalyptus trees in close proximity to the campers whom they do not in the least mind.

Baby Buzz sipped nectar from the nasturtiums offered him, but his main food supply came from a teaspoon. This he soon learned to appreciate, even going to the spoon, when it was left near him, and helping himself. Although humming birds are the smallest of the feathered tribe, they are by no means the stupidest. Many a larger species could take lessons from them. Not only are they smarter than many of the larger birds, but they also seem to have more vitality. Several times this little bird became stiff from cold and I expected him to die, but a few minutes in the hollow of my hand always revived him.

One day when our little visitor was resting on the back of a chair before the window, a female Allen hummingbird came buzzing about on the outside. Being anxious to see what she would do, I tore a small hole in the netting, and stood back to await developments. In a very short time she found the hole, flew in and hovered about Baby Buzz, presumably endeavoring to ascertain if he belonged to her; then, becoming alarmed at the presence of human monsters, she flew frantically against the screen and was soon between it and the window in such a way that it was only after repeated effort that we released her. Then the little thing lay, as if dead, in my hand, only her vibrating body and open eyes, proclaiming her deceit.

I placed her in the window-sill beside the nestling, where she still played 'possum. Finally, I closed the lower sash so that she could not again come into the room, and gently pulled the cloth on which she rested. This brought her into action for, like a flash, she darted through the

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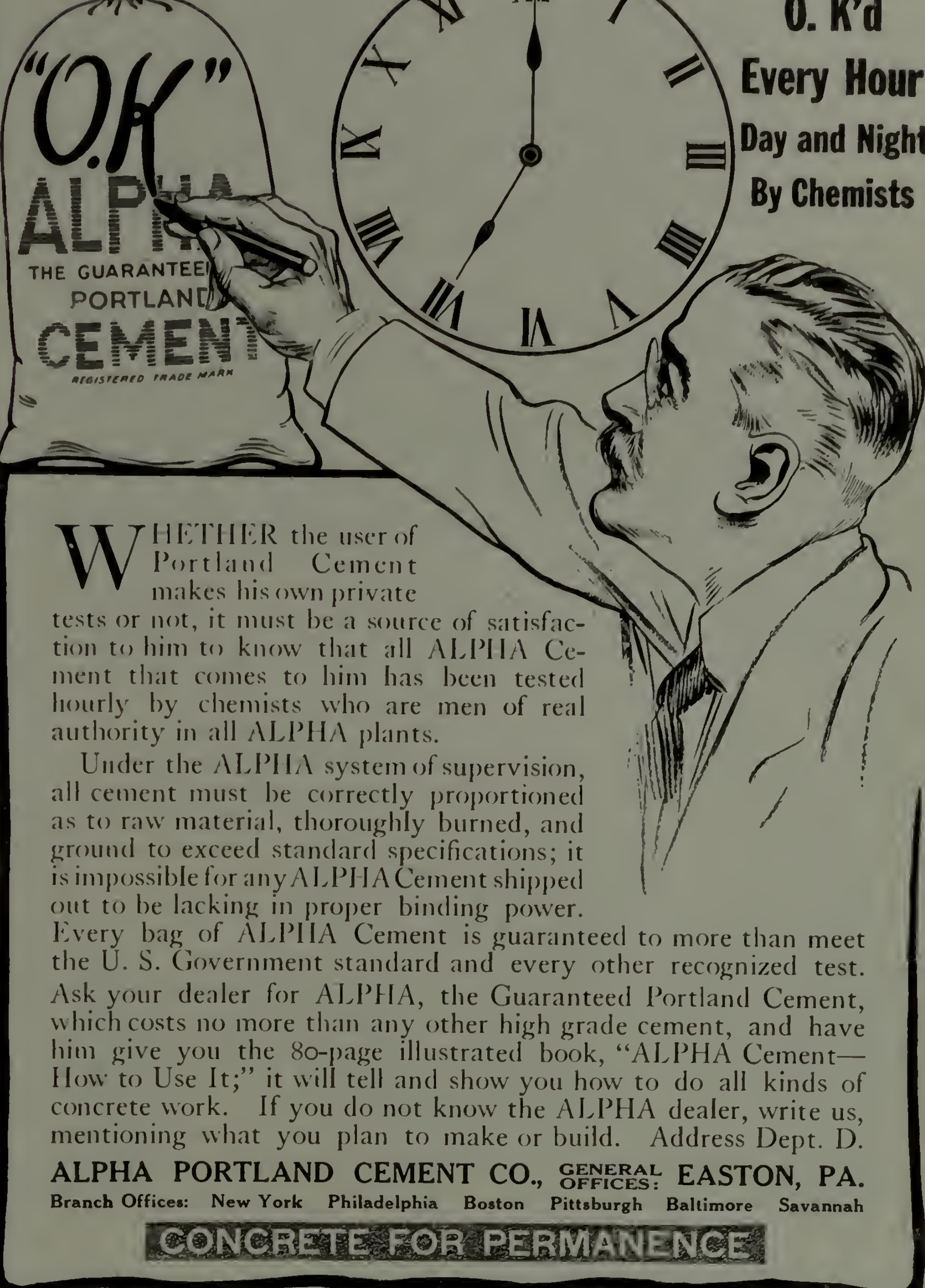

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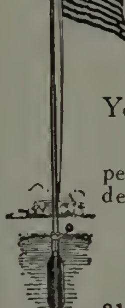

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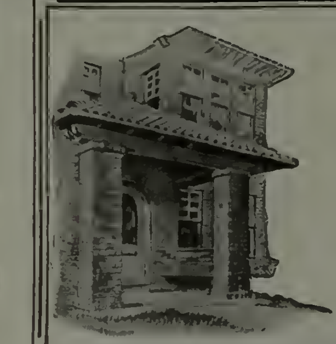

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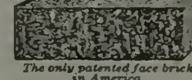

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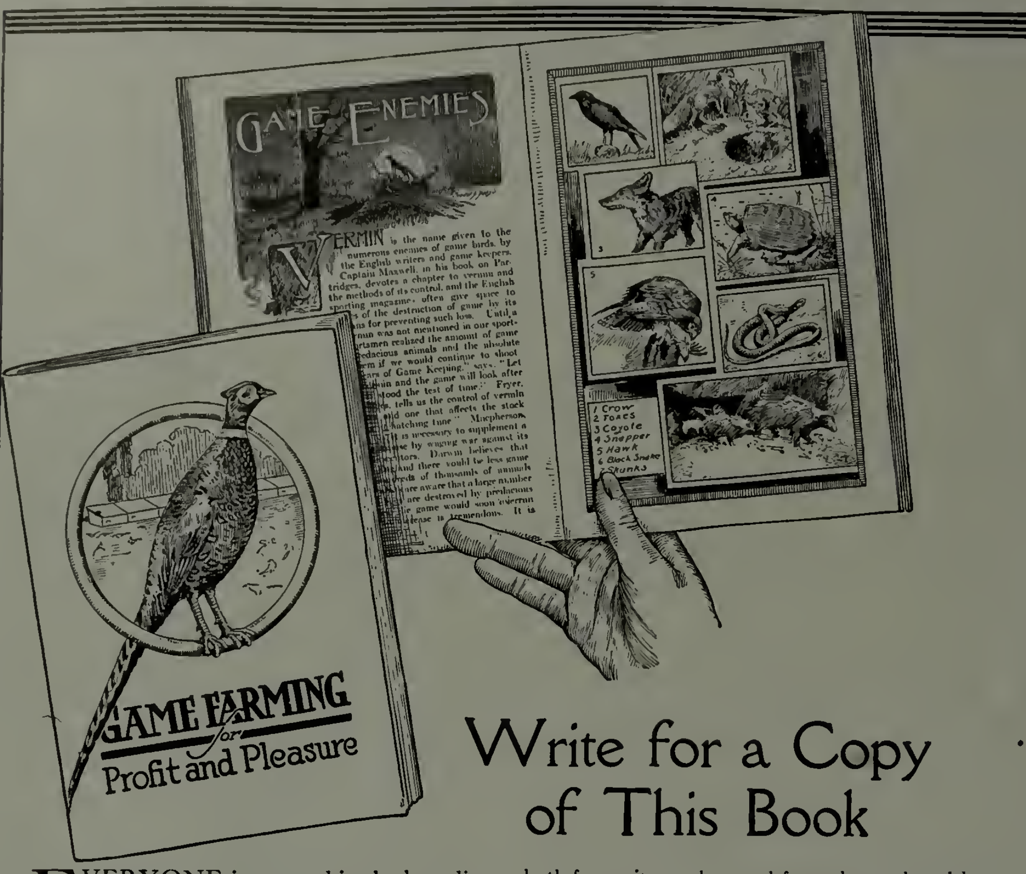

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hole to freedom, and we saw her no more. Quite evidently she was satisfied that the nestling was not hers and she took no more risk of being trapped.

I had hoped, when our week was up, that Buzz would be able to fly and that we could leave him in his Island home, but although he made frantic efforts with his wings, he could not lift his body, and we were compelled to bring him to the main land with us. Just how to supply him with the necessary food for the three hours' trip became the question. Sweetened water he must have, but how could we bother with a cup and teaspoon on our ocean trip? I finally decided to put the nectar in a small bottle and let Buzz sip directly from it. The plan worked beautifully and the little thing learned to know what the bottle contained, and to stretch his little neck up when he saw me touch it.

During the trip he perched on a twig in a small box with the sun pouring down upon him, every feather puffed out that the body might better receive the hot rays—and the bottle of sweetened liquid not far away.

The baby bird had the advantage over some of the larger passengers, for he was not sick and stood the trip nicely, living four days after we got home.

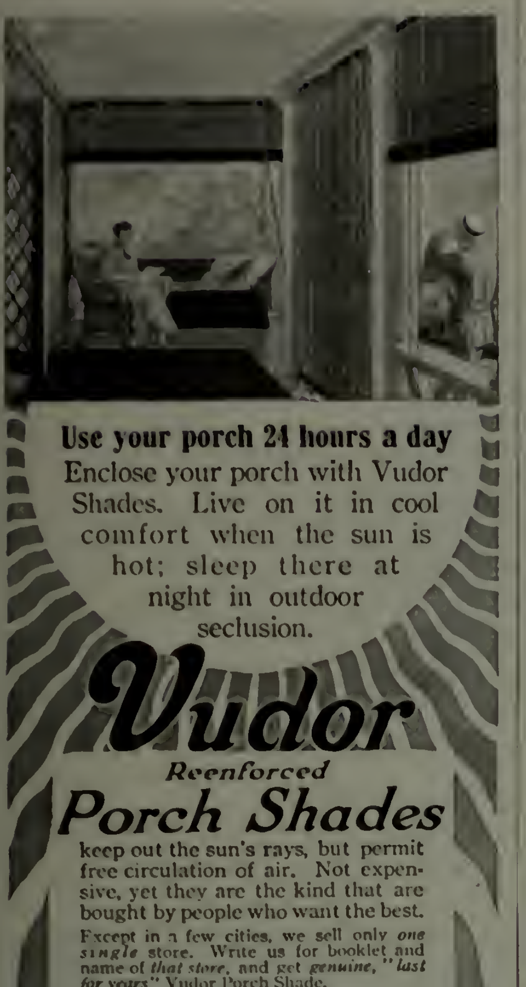
Every night I covered him with cotton in his little box and took it to bed with me for fear he should become cold and need my warming hand. Although he grew, he was not getting much strength, and finally one morning, when I raised the cotton and bade him "Good morning Baby Buzz," he did not respond with the usual "peep," and although he sat just as I had placed him, upright, in his little nest, he was lifeless. Dead for the want of a mother who could give him the necessary insect food. The only wonder is that he had lived so long. Harriet Williams Myers.

THE SECRET OF BEE CONTROL

IT IS possible to perform stunts with bees, that, to the uninitiated, are hair-raising, but which in fact possess very little danger to the operator. The writer often gives a live bee demonstration, in connection with a public lecture on bees, using a screened cage to prevent them from flying about and annoying the audience. The hive is opened and frames removed. The bees are then dumped into a pan, picked up by handfuls, and quantities of them poured over the bare head and arms. Some nervous people are inclined to be frightened at the sight.

We must remember, in the first place that a colony of bees is an orderly commonwealth; that every individual in it has a duty to perform, and is busy attending to that. The thing to do is to break up the system, and create confusion within the hive. Under normal conditions, sentinels are posted at the entrance, whose duty it is to note the approach of intruders. A person or an animal passing in front of the hive, even at some distance, is likely to receive a sting. The first step, then, is to throw the sentinels off guard. The bee keeper of experience will approach the hive from the rear, and carefully blow a little smoke into the entrance. This at once has the desired effect. The cover is then lifted, and more smoke blown over the frames. The colony at once becomes greatly excited; the bees leave off the work in which they are engaged, and rushing to the open cells, begin to fill themselves with honey, as though getting ready to swarm. A careful operator is thus able to throw the bees into such a state of hopeless con-

Mr. Frank C. Pellett playing with his bees



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fusion that they lose all thought of resistance, and can be handled at will.

Taking advantage of this fact, I often open a hive, and take out the frames to examine the young bees in various stages of development, and to note the operations that are going on, just for the fun of the thing.

There are a number of things to be remembered in attempting an experiment of this kind. The operator must have perfect self control and have no fear of their stings. Then he must be clean. The bees resent being handled by one who is perspiring freely, or who has disagreeable odors clinging to him. They are more inclined to sting one dressed in dark clothing, than in the lighter colors. The most important requirement of all is that he be gentle in his movements.

Frank C. Pellett.

THE HOMING INSTINCT

THE carrier pigeon shows in a larger degree than any other bird the ability to return unerringly home from remote places, and sometimes under circumstances so unfavorable as to be almost unbelievable.

A grocer in Omaha makes a hobby of raising carrier pigeons. He told a traveling salesman from Chicago about his pigeons, and the traveling man didn't believe that the carriers would return when liberated at a great distance away. To decide the matter it was agreed that he should take one of the birds to Chicago and liberate it there. This he did.

A week later he dropped in to see the grocer in Omaha. No pigeon had appeared. Finally one afternoon several weeks later he dropped in as usual. "Well, Louis," he asked, "is the pigeon

A racing Homer pigeon with a 500-mile record

back?" "Yes," replied the grocer, "but its feet are mighty sore." The traveling man had cruelly clipped the wings of the pigeon in Chicago, before liberating it, and it had walked home, more than 300 miles.

In what unaccountable way had this bird been led to take the right direction home, and to hold it true, in spite of the misfortune which condemned it to hop along the dusty ground, or fly very short distances across fences, through plowed fields, etc.?

The well-trained foxhound has a wonderful instinct for returning home after the hunt is over, no matter how far afield it may have been led, in what strange, unfamiliar country, or how fast, furious, and long continued the chase, or how tired the hound may be at its close.

An example of this fine instinct of the trained foxhound occurred during a wolf hunt in Oklahoma, when hunters with packs of hounds from different states met to join in the chase and to try out the mettle of their respective breeds.

Among the participants was a Kentuckian from the central part of his state with a bunch of fine, pure-bred hounds. After the hunt was over, one of his hounds was missing, and he returned home on the train without it. During the second day after his return, this hound put in its appearance at home, lean and hungry, having made the journey from Oklahoma to Kentucky in less than forty hours, and having swum the Arkansas and Mississippi rivers. It had never been to Oklahoma before, and had made the trip there this time in the night. The mystery is how it knew what direction to take when it found its master and mates gone.

Isaac Motes.

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THAT GASOLENE PROBLEM

By ERNEST A. STEPHENS

GASOLENE, according to the definition given by a standard dictionary, is a colorless, volatile, inflammable product of the distillation of crude petroleum. The chemist refers to it in a playful way as a hydrocarbon fuel of variable composition, consisting mainly of pentane and hexane; and the motorist of to-day, when he can bring himself to talk of gasolene in terms other than those of price, is apt to use language "more thrue than tellable" as Mulvaney would say.

Undoubtedly the present soaring prices of gasolene constitute by far the gravest situation the automobile owner has had to face since the advent of the internal combustion engine in its application to the motor car, and unfortunately the position as it appears to-day indicates that the fuel which now sells at retail in New York City for 28 cents a gallon, and which will in all probability cost 30 cents before this article appears in print, is more than likely to advance to 40 cents by summer. Then the happy motorist will set out on his day's run of, say, 150 miles with the sure and certain knowledge that his little trip will cost him somewhere in the neighborhood of $4 for fuel alone.

That the subject of the present gasolene position, its probable future, and the question of producing a substitute fuel in commercial quantities at a reasonable price, is receiving very serious consideration from experts is unquestioned. The rapidly increasing number of automobiles of various types presents a problem, as evidenced by the doubling of gasolene prices in the past six months, which requires an almost immediate solution if the fuel necessary to run them is to be forthcoming.

Gasolene is still the only fuel available in even moderate quantities, and therefore it may be as well to consider its present position before outlining the possibilities in connection with kerosene, alcohol, etc.

HOW MUCH WE USE

There are no exact figures which show the actual gasolene consumption in the United States, but an indication of the amount available for domestic consumption may be obtained by taking the total production and deducting the exports. On this basis we find that in 1915 there were 35,100,000 barrels of forty-two gallons each and, in round figures, 2,500,000 automobiles in active service and requiring their daily fuel food.

A simple calculation gives the number of gallons of gasolene available for each car as approximately 590—perhaps enough for, say, 9,000 miles—surely not an excessive average for twelve months of motoring. Unfortunately there is to-day no reserve of gasolene to draw upon, the 2,000,000 barrels held in stock at various centres in January, 1915, having been exhausted four months ago. Things were not quite so bad in 1914, as the cars in actual use in that year could draw nearly a thousand gallons of gasolene each without being unduly greedy and taking more than their share. Looking backward is bad enough, but it serves only to emphasize the black outlook which meets the eye for 1916 and the following year.

Taking the estimated output of the automobile factories for this year and deducting exports in the proportion of those of 1915, we shall have nearly if not quite 3,000,000 cars running next fall, and a year after the total will probably exceed 4,000,000. In this connection take the ominous words of the Secretary of the Interior "The production of crude has been generally regarded as near its maximum" and couple it with the fact that the production of crude containing a relatively large percentage of gasolene is decreasing, as in the instance of the Cushing pool of Oklahoma which declined from 300,000 barrels in April, 1915, to about 93,000 in January last; and it would appear that it is high time the subject of gasolene or a suitable substitute should receive the attention it so urgently demands.

Observe that in the foregoing figures automobiles only have been considered, mainly because they are the largest consumers of gasolene, but it should not be forgotten that there are more than 300,000 motor boats in America and that these, proceeding, as they do, always "uphill," are veritable gluttons for fuel. Add to these at least 30,000 farm tractors, and goodness knows how many stationary internal combustion engines, a relatively few aeroplanes, and the woman who stands by the stove and uses gasolene to clean her gloves, and it seems a regrettable fact that the days of miracles are past and it is no longer possible to feed the many with the few.

To find a way out of this piling up of fuel troubles is the problem which needs an immediate solution. To take the line of least resistance, the discovery and development of new oil fields and the matter of treating known fields more intensively seems to hold out some hope. West of Kansas, Oklahoma, and Texas there are known fields which cannot be developed owing to deficiencies in the public land laws, and it has been stated officially there is reasonable expectation of finding 650,000,000 barrels under these lands. Alaskan fields and those of Utah are capable of development to an unknown degree.

ONE BIG LEAK

Is it realized that the gasolene producible from natural gas which has been allowed to waste itself in the atmosphere reaches appalling figures? Dr. Henry Smith Williams, a well-known authority, states that the amount lost in 1914 through this waste and neglect was approximately 288,000,000 gallons. Gasolene can be produced from natural gas by the application of sufficient pressure to cause liquefication, leaving the gas itself all right for lighting purposes.

An official of the Bureau of Mines is responsible for the statement that many million gallons of the lighter petroleum products are lost annually by evaporation from the open mouths of wells and open storage tanks. An argument against the holding back of crude is the fact that it loses its more volatile constituents in storage and becomes correspondingly unfitted to produce gasolene.

NEW DISTILLATION PROCESSES

In hoping for the best in connection with the development of new sources of supply, and granting the possibility of cutting down some of the waste, it should be remembered that there is another way to relieve the tension of the gasolene position, and that is by the adoption of processes of distillation which will result in an increased percentage of gasolene being obtained. Of these processes that invented by Dr. Walter F. Rittman of the United States Bureau of Mines is claimed to produce from two to four times the amount of gasolene from a given quantity of crude as was possible under the regular methods. Another process known as the Burton, is said to give an average of 40 per cent. of gasolene, and there are several other methods controlled by various oil concerns which apparently give good results. The general use of these "cracking" processes, as they are called, would do much to help the motorist, as by their use gasolene can be made from kerosene, gas oil, fuel oil residuums, and heavy crudes.

SUBSTITUTES

Leaving the tried and (sometimes) true gasolene, and giving brief consideration to possible substitutes, kerosene, from the same base, is naturally first thought of. Its possibilities and likewise its limitations as an automobile fuel have long been known so well that the periodic epidemics of kerosene carbureters have hitherto left the experienced motorist cold. By the way, a kerosene carbureter was patented forty-five years ago, and they seem to have been coming along at pretty regular intervals since.

In the year 1902 the subject of kerosene as a suitable fuel received a good deal of attention; at that time the experts seem to have realized that in the first place gasolene had to be carried to assist in starting, that owing to relatively imperfect combustion, excessive deposits of carbon were formed, and that this fuel's bad habit of "creeping" mussed up everything in connection with the engine, the car, and the motorist. Kerosene to-day can do all these things just as well as it did then. In its favor it must be said that motor boatmen appear to like it.

In regard to kerosene, the pertinent question just now is where does kerosene end and where does gasolene begin? Both are composed of practically the same elements, and it is hardly too much to say that a few years ago when gasolene was of a much higher grade, we should have been tempted to refer to the commercial gasolene which we now use, and are glad to get even at present rates, as kerosene. Another little point which is apt to worry the investigator into the alleged merits of kerosene as a fuel is its habit of recondensing in the manifold, assuming of course that the said experimenter has, by heroic methods succeeded in vaporizing it in the first place. Taking everything into consideration, it seems pretty evident that kerosene cannot be relied upon to help the position.

If kerosene is unsuitable in one way, alcohol, a fuel which has been thoroughly tried out in Europe, has proved to be unsuitable in others, at least when used in engines of standard make. Fifteen years ago exhaustive experiments with alcohol were conducted in France and it is of interest to note that about the same time acetylene, as a fuel, seems to have possessed about as many adherents as alcohol. Later experiments confirmed that in order to obtain good results from this fuel specially built engines, giving very high compression, were necessary—in fact, one authority contended that an alcohol engine must have four times the piston displacement and three times the weight of a gasolene engine developing similar power. This, however, has not been borne out in subsequent tests, but still there is an appreciable difference in alcohol as a fuel which would demand in the engine using it a good deal of redesigning and readjustment. Apart from these differences, and provided a simple way of overcoming them is developed, alcohol ought to be an ideal fuel so far as the available quantity is concerned. It has been said that all the corn and all the potatoes grown in the United States would not be sufficient to produce enough alcohol to run our cars, but ignoring these sources of supply altogether it was estimated by Dr. Smith Williams that the sawdust and waste products of the lumber industry would produce a minimum of a billion (not a million) gallons of alcohol a year, and that a ton of sawdust produced as much alcohol as did nine bushels of corn. Alcohol is produced in Europe from the by-products of wood pulp, and doubtless our forest fires every year destroy raw material sufficient to produce this fuel in quantities which would put the motorist who possessed a suitably designed car in a position where the fuel problem would cease from troubling.

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THE PROMISE OF BENZOL

Benzol, a by-product of coke, is now in general use in Europe, more particularly in those countries which are unable at the present time to draw supplies of gasolene from America or from the other producing countries. It is a hydrocarbon not differing greatly from gasolene, and at the present time the United States distinguishes itself by wasting, or at any rate failing to recover, about 600,000,000 gallons of it per year. This amount of really valuable fuel is lost to us through wasteful methods of coal mining and by reason of the archaic systems employed in converting coal into coke. An elaborate series of tests carried out in England a couple of years ago tended to show that benzol could be successfully used if minor carbureter adjustments were previously effected.

America will, it is estimated, actually produce about 22,000,000 gallons of benzol during this year. This at a first glance, seems to indicate that a real start is being made to help the fuel-hungry, but on looking into the matter it is found that all this valuable product is already tagged for use in the manufacture of dyes, chemicals, and explosives. If the quantity of coal now made into coke annually were properly treated, the motoring public would be better off to the tune of no less than 125,000,000 gallons of benzol. The coal reserves available for the ultimate production of benzol are simply enormous, but it is not for a moment likely that these would be drawn upon especially for the sake of the car owner. At any rate, benzol may be looked upon as the most attractive substitute fuel so far, and it is hoped that further investigations will result in its production being undertaken on a basis which will permit of its use in commercially sufficient quantities to materially relieve the shortage which we feel to-day, and which may possibly exercise a restrictive effect upon a great industry in the near future.

These are the fuels which possess possibilities and which may to a greater or lesser extent affect the motorist's future. There are, however, many others, the products of inventive minds and of youthful enthusiasm. For instance, a year or so ago, it was announced with a great flourish of trumpets that a gasolene substitute which would sell at retail for about 6 cents a gallon was an accomplished fact. The process was a secret one, but it was believed that moth-balls or a substance of similar nature formed the base. Great things were expected, but nothing was achieved except to render several people more wary on the subject of secret recipes. Another genius put forth a theory that by treating kerosene with peroxide of hydrogen an ideal fuel, developing greater power than gasolene, would delight the heart of the anxious motorist. A further suggestion was that each car should carry a compact producer plant and manufacture fuel from coal, which also had to be carried, as it toured the countryside. The latest fuel to be discussed is to be manufactured from the millions of gallons of vodka which became available when Russia went suddenly "dry."

WHAT THE MOTORIST CAN DO

Summing up the situation it would appear that the man who owns a car must either curtail his mileage or alternatively increase his mileage per gallon of gasolene, new fields must be found and developed, intensified distillation must be employed, or one or other of the new fuels must be placed on the market as a commercial proposition in direct competition with gasolene.

Gasolene is still with us and it is up to the man who owns a car to take such steps as may help to keep his fuel bill down. He can do a good deal in this direction with a minimum of trouble plus just a little thought. In the first place the grades of gasolene now on the market need heat and a lot of it, to insure proper vaporization. If the carbureter is water jacketed it is a good plan to connect up the jacket with the exhaust manifold by means of flexible piping. This will keep the water sufficiently hot. If preferred, the connection may be made to the water circulating system, but usually this is a more difficult job.

In the case of a carbureter which is not furnished with a water jacket, the necessary heat may be similarly carried from the exhaust and the flexible tube run around the air bend of the carbureter. Loss of compression caused by valves which require grinding is another source of fuel waste, a certain proportion of the power furnished by the fuel being lost. Carbon deposits

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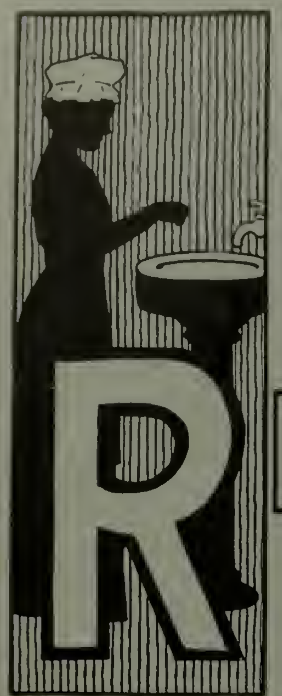
The Milburn Electric Charger solves the home-charging problem—effectively—inexpensively—if your public garage is inconveniently located or lacking in electric facilities.

TOLEDO, OHIO



Your Ruud Water Heater

is in the basement. You never go near it. It might as well be located at the Gas Works for all the trouble it causes.

It is simply a connecting link between your gas pipe and water pipe. It translates these two public services into a public necessity—Hot Water Service.

When you turn a faucet in any part of the house, the flow of water automatically turns on a full flow of gas, which ignites from the pilot light which is *always* kept burning. Instantly the water in the copper coils is heated to the boiling point and kept there, no matter how much water is used. When the water is turned off the gas is turned off. If the water gets too hot, the heat closes the gas valve.

These two methods of turning on and off the gas can never fail nor get out of order. A Ruud Water Heater will last a lifetime.

"Wonderful," you say, "but it must burn a lot of gas."

It Does Not Burn a Lot of Gas

If, by old-fashioned methods of heating, you keep water at the boiling point night and day, you can effect an actual saving by installing a Ruud, using manufactured gas. On natural gas the saving is still greater.

On the other hand, if your water is never more than lukewarm, if you have to use cold water in the morning, if you have to give up hot baths on wash day, if there is no hot water at night in case of sudden illness, why then the Ruud would mean a slight increase in your gas bills. An attempt has been made to lower the first cost of some heaters by using too light materials and abandoning a positive and absolutely dependable control of the gas. You save only $15 or $25 on such a heater, but it burns more gas, and you are pretty sure to throw it out altogether. Such a heater is not safe and has no place in a home.

Send for descriptive catalog and prices, stating size of your house.

Ruud Manufacturing Co.
Dept. C. Pittsburgh, Pa.
Canadian Address: 371 Adelaide St., West, Toronto, Canada

are yet another cause of fuel waste, as pre-ignition will occur and power will be expended without getting anything in return.

Look after the road wheels, see that the alignment is perfect, and that the tires are correctly inflated. Keep the grease cups filled, test the carbureter adjustment and, finally, extend the attention which has been given as an inherent right to the tires and the electrical system, to the other component parts of the car, and it will be found that not only is the automobile as a whole a more satisfactory proposition from a driving point of view, but that a direct benefit will be reaped in the form of gasolene bills more nearly approximating those of the days when 14 cents per gallon was the recognized rate. All, then, that the motorist needs to complete his sense of relative satisfaction is the comforting thought that gasolene is 60 cents a gallon in England, and that latest quotations from Paris quote $1.06 per gallon "subject to supplies being available."

A suggestion that some form of governmental control be exercised in connection with the entire crude oil production of the United States is at present under discussion. It is understood that the authorities view the idea with favor, basing their opinions on statements made by the Department of the Interior that the total remaining supply of petroleum is approximately only 7,600,000,000 barrels, a quantity which will be exhausted in twenty-seven years, assuming that rates of consumption do not increase.

Absolutely prohibiting the export of gasolene would mean a decided gain to the motorist, as no less than 73,000,000 gallons were sent abroad during last year, as against about a quarter of this quantity in 1909. Otherwise it seems more than likely that Europe's demands upon us will be greater in the near future as, even after actual hostilities have ceased, it may be necessary to maintain elaborate systems of gasolene-propelled mechanical transport for years to come, in view of the tremendous part played by it, not only in actual warfare, but in the hurried mobilization of men and munitions.

A SUGGESTION

IF YOU are, happily, so old-fashioned as to consider the sunny window of your living room incomplete without a brass cage and a yellow canary, you may possibly welcome a suggestion that will enlarge your bird lore and double your pleasure.

Like all protected domestic creatures who have no share in providing their own food and shelter, Master Canary is riotously extravagant, scattering far more seeds than he eats. An occasional spoonful of this wasted provender can be "sown for succession," as the garden books say, when they advise the putting in of seeds at regular intervals throughout a season. A one-inch flower pot, full of growing rape or millet seed, introduced into Master Canary's cage now and then, proves an exciting event in his life, and it is a pretty sight to watch his response to this unexpected call "back to the land."

However, if all that our little prodigal scattered were planted, we should live henceforth in a grove of sprouted things. The greater part must be put to other use. Save the seed and sand from the daily cleaning of your cage, and put them where the outdoor birds can harvest your bounty. Chickadees, nuthatches, native sparrows, and even an occasional venturesome red squirrel will gather to the feast.

There are several excellent feeding trays for wild birds on the market. Our home-made one seems to satisfy our outdoor neighbors perfectly. It is simply the straight, unbarked stem of a spruce, about 5 ft. 6 in. high, lopped of its branches, and topped by a square wooden tray which has a solid fence, two inches high, all round its edge. The tray is painted a dull green, and the entire structure stands free from all ambush on the mound that crowns the rock garden by the living room windows.

Here a portion of Master Canary's extravagance is spread every day, and Canary himself, secure in his cage, and perfectly sure that the coming day will bring its quota of food and comfort, sings gaily at his sunny window, while his wild pensioners, after warily examining the square-topped tree that bears such unexpected fruit, settle down to their treasure-trove meals outside.

CHARLOTTE M. MARTIN.

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Garden City New York

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Yet your family's safety and your *own* safety is a lot more important to *you* than the safety of passengers is to hired inspectors.

BATAVIA SECURITY TIRES

Is your car tired — or are you?
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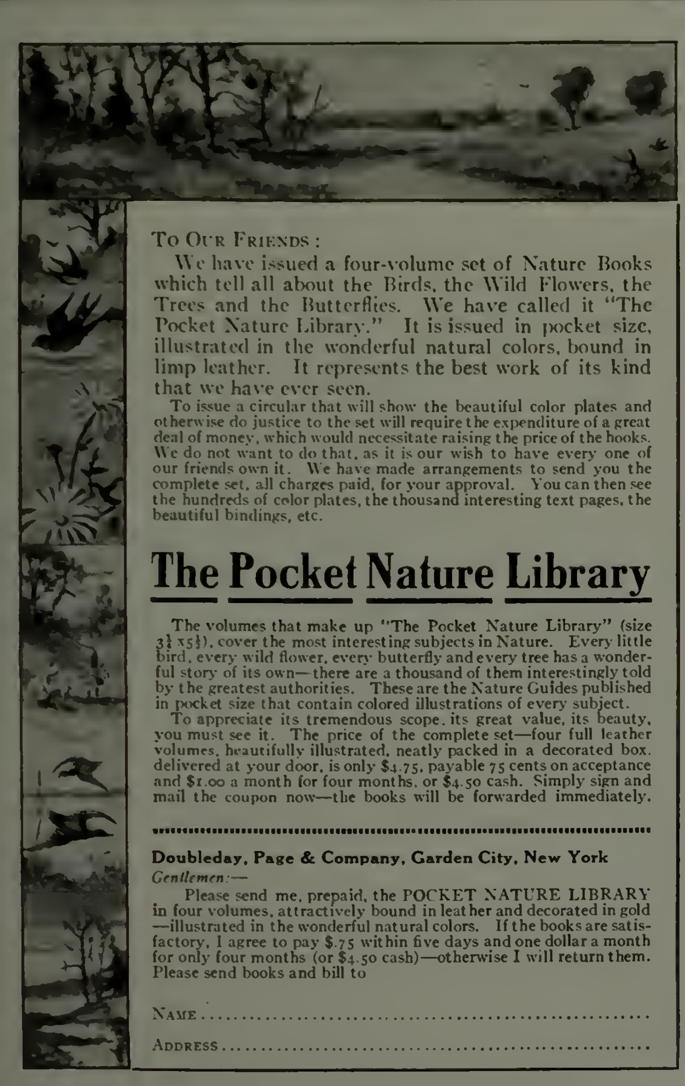

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Pneumatic Guaranteed *with Greater Resilience*

PUNCTURE and blow-out easily destroy the best ordinary pneumatic tire, wasting tire money in millions. There is *One Tire* that successfully resists puncture.

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5,000 MILES of Service are assured under a written Guarantee. The LEE "vanadium" process *toughens the rubber* and imparts a vast power of resistance and creates greater resilience.

WRITE FOR BOOKLET "K"

LEE TIRE & RUBBER CO.

Manufacturers of Rubber Goods Since 1883

CONSHOHOCKEN, PENNA.

Comfort Tires, Protected Against Blow-out

GOODYEAR Cord Tires were chosen as standard equipment for Peerless cars because they offer very definite and very valuable advantages.

Since these advantages result in unusual mileage and service, freedom from tire worry, and great comfort, they are well worth critical attention from owners of fine cars.

It is almost impossible for Goodyear Cord Tires to stone-bruise and blow out, because of their extreme flexibility.

This comes from their construction, which also makes them extremely lively, speedy and responsive.

Strong, pliable cords—placed loosely side by side in diagonal layers—are cushioned in strong, stretchy rubber. Having no binding cross-weave, they are allowed great freedom of movement.

So, under impact, the cords flex, the rubber gives; the tire literally absorbs road obstructions.

This insures against stone-bruise, rupture, and the blow-outs—immediate or subsequent—which follow these injuries.

Naturally such a tire has long life, gives great mileage, and causes little delay and annoyance.

And it permits high speeds with comfort. It has wonderful coasting qualities. It saves power. It increases gasoline mileage.

In the Hudson Hill coasting test, Goodyear Cord Tires averaged 177 feet farther than ordinary cord tires on the same car; and reached a maximum speed of 36 miles per hour.

Of the fifteen Franklin cars which recorded better than 40 miles per gallon of gasoline in the fuel economy test last May, ten were equipped with Goodyear Cord Tires. And these tires made the three highest marks—55 miles, 53 miles, and 51.8 miles per gallon of gasoline.

Their great oversize, uniting the added cushion of an increased air-volume with the in-built cushion, resilience, and easy-running of our cord construction, makes the Goodyear Cord the tire of utmost comfort.

Goodyear No-Hook Cord Tires, in the 32 x 4, 36 x 4½ and 37 x 5-inch sizes, have 23 to 35 per cent more air space than regulation Q. D. Clincher tires of corresponding inch-sizes.

In spite of the higher prices necessary for these tires, because of their construction and their oversize, users seldom change to other tires.

Increasing sales show that car owners believe the extra value, and the extra luxury, security and durability of these tires, more than offset the difference in price.

Ask the nearest Goodyear Service Station Dealer for Goodyear Cord Tires.

The Goodyear Tire & Rubber Company
Akron, Ohio

All-Weather and Ribbed Treads, double thick, for rear and front wheels. Note the deep, sharp All-Weather grips. They resist skidding. They give great traction. No-Hook and Q. D. Clincher types, for gasoline and electric cars.

Made from APOLLO-KEYSTONE Copper Steel Galvanized Sheets, the most durable, rust-repellent sheets manufactured.

These sheets are unequaled for Silos, Culverts, Tanks, Roofing, Siding and all forms of exposed sheet metal work. Look for the Keystone added below trade-mark. It insures quality, service and satisfaction at reasonable cost. Send to-day for our "Better Buildings" booklet. We also manufacture KEYSTONE Copper Steel Roofing Tin—specially adapted for all high class buildings, country homes, city residences, etc.

AMERICAN SHEET AND TIN PLATE COMPANY, General Offices: Frick Building, Pittsburgh, Pa.

A CITY FULL OF GARDENS

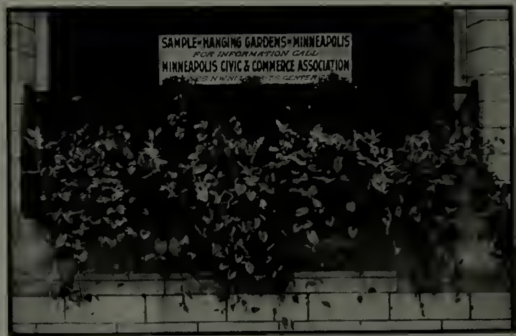
IS IT worth while trying to make a garden in a city—a big city, I mean, where everybody is busy and land is valuable? Let us see.

In 1911 a family by the name of Fashingbauer bought a home at 401 Girard Avenue North, in the city of Minneapolis. It was a bare, unkempt sort of place when they took it, and the yard was full of rubbish. It looked pretty hopeless, but Mrs. Fashingbauer longed for more lovely surroundings and she began casting about for ways and means.

One day she read in the paper of an organization whose aim was to help people like herself. She called at the club's headquarters and was given some seeds and instructions.

There were three boys and a girl in the family who thought that their mother's idea was a good one. They became very industrious and soon had the yard cleaned up. Then the two older boys took turns with a spading fork and the ground was prepared for the seeds. Around the edge of the yard they planted sweet peas, pansies, and other flowers. In the back yard they made a vegetable garden and planted lettuce, turnips, peas, tomatoes, potatoes, and radishes. The children became very enthusiastic and got up early every morning to work in the garden before it was time to go to school. The boys had to do all the spading and hoeing and in dry weather carried water fifty feet from the house to the garden.

To-day you would never know the Fashingbauer home for the same place. Its vegetable



One of the city window boxes

and flower gardens are known for blocks around. Mrs. Fashingbauer now feels that she lives in lovely surroundings and there are always plenty of toothsome fresh vegetables for the family table.

Most of the flowers are given away, but $10 worth have been sold, and the family has saved at least $75 a year on vegetables.

That is a kind of home making that is worth while. "And the best part of it is," says Mrs. Fashingbauer, "it keeps the children off the street after school is out." Incidentally, many of the neighbors' children have followed the Fashingbauer example and now have gardens of their own.

Raymond, the oldest boy, now sixteen, liked the tilling of the soil so well that he has gone to work on a farm, and Bernard, twelve, is now head gardener.

At about the same time another mother by the name of Mrs. Mary Buck, over at 3214 Second Avenue South, also heard of the organization that helped city people to make gardens. She lived in a Polish and Slavonian neighborhood that was not as beautiful as it might have been, and where the cost of living was a vital daily problem.

In accordance with the advice given her by the organization, Mrs. Buck chose a vacant lot not far from her home and there she made a garden. She grew potatoes, corn, tomatoes, and other vegetables so successfully, and with such a noticeable effect on the household exchequer, that her neighbors began to take notice. The next year there were a number of gardens back of the big lumber yards along the river, and now a large part of that crowded neighborhood is getting a fair portion of its living from the land. Her daughter and her son have gardens of their own, and there are five others in one big vacant lot. There are more than twenty paying gardens within a few blocks. Incidentally, this unused land has been redeemed from ugliness and dirt and the whole community has been beautified.

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Woven Wall Coverings

THIS beautiful new creation requires but a glance to establish it as the most beautiful and most artistic wall covering. Has all the qualities of the rest of the Fab-rik-o-na line. Durable, color-fast, sanitary, strong, crack-proof. Stands hard usage. Will not shrink and open at seams. Economical.

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appeal to those who want the daintiest as well as most serviceable wall covering. Every taste can be satisfied in the great variety of tones and patterns. The richness and beauty cannot be imagined or set forth in cold type. They must be seen to be appreciated.

Send for samples *Our service department will help you with your decorating problems and put you in touch with dealers in your own city.*

H. B. WIGGIN'S SONS CO.
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"*Victory in Defeat*"

THE AGONY OF WARSAW AND THE RUSSIAN RETREAT

By STANLEY WASHBURN
Correspondent of the London *Times*

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DOUBLEDAY, PAGE & CO., Garden City, N. Y.

The FRANKLIN CAR

ONE of the most interesting things in the whole automobile situation is the type of men who own and drive Franklin Cars.

The list of Franklin owners shows a most remarkable average as to *substantial rating* and *strong position* in affairs.

The typical Franklin owner is a successful man who thinks for himself: and who owes his place in the world to his habit of *getting the facts* and using his *own judgment.*

The point we make is that the Franklin owner as a rule is a man who can afford any price car. He sees in the Franklin the *best use of his money*—and his whole habit of life has taught him to seek *efficiency.*

Every practical-minded motorist should read the new book, "Why the Average Motorist's Dollar is Shrinking." Send us your name on a post card for a copy.

FRANKLIN AUTOMOBILE COMPANY, Syracuse, N. Y.

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INTERIOR DECORATION

ITS PRINCIPLES AND PRACTICE

By FRANK ALVAH PARSONS
President of the New York School of Fine and Applied Arts

This is the common-sense book of interior decoration which can never go out of style. Mr. Parsons—one of the best known authorities on the subject—tells the true principles of art that underlie good taste in furnishing. What is more, he tells simply how any one, by applying these principles, can furnish and decorate his house, large or small, with individuality and yet artistically. He explains the fundamentals of the period styles and their uses to-day.

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DOUBLEDAY, PAGE & COMPANY, GARDEN CITY, NEW YORK

Knobs—Not Mere Ridges

The knobs stick out from 'Nobby' Tread Tires far enough to protect the tread from nails, sharp stones and glass.

The knobs are big enough and are so scientifically placed, that they add still more resiliency to an already marvelously resilient tire.

The knobs on these "Aristocrats of the Road" hold the ground with a tenacity that says "I will" with every revolution of the wheel.

All this because the knobs on 'Nobby' Treads are vigorous, protruding knobs—not mere ridges on a tire.

'Nobby' Tread Tires are the largest selling very high grade anti-skids in the world.

Ask any United States Tire Dealer for your copy of the booklet on "Judging Tires."

United States Tire Company

'Nobby' 'Chain' 'Usco' 'Royal Cord' 'Plain'

"INDIVIDUALIZED TIRES"

Four years ago Mr. Clinton B. Wintersteen, a Civil War veteran, sold his farm in North Dakota and moved to Minneapolis, where he bought a home in a newly opened district at 3449 Eleventh Avenue South. There he proceeded to make a garden and raise poultry. In spite of his experience he did not disdain the assistance of the helpful organization; last spring he was the first member on the enrolment list. In 1913 he received a prize for the best garden in his vicinity. It was a fine baseball mitt, and though he is seventy-three years old and had never played baseball in his life, he exhibited his trophy with great pride. It encouraged him to till two vacant lots in 1914 in addition to the garden on his own place.

Mr. Wintersteen is an expert gardener and the oracle of all the other gardeners who now thrive in his neighborhood. He raises practically every kind of vegetable except carrots and potatoes, which do not do well on his land, and he feeds the surplus to his chickens. He raises fruit, too—apples, plums, raspberries, currants, and strawberries.

For three years now George Blackett, a high school boy, has cultivated gardens on vacant lots near his home at 3416 Humbolt Avenue. In 1913 he made between $75 and $100 profit, and that on the most unpromising sort of filled-in soil. He keeps books and a garden record, and raises

A typical vacant-lot garden

peas, radishes, squash, sweet corn, tomatoes, carrots, beans, beets, lettuce, onions, and parsnips.

Mr. H. W. Darr, who lives at 5025 Harriet Avenue, cultivated six lots in 1913 and raised eighteen different kinds of vegetables. He cleared $300 in the season.

These are only a few of the hundreds of men and women, boys and girls, rich and poor, who are making Minneapolis a city full of gardens. Mr. Wintersteen and some others would doubtless have had gardens anyway, but the great majority of these hundreds owe their inspiration to the organization I have spoken of. It is a unique thing, this Garden Club of Minneapolis, and because dozens of other cities have lately been making inquiries about it, it is worth while to consider its scope and methods.

I don't know who originated the idea, but the man who put it into execution was Mr. Leroy J. Boughner, city editor of the Minneapolis *Tribune*. Boughner is not an altruist nor a philanthropist nor an æsthete nor a dreamer. If you saw him at his desk you would know him for a practical, hard-working newspaper man with his mind on his job. It merely occurred to him that it would be good business for his paper to father the Garden Club movement, and so he set the thing going. But as it grew, Boughner grew with it, and he has, in spite of himself, been the president of a big, beneficent, public service organization since its inception.

The Garden Club was organized in March, 1910, to promote gardens in connection with the schools, on the vacant lots, and in the back yards of Minneapolis. The thing moved slowly at first; only sixteen members joined the club. Nasturtium seeds were distributed among the schools and a few school children started gardens, but the only garden that amounted to much was one that Mr. Boughner managed for the Boys' Club of Minneapolis. But that year taught the promoters a few things and in 1911 they started in with a rush.

Two kinds of gardens were especially encouraged—in private yards and on vacant lots. Philadelphia has succeeded with vacant-lot gardening, but most other cities have failed. The difficulty has come in the time and red tape

Do you like parties? If you do, then you should not lose a moment's time in accepting this invitation to a six months' party in the heart of New York as the guest of

VANITY FAIR

You positively won't know yourself when you get back home after that six months' party in what is now the gayest capital of the world. Such aplomb! Such ease of manner, such habiliments de luxe, such wide learning, such brilliant wit, such many sided culture, and oh! such exquisite savoir faire.

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You simply MUST come to this party for sophisticated people. Wits, Actresses, Million Heiresses, Sculptors, Essayists, Vers-Librists, Dowagers, with Tiaras, Pianists, Ritz-Loungers, Beaux, Humorists, Critics, Fox Trotters, Cubists, Debutantes, Sportsmen, Cabaret Dancers, Golf Nuts, Artists, Ballerinas, Celebrities, Bohemians, Motor Fans, Prima Donnas, Literary Lions, Fashion Designers, Argentine Tango-Worms.

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You think nothing, in your poor, deluded way, of spending $2 for a single theatre ticket, or for three faded gardenias, when for only one dollar you can secure six issues of Vanity Fair. If you want to blossom out into a sophisticated New Yorker; if you want to become a regular, Class A, 12-cylinder, self-starting human being, simply tear off the coupon, fill it out, put it in an envelope, stamp and mail it—with or without money.

To the Editor of Vanity Fair, 449 Fourth Avenue, New York

Well, I'd like to join the party by subscribing to Vanity Fair. I therefore enclose $1 with this. Send me the current issue at once—and the five later issues as they appear. (OR) Well, I'd like to join the party but I prefer to open an account with you. Please start my six months' subscription at once. I will send you the $1 on receipt of your bill.

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"Clean, clever and convincing, readers have a treat before them in this book."

—Troy Record

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Garden City New York

White

Custom Built

The beauty of the White touring body has been so marked during the past year that more than a score of makers are attempting to imitate some of its distinctive features — the center cowl, for instance. But the charm of the White center cowl can not be divorced from its setting. It is the effect of harmonious proportions and of graceful lines sweeping to and from it. To vary its width or height or curve is to lose the effect. If the White contour were not copyrighted and could be paralleled in its entire design, the result would still be inappropriate without the high quality materials and costly hand labor which enter into White body construction.

In specifying the upholstery and finish of White bodies each owner is afforded an opportunity to express his individual taste.

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Just a human, lovable, worth-while American girl.
She is old-fashioned enough to believe in home.
She looks on love as the gleam to follow through life.
She has her dark moments, her longings for a larger life than the country village has to offer, but her will to win happiness out of what is at hand is stronger.
A story of love and of work and of play under the country sky. A "home" tale, true to the highest ideals, and as refreshing in its sentiment as Mrs. Richmond's "The Twenty-fourth of June" and "Red Pepper Burns."

A Country Story by "The Novelist of the Home"

Under the Country Sky

By GRACE S. RICHMOND

Author of "The Twenty-fourth of June," "Red Pepper Burns," Etc.

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DOUBLEDAY, PAGE & COMPANY GARDEN CITY, NEW YORK

Klaxons Change Shifts in Big Munitions Factory

THE United States Cartridge Co. of Lowell, Mass., have eliminated waste motion in the operation of their big machines through the use of Klaxon automobile horns.

For some months they have been working 24 hours a day on war orders. Three shifts of men are employed—each is changed every eight hours.

The din of the machines was so great under the increased activities that the gongs and whistles that were formerly used to signal the changing of shifts could not be heard. In their places Klaxon automobile horns were installed.

When it is time for the shifts to change, the incoming operators take up their positions behind the men they are to replace. At the sound of the Klaxon the change is made—losing not an instant of time and making it unnecessary to stop the huge machines.

The sharp, impelling note of the Klaxon cuts through the din of this heavy machinery just as it cuts through the noise and rush of street traffic. In both cases it never fails to get instant attention and action.

It is this peculiar penetrating quality that has made the Klaxon the most widely used automobile signal made. Its use is so general that most automobile horns have come to be spoken of as Klaxons.

In reality there is but one Klaxon and that is made by the Lovell-McConnell Mfg. Co. of Newark, N. J. The only way to be sure a signal *is* a Klaxon is to look for—*and find*—the Klaxon nameplate.

Did the maker of your car equip it with a Klaxon—or a cheap imitation? Suppose you look and see. The name-plate will tell you.

This nameplate is your protection against substitution

The Russian Campaign

¶ An authoritative, first-hand account of the agony of Warsaw and the Russian retreat, by a war correspondent of wide experience, the only American (with two exceptions) to have any considerable access to the fighting lines in Russia.

¶ The author portrays General Alexieff, the Russian Chief-of-Staff, as a remarkable man—in fact the most remarkable military genius that Russia has produced since Peter the Great. The Czar decorated the author with the Order of St. Anne.

Victory in Defeat

By Stanley Washburn

MAPS *NET $1.00*

Doubleday, Page & Co., Garden City, N. Y.

expended in securing permission from the owners of the lots. The Minneapolis Garden Club did not bother with any such conservative methods. They went ahead and took possession of the lots and settled with the owners afterward.

As it turned out, a very small percentage of the owners objected to this use of their idle property, which improved it rather than otherwise, and it cost the club less to straighten matters out with the few who objected, and to reimburse the gardeners for their loss, than it would have cost to go to all the trouble of looking up the owners and securing permission in advance.

The purposes of the club were well advertised, and applications began coming in early. A system was evolved, which I cannot give in detail here, for the enrolment of members and the allotment and supervision of the vacant lots. A membership fee of $1 secured free plowing, free seeds, a chance to compete for prizes, a book of instructions, and other helps. A superintendent and six assistants were employed to supervise the gardens and aid the gardeners. The Young Men's Christian Association coöperated by giving free lectures on gardening. On May 27th, 14,000 cabbage plants and 7,000 tomato plants were distributed.

By this time 325 members had started gardens, of whom 302 finished out the season. Nearly 22,000 packages of nasturtium seeds were given out to school children in 1911; 2,000,000 square feet were planted to vegetables and 200,000

One of the Garden Club's teamsters at work

square feet to flowers; 600 acres were cleared of rubbish by the club, and 20,000 feet of frontage were bordered with plants. The cost to the club was $3,584, of which $347 came from membership fees; the rest was secured from the funds of the Civic Celebration. The gardens in that year produced $11,800 worth of vegetables and flowers.

In 1912 the Garden Club fostered the planting of 1,002 vacant lots to vegetables and flowers. In addition, 279 home gardens were cultivated, and in these nearly 600 rose bushes and apple trees were planted by members. There were 149 children's gardens and 138 lawn gardens. The vegetable and flower gardens covered 160 acres within the city limits and the frontage of these gardens was a trifle more than eleven miles. The cost to the club was $6,112, and the total value of the crop was estimated at $55,000.

There were 1,430 members in 1912, and the income was $3,500, an honorary or sustaining membership having been instituted. The deficit was made up by the Civic and Commerce Association.

In 1913 an effort was made to make the club self-sustaining. Members of the club were divided into four classes: honorary, paying $5 a year; vacant lot, $2.50; home, $1.50; junior, 50 cents.

Vacant lot members received the use of land up to 40 x 120 ft., sufficient seeds and plants for a family of five, free plowing and harrowing, and the book of instructions.

Home gardeners paid for their own plowing or spading, and received seeds and plants, five fruit trees, two currant bushes, and the book of instructions.

Junior members included children under sixteen years of age. For 50 cents they received vegetable and flower seeds, two apple trees, and the book of instructions.

There were 3,308 members in 1913, and their fees very nearly paid the total expense of $4,077. The best garden of the year produced $175 worth of vegetables, or at the rate of $1,400 an acre. And this, mind you, on the ordinary soil of the city's vacant lots. About 400 acres were under cultivation, of which about 30 acres were planted with flowers. Members of the club set out in their city back yards 8,000 apple trees, 2,000 crab apple trees, 2,000 cherry trees, and 4,000

The MOTOR LAWN MOWER Backed by Seventy-Six Years' Reputation For Reliability

THE Fuller & Johnson motor-driven, hand-controlled lawn mower is no longer an experiment. It has been tried by experience, tested by actual use under every conceivable condition, and has proved itself the last word in both efficiency and economy in lawn-making. It matters not if your lawn is hilly, dotted with shrubs and flower beds or shaded by countless trees. So delicately flexible, and yet so extremely powerful is the Fuller & Johnson Motor Lawn Mower that it will cut under shrubbery, trim close up to trees and along walks, will climb a 35% grade—and do a beautiful, finished job at a single cutting. Fuller & Johnson Motors are famous all over the world for their perfection and durability. The

FULLER & JOHNSON
MOTOR LAWN MOWER

is built as a unit and does not merely represent the addition of a gasoline motor to a pony-type lawn mower. Indeed, its balance and the details of the mechanical features of the mower itself have received as close consideration as has the motor. It it were possible to dismember this wonderful Motor Lawn Mower before you, so that you could examine it piece by piece, you would marvel at the extraordinary thought and study given to the planning of its smallest feature; the infinite care used in the finishing and adjusting of its smallest part — and yet its greatest characteristic is SIMPLICITY.

THE FULLER & JOHNSON Motor Lawn Mower will yield a 100% annual dividend in economy. It is designed for use on Private Lawns, Parks, Cemeteries, Golf Links and Public Grounds.

Its cutting capacity is five acres a day, and its price—

$200

Write for full information and a copy of "A BETTER LAWN"

Manufacturers Distributing Co.,
414 Publicity Bldg.
ST. LOUIS, MO.

A Greenhouse $98.00 and Up All Your Own for

Perhaps you are one of the many thousands of men and women who love gardening, but indulge in it only during the spring and summer months.

You may not know that there are many pleasing and practical styles in our Duo Glazed Sectional Greenhouses at from $98 up.

These Greenhouses are fitted with

Duo Glazed Sash

a sash with two layers of glass and air space between, excluding cold and retaining warmth.

Our sectional unit construction has brought down the cost. Erection is easy and economical. Or you can produce blooming flowers and all manner of vegetables from one to two months ahead of the usual season by using hot-beds and garden-frames, covered with Duo Glazed Sash.

Catalog *sent anywhere upon request*

Callahan Duo Glazed Sash Co.
1621 Wyandot St.
Dayton, Ohio

A De Laval Cream Separator and a De Laval Milk Clarifier in the famous Moraine Farm Dairy of E. A. Deeds, of Dayton, Ohio, where certified milk and other high class dairy products are produced.

In Dairies Equipped with the Most Modern Sanitary Appliances You Will Find

DE LAVAL

Cream Separators and Milk Clarifiers

When the great "captains of industry" such as heads of Armour & Co., Swift & Co., Standard Oil Co., Singer Sewing Machine Co., Postal Telegraph Co., American Sugar Co., American Tobacco Co., Eastman Kodak Co., use a cream separator for their private farms and home dairies, they want the best, are accustomed to be satisfied with nothing but the best of everything, and have a thousand means of ascertaining which is the best that are not open to the average buyer. That these men select De Laval machines is a high endorsement that should have considerable weight in convincing any one who has need of such equipment of the superior quality of De Laval machines. The largest milk plants and creameries in the world also use De Laval machines to the practical exclusion of all others.

If you have a large or small dairy there is a De Laval Cream Separator of size and style exactly suited to your needs. If you take pride in the equipment of your dairy this is the machine for you. No matter how carefully milk may be produced, it should be clarified by a De Laval Milk Clarifier. This machine, after every other sanitary precaution has been taken is the final assurance of clean milk.

Catalogs completely describing either or both of these machines will be sent upon request.

The De Laval Separator Company
165 Broadway, New York **29 East Madison St., Chicago, Ill.**

Wrecked by a V-shaped crotch!

To neglect a V-shaped crotch is fatal — *always*. It is so weak structurally that inevitably wind strain splits it, water enters the crevice thus made, and decay starts. Nature meanwhile heals over the surface, but decay continues *inside* to eat its way down through the trunk—until eventually the tree becomes an easy victim for any severe storm. Are YOUR trees menaced by this and other hidden agents of destruction? There is only one safe place to find out—go to headquarters—

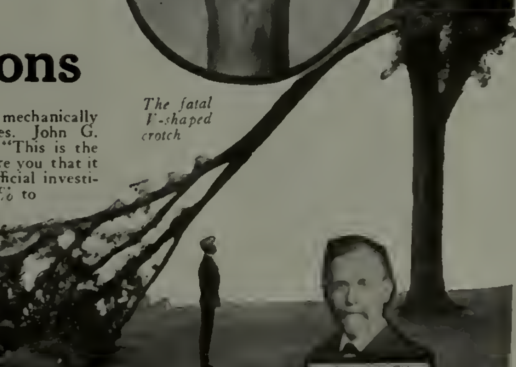
Davey Tree Surgeons

Tree surgery as they practice it, is scientifically accurate and mechanically perfect. It is safe because it eliminates experiment. It endures. John G. Jennings, of the Lamson & Sessions Co., Cleveland, O., writes: "This is the second season's work you have done for me, and I am glad to assure you that it is very satisfactory." The U. S. Government, after exhaustive official investigation, chose Davey experts as best. Every year of neglect adds 10% to 25% to the cost of saving trees. Have your trees examined *now*. Write today for free examination and booklet illustrating Davey Tree Surgery.

The Davey Tree Expert Co.
140 Elm St., Kent, Ohio

(Operating the Davey Institute of Tree Surgery.) Accredited Representatives available between Kansas City and Boston.

The fatal V-shaped crotch



THE HORTICULTURAL DIRECTORY

These columns include the advertisements of greenhouses, trees, shrubs, seeds, plants and garden implements. Each concern is known to be reliable and is painstaking in its service to customers. For full information regarding horticulture and gardening, or to find anything not advertised here, apply to READERS' SERVICE, COUNTRY LIFE IN AMERICA, Garden City, N. Y.

How the Eternal Fitness of Things Concerns Your Greenhouse

YOU are thinking of building a greenhouse. Your architect designs for it a chaste, graceful workroom, perhaps like this one above. It is choice in every way, quite in accord with your idea, entirely reflective in both beauty and quality of everything else you possess.

Then comes the question of the greenhouse that will consistently harmonize with it and at the same time meet your individual high standard.

Were you then to look over the rather unusual collection of photographs of U-Bar houses here in our office and learn of their locations and owners, we are sure you would be self-convinced that the U-Bar Greenhouse fully meets such a standard. If it's not possible for you to come to our office we will gladly bring our photographs to you. Or send you our catalogue. Or both.

U-BAR GREENHOUSES
PIERSON U-BAR CO
ONE MADISON AVE., NEW YORK

Cold Weather Plants and Flower Seeds that Grow

Where winters are severe it pays to use only the hardier kinds of shrubs, trees and bulbs. Up here in Vermont we have had to discard a lot of kinds that in the coldest winters did not stand the frost. You should see our new catalog before placing orders. It has enough that are hardy without using tender things. Don't fail to ask for catalog M if you have not already had it.

F. H. HORSFORD, Charlotte, Vermont

A Gorgeous Phlox

Sigrid Arnoldson is a deep, glowing, cerise-crimson, probably the richest color to be found among Phloxes—and phloxes, as every flower-lover knows, are the mainstay of the garden from July till late fall.

For $1.00 I will send six of these fine plants, postpaid, together with my free catalogue of choicest perennials;—a catalogue I have striven to make as valuable as it is original. Write today.

Twin Larches Nursery, F. M. Thomas, West Chester, Pa.

MOONS' HARDY TREES AND PLANTS
for Every Place and Purpose

There is still ample time to plant Evergreens, and if you order from us now you may expect such a satisfying result as that obtained in the planting illustrated, which was set out late last season.

There is a vigor about Moons' Evergreens, and a wide range of sizes and varieties to choose from—there is a pleasure in the possession of such plants. *Write for catalog and prices*

THE WM. H. MOON COMPANY
MORRIS HEIGHTS MORRISVILLE, PA.

PHILADELPHIA OFFICE
21 S. Twelfth St.

THE MOON NURSERY CORP.
White Plains, N. Y.

currant bushes. The value of the crop exceeded $100,000, and the Garden Club had become the largest civic organization in Minneapolis.

With the opening of the season of 1914, two radical changes were introduced as a result of the experience of previous years. The membership fee was reduced to $1 again and the club undertook to solve the plowing problem in a new way. In return for the fee, each member was offered two snowball bushes, three dozen strawberry plants, one dozen tomato plants, one rhubarb root, eight varieties of vegetable seeds, eight varieties of flower seeds, a package of peanut seed, one of popcorn, the book of instructions, and a selection of Government bulletins.

Fifteen or twenty teamsters were engaged by the club, which provided a complete equipment of plows, harrows, etc., and a plowing bureau was established. The city was divided into as many districts as there were teamsters, and as soon as frost was out of the ground each teamster was furnished each morning with a list of the members in his district who desired plowing done. The charge for plowing was set at 3 cents per 100 square feet, and the charge for harrowing was the same; minimum charge, $1.

The Club's offices opened for business on March 16th and 84 members enrolled. By May 1st there were about 2,200 members. The plowing system worked beautifully, and 1,055 vacant lot gardens, comprising 141 acres, were plowed in April by the club's teamsters. In addition, 211 vacant-lot gardeners had their lots plowed by other means. On April 23d the snowball bushes and rhubarb roots were given out, and also 900 mock orange bushes. On May 9th thousands of strawberry plants were distributed, and later in the month the tomatoes.

In addition to all this, the club secured from the State Forestry Bureau 10,000 Norway pine seedlings which were distributed to the members.

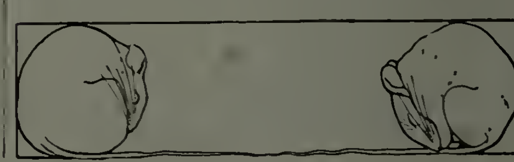
The Garden Club has reached the conclusion that the offering of prizes produces a not always desirable rivalry, followed in some cases by a sense of injustice done, without greatly affecting the general enthusiasm or encouraging more or better gardens. In 1914, therefore, no prizes were offered. In March, however, Governor Eberhart suggested the awarding of certificates of merit to the more successful gardeners, and his suggestion was adopted. An attractive certificate was engraved and printed, and a board of award appointed, consisting of Governor Eberhart, Mayor Nye, and President Vincent of the University of Minnesota. At the end of the season the reports of all registered gardeners were examined and the certificates awarded to members the value of whose garden crops amounted to at least half a cent per square foot cultivated.

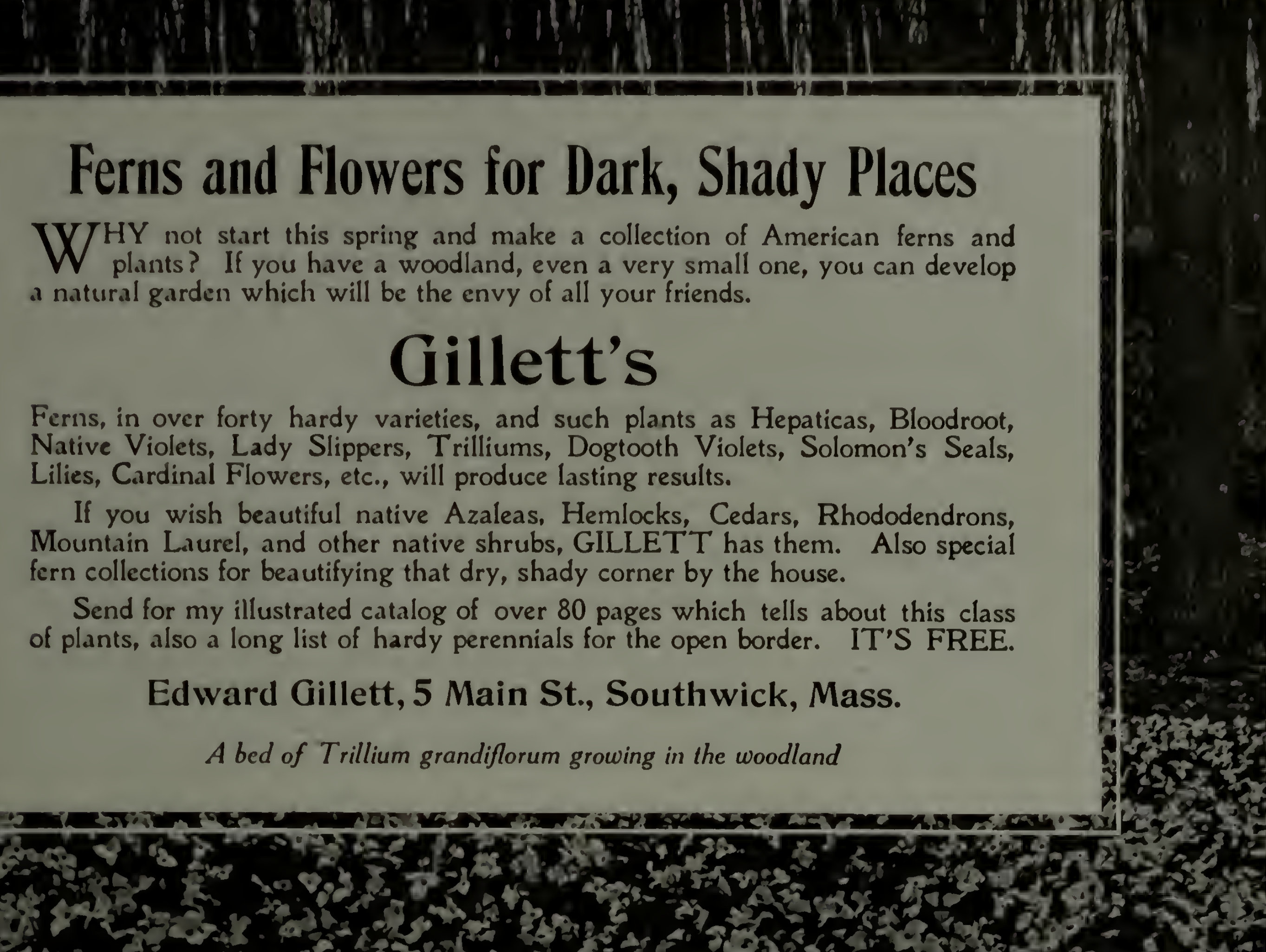
Minneapolis has become distinctively a garden city. It is too much to claim that the Garden Club has made it so; rather the work of the club is one of the more important expressions of a civic spirit. At any rate, no other movement has been more democratic in its fundamental idea or has produced more far-reaching results.

Minneapolis has one of the largest and finest park systems in the country. It has its clean-up weeks and other movements looking toward the achievement of a city beautiful. Its active and efficient Civic and Commerce Association has a gardens committee which started a movement in 1911 to beautify the business streets with hanging gardens and window boxes. This movement under the direction of Mr. Mac Martin has increased in popularity until now there are hundreds of flower boxes in the windows of banks, shops, and office buildings and on the street lamps in the business section. At one time it was estimated that if these boxes were placed end to end they would form a line three miles long.

All this has unquestionably helped Minneapolis to find its civic soul and to make it the wonderfully progressive city that it is; but the greatest gain has come to Mrs. Fashingbauer and Mary Buck and George Blackett and the hundreds of others who have learned to plant and till and garner in the heart of the city.

ALDEN FEARING.





Ferns and Flowers for Dark, Shady Places

WHY not start this spring and make a collection of American ferns and plants? If you have a woodland, even a very small one, you can develop a natural garden which will be the envy of all your friends.

Gillett's

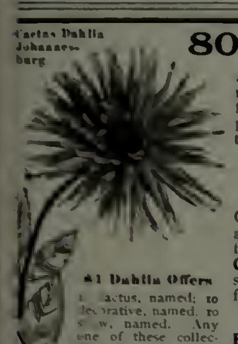
Ferns, in over forty hardy varieties, and such plants as Hepaticas, Bloodroot, Native Violets, Lady Slippers, Trilliums, Dogtooth Violets, Solomon's Seals, Lilies, Cardinal Flowers, etc., will produce lasting results.

If you wish beautiful native Azaleas, Hemlocks, Cedars, Rhododendrons, Mountain Laurel, and other native shrubs, GILLETT has them. Also special fern collections for beautifying that dry, shady corner by the house.

Send for my illustrated catalog of over 80 pages which tells about this class of plants, also a long list of hardy perennials for the open border. IT'S FREE.

Edward Gillett, 5 Main St., Southwick, Mass.

A bed of Trillium grandiflorum growing in the woodland



Cactus Dahlia Johannesburg

$1 Dahlia Offers

[illegible] actus, named; 10 decorative, named; 10 [illegible]w, named. Any one of these collections, our selection of varieties, delivered postpaid for $1.

800 Best Dahlias

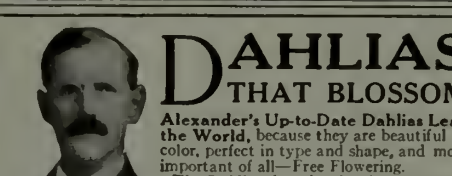
All the finest varieties to date in decorative, fancy, cactus, show, peony-flowered, collarette, Century and pompon dahlias are described and illustrated in

Herbert's 1916 Catalog

Contains full directions on growing—any amateur can raise these fine flowers. Includes also the finest **Cannas, Gladioli, Lilium,** and other summer-flowering bulbs. Send today for your copy—it is FREE.

David Herbert & Son
Box 301 **Atco, N. J.**

100 acres devoted to dahlia culture—the largest plant in the world.



"THE DAHLIA KING"

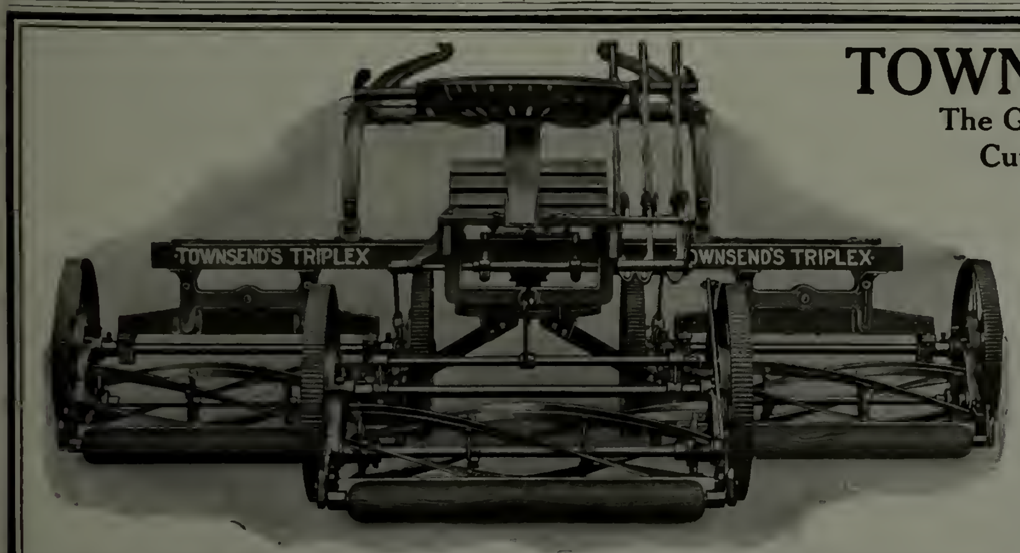
DAHLIAS THAT BLOSSOM

Alexander's Up-to-Date Dahlias Lead the World, because they are beautiful in color, perfect in type and shape, and most important of all—Free Flowering.

The Dahlia of to-day is of unsurpassed beauty as a single flower, exquisite for private gardens, charming in masses, and ideal for planting against shrubbery. Our many customers are satisfied; they receive good stock; true to name, and best of all—Guaranteed to Grow.

All Flower Lovers are invited to send to the "Dahlia King" for his latest **Free Illustrated Catalogue**, which contains helpful descriptions and valuable cultural hints on **Dahlias, Gladiolus, Roses, Cannas, Peonies, Phlox, Iris, Hardy Plants** for the Old-fashioned Garden, and a general line of **Ornamental and Flowering Shrubs.**

J. K. ALEXANDER
875-879 Central Street, East Bridgewater, Massachusetts



TOWNSEND'S TRIPLEX

The Greatest Grass-Cutter on Earth
Cuts a Swath 86 Inches Wide

Drawn by one horse and operated by one man, the TRIPLEX MOWER will mow more lawn in a day than the best motor mower ever made, cut it better and at a fraction of the cost.

Drawn by one horse and operated by one man, it will mow more lawn in a day than any three ordinary horse-drawn mowers with three horses and three men. (We guarantee this.)

Floats over the uneven ground as a ship rides the waves. One mower may be climbing a knoll, the second skimming the level, and the third paring a hollow. Does not smash the grass to earth and plaster it in the mud in springtime, nor crush out its life between hot rollers and hard, hot ground in summer, as does the motor mower.

Send for catalog illustrating all types of Townsend Lawn Mowers

S. P. TOWNSEND & CO., 16 CENTRAL AVENUE ORANGE, N. J.

Your Glass Enclosed Rose Garden—Why It Should Be Ready for Planting by July

IT TAKES from four to five months for greenhouse rose plants to become thoroughly established and ready to give you freely of their bloom bounty.

Rose experts claim that July planted plants do decidedly better than when planted later.

So if you want roses next Winter, you see there is genuine cause for haste.

The house above we erected for Mr. J. P. L. Curtis, at Lake Forest, Ill. It is divided in two compartments, so that half can be used as a rose garden and the other for carnations.

But perhaps in place of the carnations, you will want to grow some of those delightful old fashioned flowers, which are now so decidedly new fashioned.

To get back again to the hurry part—we will most assuredly do our part in that particular.

Everything will be all cut and fitted at our factory, so that when it reaches your grounds, the house will go up with surprising speed. The masonry work generally takes the longest time, so that ought to be started under way the very first day possible.

If you would like to talk the matter over, we will gladly arrange for one of our experts to keep any appointment you may suggest.

You are welcome to our Two G's Booklet — Glass Gardens, a Peep Into Their Delights.

Lord & Burnham Co.

Sales Offices

NEW YORK 42nd Street Building — BOSTON Tremont Building — PHILADELPHIA Franklin Bank Building — CHICAGO Rookery Building — ROCHESTER Granite Building

CLEVELAND Swetland Building — TORONTO Royal Bank Building — MONTREAL Transportation Building

FACTORIES: Irvington, N. Y., Des Plaines, Ill., St. Catherines, Canada

DREER'S WATER LILIES

THE largest and finest collection in America, embracing the best Hardy and Tender varieties of Nymphaeas, including Day and Night-blooming kinds, also Victoria Regia, the Royal Water Lily in several sizes. Nelumbiums, in strong pot plants (or dormant until June 15th).

These are fully described in **Dreer's Garden Book for 1916**, together with cultural instructions on the growing of Water Lilies. The best Catalogue published, containing 288 pages, five color and five duotone plates, hundreds of photographic reproductions and offers the best of everything in Seeds, Plants, Bulbs, etc.

Mailed free if you mention this publication.

We offer free to our patrons, the advice of our experts in devising plants for ponds and selecting varieties.

HENRY A. DREER, 714-716 Chestnut St., Philadelphia

GROWING GLADIOLI FOR THE MARKET

MANY people have an idea that gladioli are exacting in their demands upon the soil, but this is not the case. Successful growers of these popular flowers have been known to use one plot of land continuously for ten or fifteen years, with no other fertilizer than well rotted manure and hard wood ashes spread over it before plowing in the autumn.

When raising gladioli for cutting, the corms are planted two to four inches apart in double rows made about a foot apart. The depth in the ground depends upon the size of the corms, and so varies from two to four inches. Considerable watering is desirable occasionally when the local character of the soil or lack of rainfall demands it.

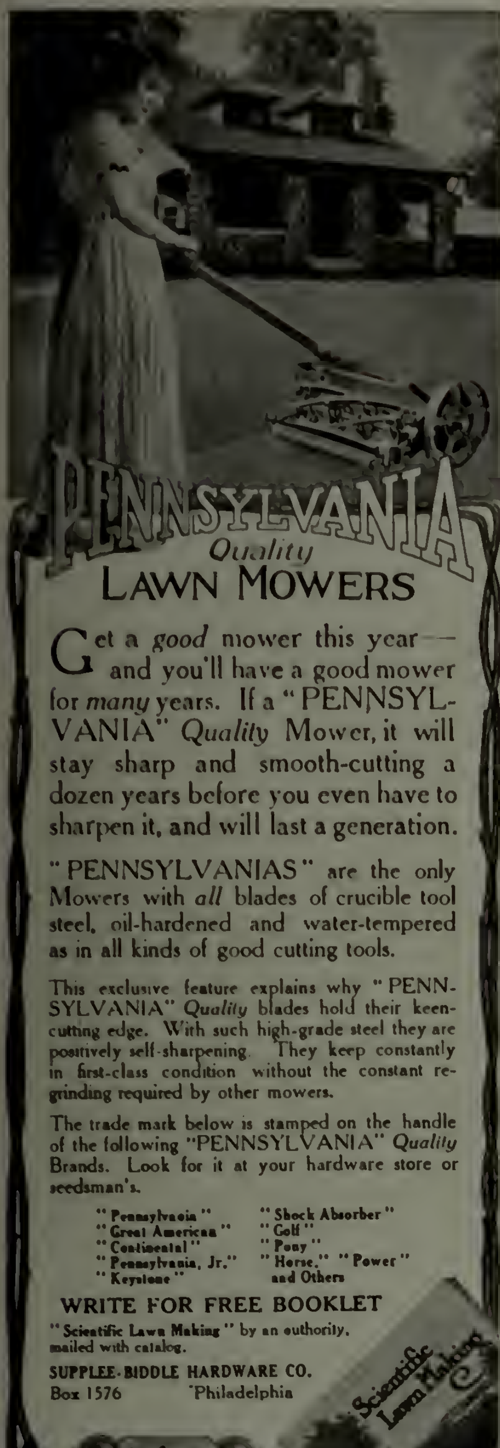
As soon as the first flower opens, the spikes are cut and placed in water, care being taken not to overcrowd them. The terminal buds are then removed to check development of the stalk and throw all possible strength into the large and early blossoming flowers. About three days after cutting are required to bring the spikes into bloom, and so proper allowance must be made for the date of their intended use. Every day the water must be renewed and the stalks shortened a little, cutting them diagonally to insure ready absorption of water. Opening thus in the shade modifies the color of the blossoms from bright tints to delicately subdued blendings.

There is a wide range in price for gladioli bulbs, from a few cents up to as many dollars for famous named varieties

Gladioli are easily shipped hundreds and even thousands of miles by standing them on end in suitable baskets or boxes. If, upon arrival, the terminal buds are removed and the ends of the stalks are cut off diagonally, the flowers will revive rapidly when placed in water, and with daily care will remain in good condition for a week or more.

At the end of the season the corms are dug and the stalks cut off close to them. This must be done before the ground freezes, but it is not necessary to wait until the plant dies down; a few weeks after the blooming period is ample to mature both for this purpose. During the winter the corms are placed in shallow baskets or boxes and stored in a cool, dry place.

PHIL. M. RILEY



Two Gardens for Your Garden

Rock Garden

JUST now, it seems as if everybody who has a likely spot, and many who haven't, are planning for a rock garden. Not necessarily big expensive affairs; but perhaps just a nook of their regular garden given over to it.

From April to Thanksgiving Day it can be in bloom. It's neither difficult to construct them; nor is there any particular knack in making things grow in them. Quite like everything else, there are a few common sense rules the following of which spells your success. We will cheerfully tell you all of them. If you wish we will gladly construct and plant it for you from start to finish. Our rock garden took the highest award at the 1915 International Flower Show.

We have 340 varieties of plants, shrubs and dwarf evergreens especially grown for rock planting. We offer you a special collection of the best 50. Or you can select any number you may fancy.

Send for list and prices.

Bay Trees

WE can't recall a time when our stock of bay trees in all the standard shapes and desirable sizes, was quite so complete. Fine shapely specimens from $22.50 per pair to $200.

You will be privileged to come to the nursery and pick out the exact trees you want. Or we will do it for you.

Send for complete catalog

Shakespeare Garden

OF course you will want to make a special feature of the flowers of Shakespeare in this year of his tercentenary celebration.

A fitting start would be with rosemary (for remembrance) and end with "where the wild thyme grew." Of the 64 flowers of which he wrote so beautifully, we have as many as 32. Among them are cuckoo-buds, columbine, lavendar, marjoram, "Heaven kissed iris;" even to fennel and flax.

Special prices on 25 — five each of 5 kinds.

Or send for complete list of the 32 and make your own selections.

Shade Trees

$9.50 for 6. Two each of 3 kinds.

Anyone who knows shade trees will say you can't go wrong on these.

	Diameter	Height
Norway Maple	$1\frac{1}{2}$-2 in.	11-12 ft.
Silver Maple	2-$2\frac{1}{2}$ in.	12-14 ft.
European Mountain Ash	2 in.	9-10 ft.

6 of any one kind for the same price.

Julius Roehrs Co
Box 12, Rutherford N.J.

JRCo

Glories of Rose Land

described and pictured in the 98 delightful pages of our 1916 Rose and Floral Guide—14 in natural colors. All guaranteed to bloom. 101 are C. & J. Star Roses—the most exquisite of the best grown roses for America—of choicest variety and largest size. Marked with a ★ in

Our Free Rose Guide

to help you make a most beautiful rose-garden. Write for the Guide. We'll also send "Fairies in Rose Land," an enchanting picture, in natural colors, suitable for framing. Its price, 6 cts., includes a 25-ct. coupon good on first $1 order from the free Guide. Send today.

The CONARD & Jones Co. WEST GROVE, Box 125 PA.
Rose specialists—Backed by 50 years' experience

Rain When You Want It

by installing

Cornell Systems of Irrigation

UNDERGROUND SYSTEM FOR LAWNS

Portable Hose Sprinklers

OVERHEAD SYSTEMS FOR GARDENS

Attractive illustrated booklet describing systems sent on request

W. G. CORNELL CO.
Engineers and Contractors
Everett Building New York

The Little Imitators

A Valspar Story

WHEN their mother went to New York for a shopping afternoon, little Harold and Bertha S. of Great Neck, N. Y., got hold of some magazines and decided to play "advertisements."

On mother's return she found them in the amusing pose shown above—Harold in his father's top hat and coat and his sister dressed as a "grown-up"—and Harold *was pouring boiling water on the dining room table.*

Mrs. S. writes:

"They were imitating your Valspar advertisement showing the man pouring water on a dining room table. It gave me a start at first until I remembered that my table luckily *is* 'Finished with Valspar,' so we mopped up the mess and it was all right.

"Incidentally the floor, also flooded with hot water, did not escape damage, as that is *not* Valsparred.

"I thought this would interest you. It has taught us to use only Valspar wherever we need varnish. We are going to have the floors Valsparred next week.

This interesting letter is a better advertisement than we could write ourselves. It points out that not only on furniture but on front doors, window sills, porch ceilings, all varnished woodwork and floors—the places where ordinary varnishes are ruined by water—Valspar remains bright and new, and will not turn white.

To clean Valsparred surfaces, you simply wash them with water—even hot soapy water. Wherever any varnishing is to be done around your home, be sure to use Valspar. If you wish to test it first, we will send on receipt of 10 cents in stamps to cover cost of mailing, sufficient Valspar to finish a small table or chair.

Valspar may be had from most good paint and varnish dealers. *You will know where to buy it by the posters in the dealers' windows.*

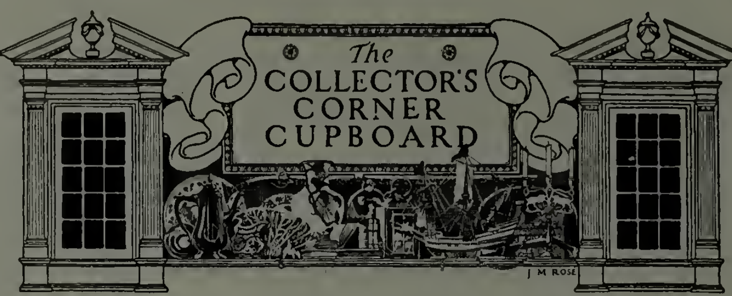
For your white work use VALENTINE'S Val-Enamel *Starts White Stays White*
Ask Your Dealer

VALENTINE & COMPANY, 453 FOURTH AVE., NEW YORK
Largest Manufacturers of High-grade Varnishes in the World

New York Chicago Boston — TRADE VALENTINES VARNISHES MARK Established 1832 — Toronto London Amsterdam

W. P. FULLER & CO., San Francisco and principal Pacific Coast Cities

Copyright 1916 by Valentine & Company



CONDUCTED BY WALTER A. DYER

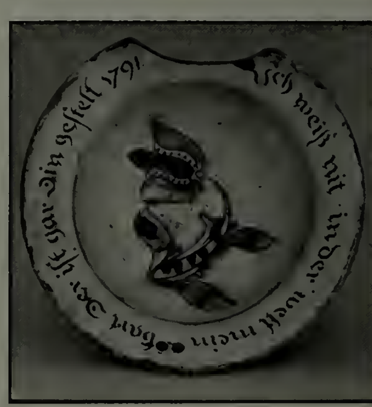
[*Mr. Dyer will be glad to answer any questions relating to antiques and collecting; for convenience kindly address Readers' Service,* Country Life in America, *Garden City, N. Y.*]

EARLY ART INDUSTRIES OF THE PENNSYLVANIA DUTCH

ONE of the most important colonizing movements in the early days of this country was the German immigration to Pennsylvania. Germans from the upper Rhine and the Palatinate began coming over as early as 1683, when Germantown was founded, and successive waves of German immigration followed up to the time of the Revolution. Hundreds of industrious German families settled in the eastern counties of Pennsylvania. Swiss Mennonites also came over in considerable numbers, and some of these, amalgamating with the Rhenish Germans, established the communities that have come to be known as Pennsylvania Dutch—which were, of course, not Dutch at all.

These immigrants brought with them their traditions and skill in the art industries and manufacture. A number of them, taking advantage of the discovery of iron ore in Pennsylvania, became our first ironmasters. During the eighteenth century Pennsylvania became the centre of the iron industry in this country. Among the products of the Pennsylvania furnaces were the five-plate and six-plate stoves which were built into the jambs of fireplaces. They had no connection with the flue and were open on the side toward the fire. Hot coals were shoveled into them, and the heated iron, extending into the room, radiated a fair degree of warmth.

Sgraffito pie plate, tulip design, at the Metropolitan Museum



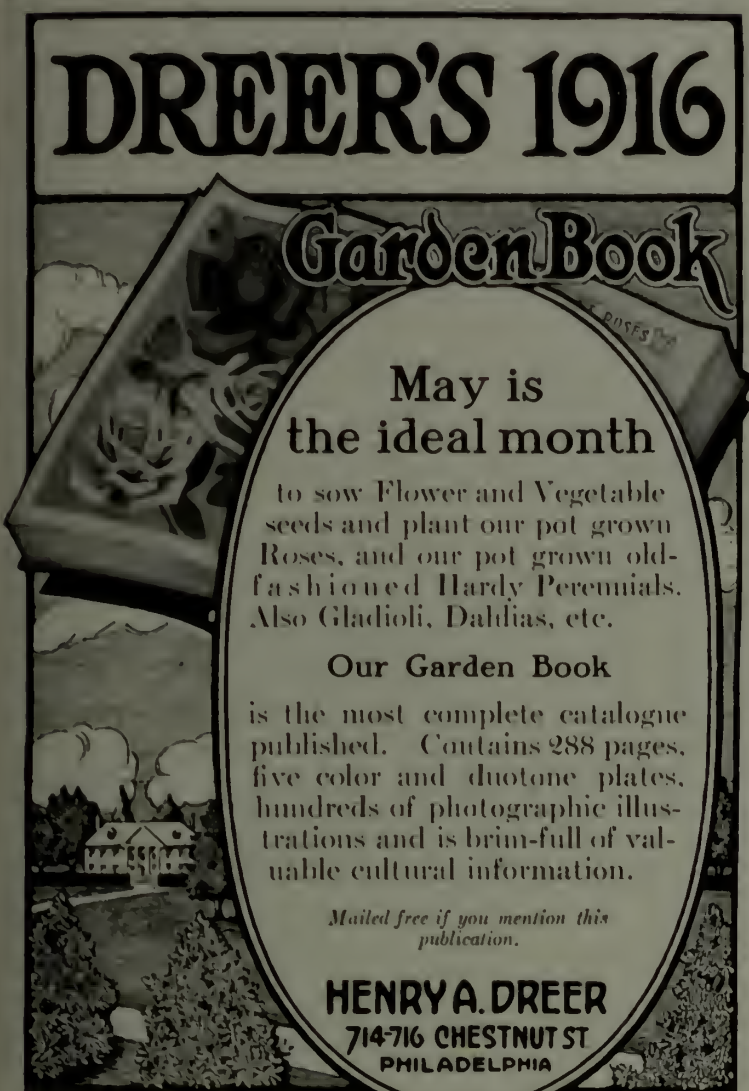
A sgraffito shaving dish with German inscription. Tulip design

The side and end plates of these stoves were cast in raised designs, and it is these quaintly decorative stove-plates that are of chief interest to the collector. They measure from one and one half to two and one half feet square, and often half an inch thick or more. The tulip was a favorite design motif, and many of the plates bear inscriptions in German. The most interesting subjects illustrate scriptural incidents, such as the stories of Cain and Abel, Adam and Eve, David and Goliath, Joseph and Potiphar's wife, the Miracle of Cana, the flight into Egypt, and Elijah and the ravens.

Among the known makers of these stove-plates were Thomas Rutter, the Durham Furnace in Bucks County, Daniel Udree at Oley in Berks County, John Potts at the Warwick Furnace in Chester County, and Baron

Painted rush-bottomed chair owned by Mrs. George H. McFadden, Radnor, Pa.

A slipware pot or jar by Christian Klinker, Metropolitan Museum collection



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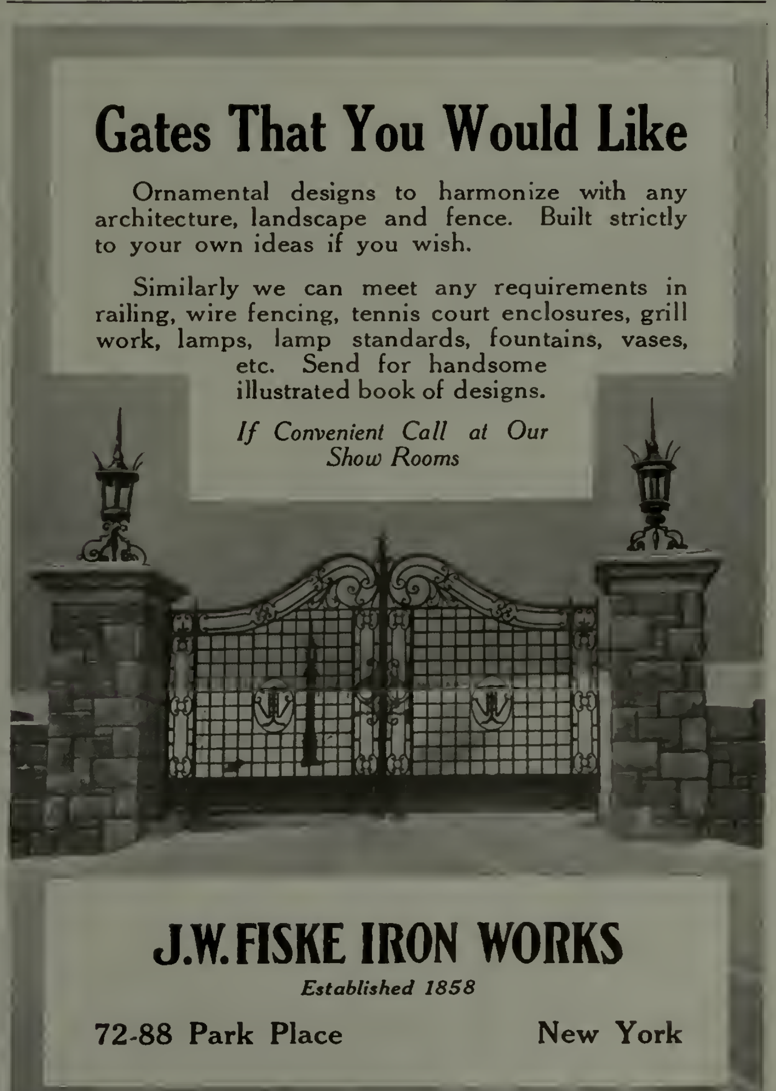

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It was this same Baron Stiegel who made the wonderful Stiegel glassware at Manheim between 1768 and 1774—another distinctly Pennsylvania Dutch product. But this glassware presents too interesting and important a subject to be adequately treated within the limits of the present discussion.

These Germans brought with them from the Rhine many of their favorite design motifs. Of these the tulip was the most popular and it appears again and again. It is given a conventional treatment, usually, which suggests a Persian origin. The same is true of the peacock, another motif common among the Persians as well as the Pennsylvania Dutch.

The furniture made by the Pennsylvania Dutch craftsmen of the eighteenth century was varied in type and it is rather rare to-day, though I

Sgraffito pie plate, conventionalized design. Metropolitan Museum collection

fancy a persistent search would reveal a good deal of it in old Pennsylvania garrets. The most distinctive of this furniture was made of soft wood and gaily decorated with paint. Painted chairs of quaint design have been found and, I am told, painted bedsteads, bureaus, etc.

Sgraffito plate by David Spinner

The only pieces I have personally examined have been strong dower chests, painted in what were once bright colors, and bearing the bride's name and initials and often a date. My neighbor, Mr. Renwick C. Hurry, owns one of these, painted in panels, with the popular tulip on the central one, and the name Anna Maria Muthhart, 1786, above. The common design motifs were conventionalized flowers—particularly the tulip—fruits, birds, etc., painted in greens, reds, blues, and yellows.

The Pennsylvania Dutch also developed a local type of the Windsor chair, which was described in COUNTRY LIFE IN AMERICA for July, 1915.

But perhaps the most interesting of the products of the Pennsylvania Dutch craftsmen was that of the potters—the slip-decorated and sgraffito ware made from about the middle of the eighteenth century until well into the nineteenth.

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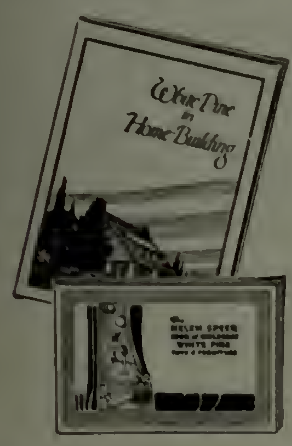

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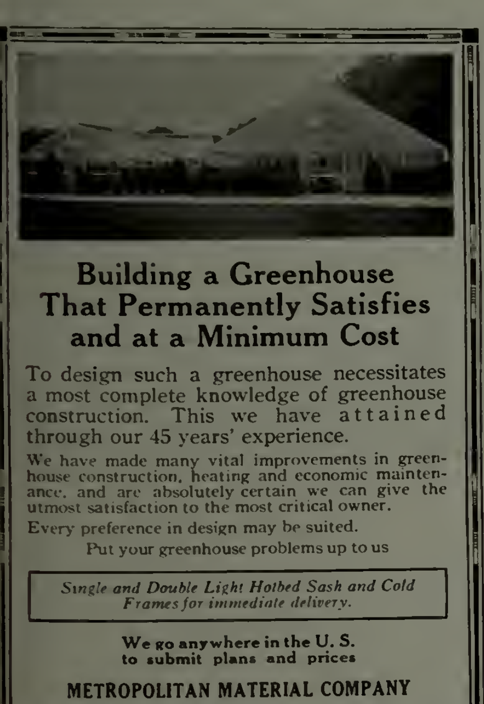

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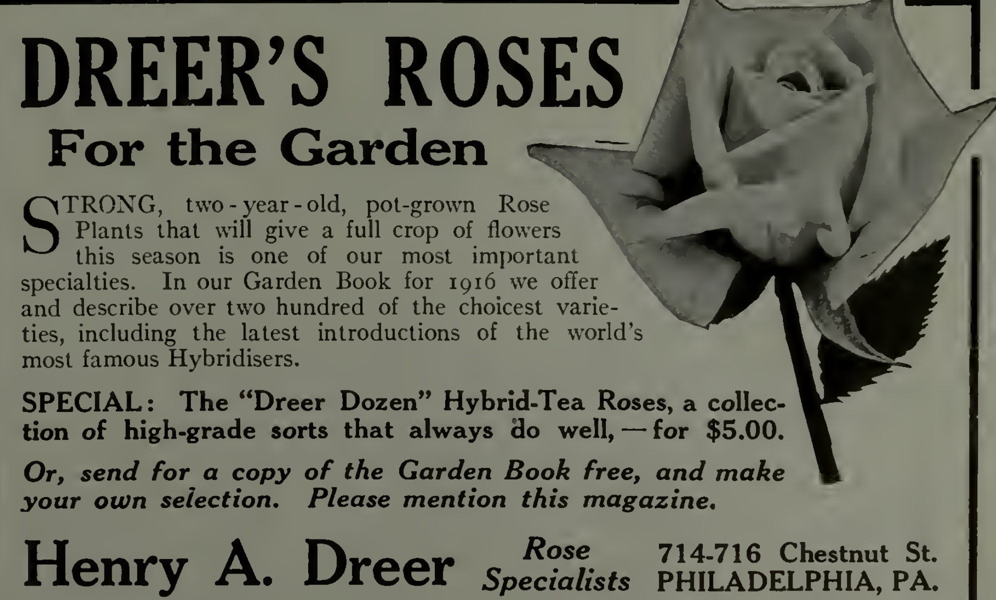

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There were a few English potters among those who did this work, but dishes bearing English legends are very rare, and most of the potters were Germans.

The Pennsylvania Museum in Philadelphia has collected a large number of good examples of this ware, and there are several interesting specimens to be seen at the Metropolitan Museum of Art, New York. Of late it has begun to attract the attention of private collectors as well, and already it has increased in value. One noteworthy private collection is that of Mr. George H. Danner of Manheim, Pa.

This interest is due largely to the efforts of Dr. Edwin Atlee Barber of the Pennsylvania Museum, whose book, "Tulip Ware of the Pennsylvania German Potters," contains about all that can be learned on the subject. Dr. Barber first had his attention called to a quaint old slip-decorated pie plate in 1891, and ever since has been on the lookout for authentic specimens.

Slipware "mower's ring," carried over the arm, and containing the field hand's beverage

The slipware, which was popular in Germany at the time of the emigration, is a common red, brown, or buff pottery, upon which the decoration was applied in the form of a clay batter poured through a quill and allowed to dry before firing. The commonest ground color was a chocolate brown, and the "slip" was white or cream colored, or tinted green, blue, pink, brown, olive, etc. One rare variation shows a white slip flowed over the entire surface, with a red slip design applied afterward.

The designs on the slip-decorated ware consisted of crude representations of men and women, birds, beasts, and flowers—the tulip predominating—executed in a sort of futurist style and often accompanied by dates, names, and legends, with usually some sort of conventionalized border pattern. Cooking pots, vinegar, and molasses jugs, jars, tea caddies, mugs, pitchers, coffee pots, sugar bowls, pie plates, meat and vegetable dishes, bowls, and toys were made in this ware.

Slipware meat or vegetable dish owned by Mr. R. C. Hurry. Probably made by Georg Hübener

Sgraffito ware was made in Pennsylvania as early as 1733, and pieces have been found which

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were made as late as 1849. The sgraffito was a similar brown or dark red earthenware, coated with a white or yellowish slip, in which the decorations were cut or incised, exposing the darker body beneath. A transparent glaze was then applied, and after the final firing the ware usually showed a greenish mottled surface, with brown intaglio decorations.

Occasionally a natural leaf was used in making the decorations, but usually they were drawn free hand and resemble those of the slipware in type, though naturally finer in outline. The designs are varied and include the tulip, forget-me-not, lily of the valley, and other garden flowers; the eagle, turtledove, oriole, peacock, duck, swan, parrot, cock, hen, and various fanciful birds; the horse, dog, lion, rabbit, deer, and fishes, besides more or less elaborate human figures and groups. Inscriptions are common.

In sgraffito ware have been found cooking pots, apple butter pots, flower pots, vinegar and molasses jugs, jars, coffee pots, sugar bowls, cream pitchers, mugs, liquid measures, meat and vegetable dishes, pie plates, shaving basins, vases, and toys.

A number of small potters appear to have been engaged in this industry, some of them perhaps being farmers who employed their winter months in this way. Dr. Barber has found evidence of about sixty different ones prior to 1800, and many more after that. A score or more of them, mostly bearing German names, appear to have gained considerable prominence.

One of the earliest on record was an Englishman, Joseph Smith, who made pottery at Wrightstown, Bucks County, as early as 1763.

Georg Hübener, in Montgomery County, was the creator of some of the most elaborate designs made prior to 1786. Toward the end of the century some of the best of the ware was made by John Leedy, near Souderton, Montgomery County. His tulip designs were especially good. Other potters of the eighteenth century were Christian Klinker, Abraham Stout, and Rudolf Drach, all in Bucks County.

One of the Germans who appears to have attained eminence in this trade early in the nineteenth century was Johannes Neesz, or Johan Nesz. He operated a pottery near Tyler's Port, Montgomery County, about four miles from Souderton. He manufactured plates, mugs, vegetable dishes, etc., in both slip-decorated and sgraffito ware, and also clay toys. Examples of his finer work in the Philadelphia and New York museums show him to have been a craftsman of no small ability, particularly in his sgraffito, and his decoration was always more finished and in better drawing than that of most of his contemporaries. His son, also a potter, changed the spelling of the name to John Nase.

David Spinner, a potter from before 1800 until 1811, on Willow Creek, Milford Township, Bucks County, was also an artist in sgraffito and enjoyed considerable local fame. His father, Ulrich Spinner, came to America from Zurich, Switzerland, in 1739. A number of Spinner's signed pieces are in existence and they include some of the most interesting examples of Pennsylvania Dutch pottery. He used a variety of flower motifs, the fuchsia being a favorite with him rather than the tulip. His pictorial treatments were more ambitious than those of most of his contemporaries and were better drawn. They include gay and courtly ladies and gentlemen, gallant soldiers and horsemen, and spirited hunting scenes.

There are a dozen other nineteenth century potters whose work was sufficiently noteworthy to interest collectors, particularly when the pieces were signed.

There is still a possibility of picking up this ware in eastern Pennsylvania, and a few pieces have already found their way to the shops of dealers. At present they are worth anywhere from $1 up, and the values are bound to increase with the demand. Mr. Hurry recently paid $25 for an unsigned meat or vegetable dish, fourteen inches in diameter, and a rare specimen. It is red clay slip-decorated ware, dated 1788, and bears the peacock motif that was the favorite of Georg Hübener.

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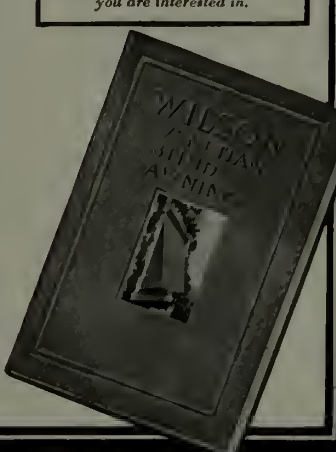

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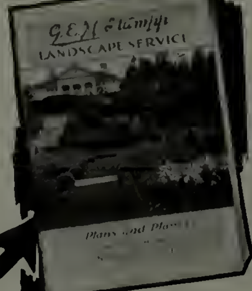
IT IS full of useful information for everyone who wishes to improve the appearance of his grounds or estate.

This book gives a complete list of Trees, Shrubs, Hardy Perennials, Aquatic Plants and other items that will add to the general beauty and attractiveness of your grounds no matter how large or small.

Our service to you includes the entire work, leaving you no details to worry about. It is scientifically planned to produce immediate and lasting results.

"Plans and Plants" will give you great assistance in solving your landscape troubles. Write for it today.



G.E. M. Stumpp
761 Fifth Avenue
Dept. D. D.
New York City

various sorts. They appeared in pictures, embroideries, carvings, china, and, in fact, wherever they could well be used. British potters, too, of Liverpool and Staffordshire, whose commercial interests outweighed their political prejudices, were not backward in adding this element of interest to goods manufactured for the American trade.

That the French manufacturers should have followed suit is not surprising. Cordial relations existed between France and the United States, and we were, at that time, getting our inspiration in architecture, costume, and furniture design from France.

The accompanying illustration is an interesting example of this. It is a small gilt mantel clock, made by Dubuc of Paris, and is to be seen in the collection of the Metropolitan Museum of Art, New York. The clock is surmounted by the American eagle and is supported by a full-length figure of Washington. Below the dial are the well known words, "First in War, First in Peace, First in the Hearts of his Countrymen." Mrs. N. Hudson Moore, in "The Old Clock Book," says: "A small number of very choice French gilt clocks made by Dubuc, Paris, were sent to this country in 1805. They were consigned to John Shaw, a merchant of Annapolis, Md., and sold by him. These clocks occasionally turn up in the auction room, where they fetch good prices." Sometimes the figure of Washington is replaced by that of Franklin.

A Washington clock in French Empire style, made by Dubuc of Paris

ANSWERS TO QUERIES

I have an old candle shade, plain glass, 23 inches high, and I want some idea of its value. Also, two old plain glass hot-water bottles, with metal screw tops.—Dr. F. F. J., Macon, Ga.

These candle or "storm" shades are usually found about New Orleans and through the South. They have not been considered especially rare. A single one is worth perhaps from $5 to $7, or $12 to $15 a pair.

The value of the glass hot-water bottles with pewter (?) top is doubtful. Old Bristol ones are rather rare, particularly those of colored or variegated glass, but they are less in demand here than in England, where they are worth £5 to £10, according to color and quality.

Can you tell me the value of a Clews plate, "Winter Scene, Pittsfield, Mass.?" The mark is an eagle with darts clasped in the right claw, printed in blue. The church is in the border instead of the vine-leaf pattern.—Mrs. R. K. New Brighton, N. Y.

Old blue Staffordshire plates by Clews are worth from $10 to $25, according to subject and condition. Some patterns have brought as high as $40 to $45. The "Pittsfield" is one of the series of American views and a good specimen should be worth perhaps as much as $25 or $30. One was sold not long ago for $37.50, but it was in perfect proof condition, which means that it had never been used and showed no scratches.

The Lord & Taylor Bookshop

CONDUCTED BY

DOUBLEDAY, PAGE & COMPANY

DOUBLEDAY, PAGE & COMPANY extend an invitation to book lovers living in and near New York to visit a Library Bookshop of an unusual kind which they are conducting in co-operation with the Lord and Taylor Store, Fifth Avenue and Thirty-Eighth Street.

This bookshop aims to represent the highest ideals of book service. It makes possible that rare pleasure to be found in selecting and buying books under restful and attractive surroundings. Comfortable chairs, and cozy reading corners take the place of the usual crowded counters and preserve the atmosphere of a private library.

There are a number of other unusual and distinctive features including an expert librarian's services in selecting the best books on any subject. Interesting entertainments with speakers of note, and frequent displays of valuable manuscripts and memorabilia add to the interest of the bookshop.

Doubleday, Page & Company invite the interest and support of "Country Life" readers in this attempt to solve some of the pressing problems of the bookseller, and to make book buying a more popular recreation.

SUPERFINE FURNISHINGS

The glory of the rainbow is caught in this iridescent glass plaque

IN THESE days when fine furnishings for the house are the rule rather than the exception, and the shops supplying these items are overflowing with good looking pieces, the experienced shopper is likely to turn his blasé eyes from many a worthy article in his search magnificent. Yet there are times when even the most jaded critic receives a genuine thrill that makes up for all the disappointments of months.

Of the many beautiful things always to be found in the metropolitan shops and studios, one rarely finds such gems as the superb pieces shown here, the tapestry being naturally the chief point of interest. This remarkable antique, for many years the cherished piece of a private collection, has but now been placed on the market and is worth serious immediate consideration of any one at all interested in such articles, as it is sure to find a quick and a satisfactory sale.

It is a genuine late Gothic tapestry of the mille-fleur type dating from the late fifteenth or early sixteenth centuries when all this weaving was done. Like most of its kind, it has no sky line and no border, being finished with a braid, and its vertical floral patterns woven in warm natural colors on a black ground. Its texture is very fine and its condition perfect, notwithstanding its great age —better, indeed, than the Gothic example in the Metropolitan Museum, and the equal in all respects of the one in the Cluny Museum. About 72 x 84 inches in size, its price is nominal considering its great value and it will prove a remarkable acquisition to any collection or a splendid foundation for one.

Not less interesting, if less costly, is the exquisite Chippendale table pictured here. Wizard that he was at both proportion and detail, Chippendale never turned out a better piece than this whereon every line is perfect and the whole has a plasticity that is emphasized by the mellow brown tones of the mahogany and the soft yellows of the marble top. Note the faultless scrolls which frame the beautiful female mask in the centre that exactly balances the ornate legs. This is an example of Chippendale at his best that awaits an appreciative purchaser who will find greatest joy in its lovely color—its bequest from Time—as well as its opulent proportions.

Mr. James Collier Marshall

Director of the Decorating Service of Country Life in America's Advertising Department

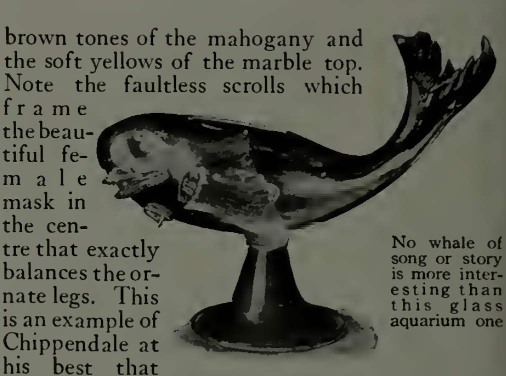
will solve your problems of home decoration

—color schemes, hangings, floor coverings, art objects and interior arrangements. Mr. Marshall's long acquaintance with the sources of supply enables him to make, if desired, judicious selections and to obtain most favorable prices. This service is free to our readers.

Address inquiries to Decorating Service Department

Country Life in America
11 West 32nd Street New York

Genuine Mille-Fleur Gothic Tapestries are very rare. This magnificent 15th Century one from the collection of the late A. W. Drake, for forty years Art Editor *The Century Magazine* rivals that in the Cluny Museum.


No whale of song or story is more interesting than this glass aquarium one

Respecting color, behold the plaque of iridescent glass shown at the upper left of the page. Not only is this modern, but it is of domestic origin besides, and such color—a perfect riot of the most gorgeous hues, red, blue, violet, orange, yellow, and green! From every point of view its splendor is compelling. Under day or artificial light it is equally effective, hence for its intended overmantel use it is most successful. It is 14 inches wide and when one considers how well it compares with those rare and costly plaques of ancient Persian glass, its price, $60., seems very low.

Effective, too, is the glass aquarium shown here. Having just enough iridescence to make it attractive, its contour is as pleasing as its conception is unusual. About 14 inches long it costs $15.00.

Color is cleverly caught too in the domestic adaptation of the Chippendale designs and motifs, as seen in the chest with cabriole legs pictured here, that in red and gold lacquer will prove an attractive addition to any living-room or bedroom, though it is not more impressive than the dignified old Jacobean chest of walnut seen at the lower right. Observe the gracefully turned, interrupted spiral legs, the fine hardware, the unusual drawers above the doors, and the extraordinary grainings of the wood itself. These and the rich simplicity of its design recommend it highly as a satisfactory life companion.

One seldom finds a more graceful Chippendale chest than this of soft toned red and gold lacquer

Chippendale surpassed himself in this exquisite table where proportion and execution are perfect, and native dignity is charmingly emphasized by the mellowing touch of time

Impressively dignified but very friendly looking is this Jacobean chest of exquisitely marked walnut

"DRYAD" CANE FURNITURE
SEAMLESS CHENILLE RUGS

"Dryad" Cane Furniture possesses the grace and dignity, the comfort and extraordinary strength, which combine to make it as suitable for indoor use as it is ideal for porches and lawns. The construction is unique—the smooth, even surface of unbleached pulp-cane being skillfully woven—not tacked—around strong, rigid frames of ash.

In the above illustration is shown one of our "Chaumont" Seamless Chenille Rugs, in a private Chinese border pattern. These splendid Rugs are woven in a variety of Oriental and other designs, Two-tone effects and beautiful Plain Colors. Regular sizes in stock. Special rugs up to 20 feet wide, made to order.

Our booklets, "The Dryad Book," and "Seamless Chenille Rugs" (the latter illustrated in color) mailed upon request.

W. & J. SLOANE

Interior Decorators Floor Coverings and Fabrics Furniture Makers

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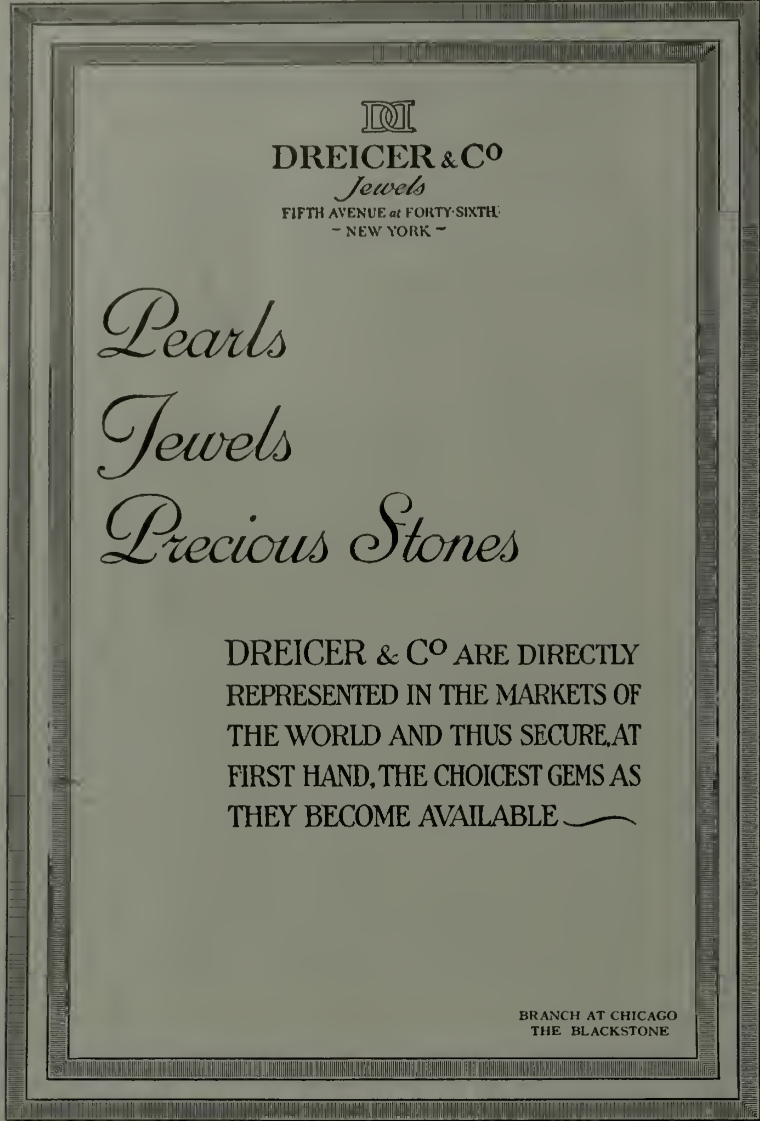


Glass and Pottery for Porch Use

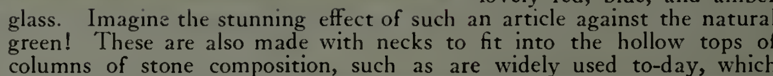
ONE of the chief joys of summer life is found in decking the house with flowers, not only the inside but the outside, the porches and loggias coming in for their full share of this lovely and enlivening form of natural decoration.

Until recently porch decoration, because of a lack of satisfactory containers, has not been fully appreciated, the ordinary glass, china, or pottery vase being too light weight and insecure to withstand the summer breezes, and the vessels large enough for this purpose not especially attractive. Fortunately, these bugaboos are now overcome by the introduction of heavy glass bowls and vases large enough to hold quantities of flowers, and good looking enough to please the most captious critic.

Through these we may enjoy the common field flowers and those roadside weeds, so-called, whose beauties are seen best when not crowded. The bowl pictured here is ideally adapted to such use, being 14 inches in diameter, with a huge glass block to hold the flowers. Such a piece is most effective on the floor, as the flowers are then seen in their natural position. Of very heavy glass, this bowl sells at $15, the block costing $10. The iridescent dragon fly of celluloid, shown above, is seen on the flowers in this bowl. It is very natural looking and effective. Price, $1.50.

There are many sizes and shapes of the glass vases, ranging from 12 inches at $10, to 18 inches at $15, the vase shown here being of the largest size. Then, too, there are vases and pitchers in a heavy green glass that are extremely effective for porch use. These are smaller, coming in 12-inch sizes at $10, and are fully worth the price.

Apropos of colored glass, there are to be had gazing globes ready to be mounted on pillars for garden use, in lovely red, blue, and amber glass. Imagine the stunning effect of such an article against the natural green! These are also made with necks to fit into the hollow tops of columns of stone composition, such as are widely used to-day, which permits their removal and preservation in winter.



There are also some interesting new pottery models for porch and outdoor use, such as the Fulper 12-inch jar in cucumber green at $9, and the pedestal bowl, 5 x 12 in., at $8, shown here. Especially attractive is this last named dish, as its bowl has those lovely shades of green and rose that are seen in the peach bloom Chinese porcelains. Equally good looking are the urns of this material whose severe classic shapes are softened by the varied tones of color used. Nine inches tall, of wistaria and blue, they cost $4. This effective pottery comes also in attractive wall pocket forms, ranging from six to eleven inches, in assorted colors and glazes, costing $2.25 and $2.50. These are excellent for the porch or house wall, and can be employed to good advantage on posts where a touch of natural color will be grateful.

J. C. M.

Cool, Comfortable and Artistic
FURNITURE
for the SUMMER HOME

SO POTENT is the modern art of home furnishing, that the Spring metamorphosis in furniture and appointments, now accomplished by the clever housekeeper, effects a change not much less radical than would be the removal to another climate or another continent.

From the cozy elegance of the city home, where warmth was a winter attraction, one is carried to the cool, breezy, open-door life of cottage or bungalow, by the proper touch of taste and skill. Even the city home is changed by cool furniture, so that it seems like a different and newly delightful place.

The Lord & Taylor collections of SUMMER FURNITURE are completely representative of the best productions of foremost American manufacturers—selected for artistic and comfortable designs, as well as the durable character of their construction.

There is a definite advantage in making selections now, while stocks are much broader in variety than they will be later on.

Our representatives will aid you with expert advice on your furnishing problems, and deliveries will be made, either now or in the future, to exactly meet your convenience.

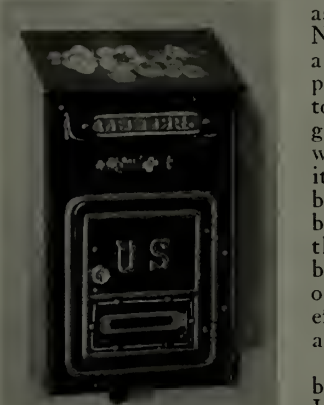
Lord & Taylor

38TH STREET FIFTH AVENUE 39TH STREET

NEW YORK

A Cheerful Breakfast Room

TEN years ago the country house that had a breakfast room was unusual; to-day such a room is considered indispensable even in the simplest home and is either planned for early or added as an afterthought. Not infrequently a semi-enclosed porch is impressed to this service with great success. But whatever its form, it is, as it should be, cheerful with bright, cool colors that when combined with white or cream, are as effective as they are inexpensive.



One of the best breakfast rooms I have ever seen is one of these enclosed porches that as an afterthought was changed at small expense into a full fledged and charming room. Oblong in shape, the spaces between the porch pillars were filled solid 30 inches high with an 8-inch ledge inside, above which there is glass to the ceiling, parts of which swing conveniently casement-wise. The fourth side of the room is the house wall, which is stucco. This was finished smooth with plaster and divided with picture molding into three panels, above the 30-inch wooden dado that was built to match the other ledged sides. All the woodwork was painted ivory white, the wall a paler tint, but the cream furniture had line decorations of blue and salmon that gave just the necessary touch of color.

In the middle panel over the long buffet which stood against the wall, hung a gay Chinese print matching the colors in the pair of mirror sconces, like those shown here, that flanked it in the smaller panel spaces. The same rich tints were also seen in the rug and hangings, while added smartness was given by the black and white silhouette flower pots on the window ledges, and the decorated mail box in the door that gave on the walk to the street as well as to the garden. The furnishings were completed by a flower stand and serving cart of wicker, like the one pictured here conveniently placed here for garden use, and contrasting pleasantly with the painted furniture. J. C. M.

C 6. Black Glass Table Decoration. Black glass bowl, 12 inch, flower holder, two white china birds, one china butterfly. Price (without flowers) $5.00

C 7. Black Glass Candlesticks 7½ inches high, pair $3.00

Separate prices: 12 inch bowl, $2.50; 14 inch bowl, $3.50. White china birds or butterfly, $.75 each. Black glass flower block, $.75, waxed water lily (extra), $.50

C 16. Garden Stick metal bird decorated in colors of bluebird, robin and canary on 36 inch stick, suitable for outdoor use, $1.00.

C15. New Plont Stick, fluttering butterfly on wire attached to 5 inch stick, $1.00 each.

C 14. Garden Stick, 42 inches long, with metal butterfly 4½ inch spread, in natural colors. This butterfly is particularly suited for outdoor use, $1.25 or 6 for $6.00.

C 10. Pottery Flower Pot with black silhouette subjects on white background 5 inches $1.75, 6 inches $2.25, 7 inches $3.00, 8 inches $3.75, 10 inches $5.00.

C 4. Crinoline Girl Flower Box of wood, decorated in gay colors, 16½ inches high, 11 inches long and 5½ inches wide; tin lining for plants, $7.50.

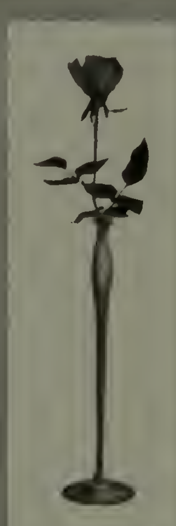
C 5. French Boudoir Lamp empire figure in old rose or blue enameled wood, 14 inches high with 7 inch shade to match, $10.00.

WHETHER it is some corner of your garden or a room in your house, here at Ovington's you will find that something to give to it the little touch of personality which best satisfies—and reflects—your sense of tastefulness.

Send for the Ovington Gift Book

OVINGTON'S

314 Fifth Avenue New York

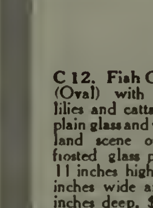


C 3. Enameled Bud Vase in pink, blue or yellow, $2.00 each or pair $3.50.

C 11. Pottery Flower Pot in Paul Poiret design of black and white stripes and colored flowers. 5 inches $1.75, 6 inches $2.25, 7 inches $3.00, 8 inches $3.75, 10 inches $5.00.

C 2. Lingerie Ribbon Girl decorated in colors. Bouquet holds spool of pink or blue ribbon with scissors and bobbin in pocket, 11½ inches high, $5.00.

C 19. New Pottery Bowl, 8½ inches in diameter with nude figure flower holder, flesh colored; the bowl is green, $4.00.



C 12. Fish Globe (Oval) with water lilies and cattails on plain glass and woodland scene on the frosted glass panels. 11 inches high, 11½ inches wide and 6½ inches deep, $7.50.

C 18. Dachshund Shoe Scraper, Leopold, Jr., 11 inches long, 5 lbs., $2.50; Leopold, Sr., 22½ inches long, 25 lbs. $6.00.

C 9. Silvered Crystal Gazing Ball 10 inch ball on composition pedestal 8 inches high for indoor use. Complete $12.00. 14 inch ball on stone pedestal 42 inches high for outdoor use. Complete $40.00. Ball only—8 inches, $6.00; 10 inches, $7.50; 12 inches, $10.00; 14 inches, $12.50.

C 8. Wood Weather Vane for the porch rail, decorated bright colors, 18½ inches high, $2.50.

C 13. Fish Globe (cylindrical) with water lily decoration in natural colors. 10 inches diameter, $6. 12 inches diameter, $7.50. 15 inches diameter, $14.

C 17. White Bunny of metal, natural size, weighing 8½ lbs. For garden decoration as it will stand the weather, can also be used as a doorstop, $3.50 each $6.00 a pair.

C 1. Perkins Ash Stand. English Butler in black, with striped waistcoat, 36 inches high, $4.50.

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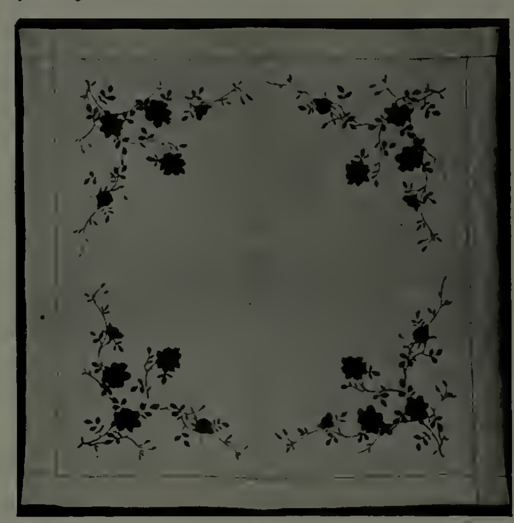
Mail Orders receive our prompt attention.

James McCutcheon & Co.

Fifth Avenue, 34th & 33d Sts., N. Y.

Circumventing the Summer Laundry Problem

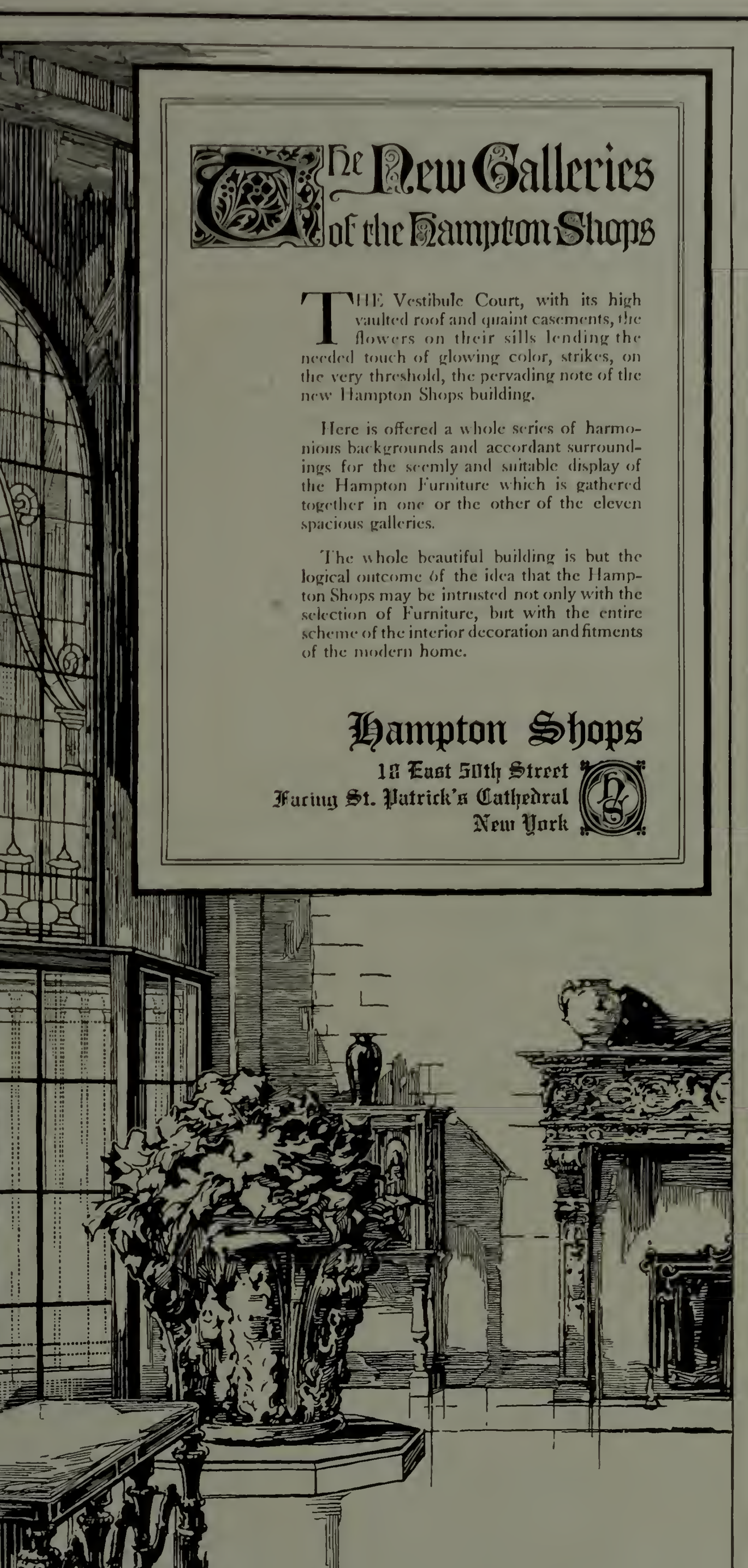
PERHAPS no other single item of housekeeping in mountain or shore cottage, however well equipped it may be, presents so many vexatious problems as the laundry work, wherein the most competent housekeeper frequently meets her Waterloo.



This question is easily solved in the use of a quantity of plain, inexpensive, but good looking linens of coarse weave, or even of those interesting cheaper materials that are now so popular for summer. Of the new patterns to be found there are some very nice looking embroidered cottons whose quality as well as design recommend them highly; the rose pattern, pictured here, is one of several excellent designs—cherry blossoms, chrysanthemums, wistaria, and flying storks—that might be used with great effect.

These sets, composed of a centrepiece with six serviettes may be had with either white or blue embroidery on white ground, in three sizes, the 36 in. cloth and six 12-inch napkins coming at $2.75; the 45 in. size at $3.50, and the 54 in. at $4.

The printed cottons are also quite effective and very cheap. The one shown here is of Japanese toweling, faggoted, coming in both green or blue on white. It is 84 x 93 in. in size, and with a pair of pillow shams, 20½ x 31½ in. sells at $3.75. Sets may also be had in wistaria, chrysanthemum, and cherry patterns. J. C. M.


The New Galleries of the Hampton Shops
THE Vestibule Court, with its high vaulted roof and quaint casements, the flowers on their sills lending the needed touch of glowing color, strikes, on the very threshold, the pervading note of the new Hampton Shops building.
Here is offered a whole series of harmonious backgrounds and accordant surroundings for the seemly and suitable display of the Hampton Furniture which is gathered together in one or the other of the eleven spacious galleries.
The whole beautiful building is but the logical outcome of the idea that the Hampton Shops may be intrusted not only with the selection of Furniture, but with the entire scheme of the interior decoration and fitments of the modern home.
Hampton Shops
18 East 50th Street
Facing St. Patrick's Cathedral
New York
HS

No. 5500
Heppelwhite Davenport with Karpenesque upholstery. Covered in silk velour.

GOOD TASTE is not limited to any one maker of furniture. We have no monopoly upon the principles of design which have made the names of Chippendale, Adam, and Hepplewhite enduring. But the perfection of luxurious ease found in KARPEN upholstery is a quality peculiarly our own.

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If the KARPEN trademark is not on the furniture shown you by your dealer, write us for our new book of designs L-5. We will be glad to send you this interesting and instructive book on receipt of fourteen cents in stamps.

S. KARPEN & BROS.

Karpen Building, Chicago
37th Street & Broadway, New York

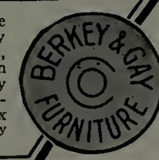
No. 5500
Armchair to match Davenport shown above. Karpenesque upholstery

No. 5500
Reception Chair to match Davenport shown above.

Karpen Guaranteed Upholstered Furniture

FRENCH & Co.
ANTIQUE TAPESTRIES
FURNITURE AND EMBROIDERIES
INTERIOR DECORATIONS
6 EAST 56TH STREET
NEW YORK

A booklet of great interest to furniture lovers is published by the Berkey and Gay Furniture Company of Grand Rapids, Michigan. It is entitled "Masterpieces in Miniature," and shows reproductions of fifty photogravure plates from their large portfolios. It will be mailed upon receipt of six cents in U. S. Stamps. Address Berkey and Gay Furniture Company, Grand Rapids, Michigan.



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Ask your Decorator to show you the Davidge Hand Stippled Papers, with Border and Frieze Decorations to match, designed and executed by our Special Artist, Mr. Ludwig L. Blake.
These are the only Hand Stipples done on paper and the American Government has just granted us a Patent covering them.
If your Decorator does not carry our papers write to us for samples.
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For Your RESIDENCE, CLUB, AUTOMOBILE, YACHT and for GENERAL PRESENTATION PURPOSES

"Chelsea" 8-DAY HIGH-GRADE Clocks

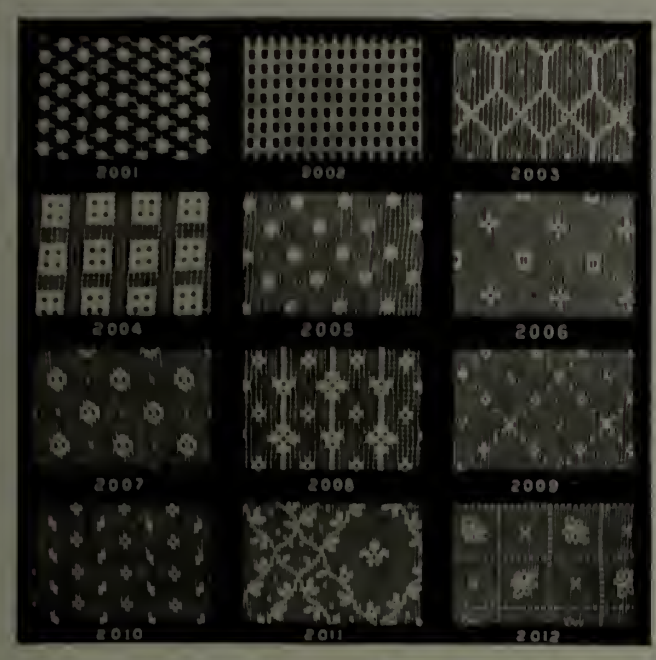
FOR YEARS THE RECOGNIZED STANDARD OF QUALITY
ON SALE BY LEADING HIGH CLASS JEWELLERS

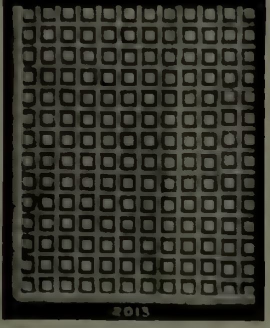
Soft Tinted Wall Papers

EVERY wall covering and paper in particular, should express cheerfulness, for in these days of manifold comforts and the clever purveyance of them there can be no possible excuse for the use of either depressing or nerve-trying patterns.

The fashion of keeping the walls in dull monotone is passing and we are using instead figured papers in soft colors that are equally cheerful, and satisfactory as a background for every-day living. For example, the exquisite bird and foliage paper shown here, in different tones of gray on a field of the same color, will be excellent in the living rooms of the ordinary house, because its neutral color is a good background for pictures as well as people, its pattern breaking up the wall spaces and at the same time keeping its place on the wall. These agreeable attributes are shared by the other floral paper illustrated, where miniature trees and garlands are printed in cream gray on a tan strié ground.

Quite different from those soft tinted papers, though not less interesting, good looking, or satisfactory, is the conventionally designed Lincrusta pattern pictured here. Among the many uses for which this heavily incrusted, pliable material is adapted, it is particularly good in large rooms having much cold woodwork, where color warmth is desired, since it can be had to order in any color or combinations of colors. Indeed, so cleverly is this color work done that it resembles tooled Spanish leather, and like it is frequently used above wood panelings in great halls and dining rooms. Its strength and durability further recommend it for general use, and the number of patterns available exceed 700. J. C. M.





Inexpensive Lace Curtains at Special Prices

Our assortment of attractive Curtains for summer use is very extensive and from it almost avery requirement can be supplied. The accompanying photographs illustrate some patterns very popular this season. Any design selected can be supplied made according to style No. 2013 which has a dainty cotton edge on front and bottom, or in style No. 2014 which has a 1½ inch hem on front and bottom and is trimmed with a cluny lace edge; 40 inches wide 2½ yards long.

2001	**3.25 per pair**	**2008**	**5.50 per pair**
2002	**3.50 "**	**2009**	**6.00 "**
2003	**4.00 "**	**2010**	**6.50 "**
2004	**4.25 "**	**2011**	**7.00 "**
2005	**4.75 "**	**2012**	**7.50 "**
2006	**5.50 "**	**2013**	**6.00 "**
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These prices are on the same basis as values existing before the unsettled conditions abroad made the importation of these dependable Nets very difficult

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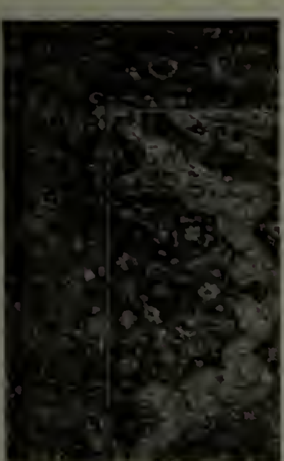
BENJAMIN BENGUIAT

the widely known expert announces some important additions to the exceptional exhibition and sale of

ANTIQUE RUGS



They are a few very rare and beautiful Antique Oriental and Chinese Rugs from the private galleries of Mr. Benguiat.

The same material reduction in prices, that made this sale so interesting, apply to these new important additions.

These private pieces of Mr. Benguiat's are far-famed and their advent into this sale offers an opportunity that will not be overlooked by connoisseurs.

Item Rug Illustrated—Very Rare Hispano—Arab 16th Century of marvellous coloring and texture. Size 12', 8" x 23', 4". Price: $10,000. (¼ of rug shown.)

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China and Glass for Summer Use

WHEN replenishing the china closet of the country house against the coming summer season, it will be well to keep in mind that the quaintly flowered patterns so popular with our grandmothers are again in high favor, and to take stock of those broken sets stored on the pantry shelves and see if your china dealer cannot match them for you. All the old-time

favorites—Copeland, Mintons, Wedgwood, Coalport—may be had in all their old, rich colors.

Not only have these fascinating old patterns been revived, but there are some new ones that have the double charm of good looks and low cost. The three plates pictured here are excellent examples of these new inexpensive wares which are stock patterns and can be had in broken sets. The gay colored cane-patterned

chop dish costs but $2.95, the pastel tinted square cake plate is $2.25, while the natural flower sprigged service plate comes at $17 per dozen.

Not less interesting is the enchanting Wedgwood pottery shown here, whose quaint shapes are made more attractive by the feathery brownish black patterns on its cream ground; a tea set consisting of pot, sugar bowl and cream jug, with six cups and saucers, sells at $8.

The swift return of cut glass to popular favor is not to be wondered at when such patterns as the lovely one shown here are to be found. This set of sixty pieces comes at the low sum of $21.50.

Nor can one scorn pressed glass when such interesting patterns as this lemonade set of crackle glass, whose very appearance make for coolness, sell for $4.50. J. C. M.

K-C

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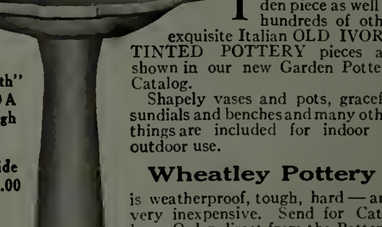

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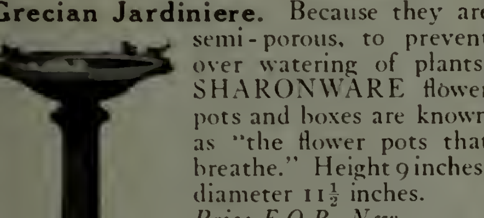

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Crystal Spring Bird Bath. 39 inches high, 17 inches across. *Price F.O.B. New York* $10.00

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Having acquired all the training and inspiration that the ateliers of the Old World could give, our native artists have evolved a new school of American Decorative Art which completely comprehends and harmonizes with American decorative needs.

The Gorham Galleries, sensing this new development, have fostered and encouraged it and are now prepared to extend to lovers of garden sculpture, expert service in solving garden and decorative sculpture problems.

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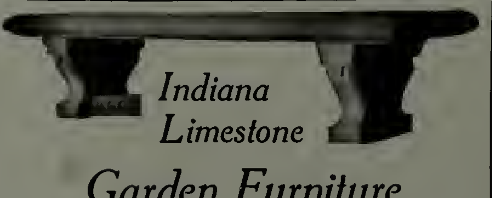

Garden Furniture
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THE ENGLISH SPARROW—AN ISHMAEL

I WONDER if there is anywhere some patient and painstaking investigator, with mind uncolored by popular prejudice, who has been able to discard the volumes that have been written, and discover something good, something likable in the English sparrow?

It is almost incredible that a bird with such prodigious resource, with such an unflagging spirit under unanimous displeasure, a bird that goes on increasing in defiance of persecution, that has flocked in our midst, defaced our dwellings, and cluttered our eaves with its clamorous broods, the while a bounty has put upon each scraggly head—it seems almost unbelievable that the humble object of such ungrudging dislike, should not possess a few redeeming qualities.

He has no great song to sing. He is not a welcome harbinger of spring, because he stays on and on the year through. He is plain and unpretentious like the great bulk of humanity. He is contentious and obtrusive, dirty and destructive. Yet he is no more contentious than the kingbird, no more obtrusive (if you can but change your mental attitude) than the much loved house wren; no more filthy than domesticated poultry, and no more destructive than many much fondled pet dogs. Usually when nature clothes a living spirit in plain garb, she fills its throat with song, as with the wren. When she put a taste for cherries in the robin's palate she broke even by making him welcome for his cordial "cheer-up" when the spring is on the way. When she sent the oriole to peck holes in the finest grapes in the choicest clusters on the vine, she sent him in such fine colors as to make him delight us in spite of the tax he levies. With what qualities did nature endow the alien sparrow that he might court some favor?

The Ishmael among birds—the English sparrow

It was a tender sentiment that brought him to us. Where is there now any sentiment to protect him? It is said that the first eight pairs of these birds to come to America were brought by directors of the Brooklyn Institute in 1850, and that many importations followed rapidly in succeeding years. In Europe the sparrow was a familiar dooryard bird. The native American birds did not readily attach themselves to any cherished sentiments in the minds of the newcomers to America from abroad. Such sentiments are woven of long association. One must live with birds to make them his own and then they are his own for all their commonness. So when it was found that the European sparrow would thrive in this country, as repeated importations proved that it would, there was a lively commerce in these birds. They became the objects of a popular fad. Even the Department of Agriculture recognized a sparrow "boom." Many believed and for years continued to believe that this bird was an insect eater and a friend to the gardener and the farmer. Yet more than thirty years have gone by since the Department took official cognizance of the menace of the alien sparrow. As early as 1885, when the Department issued its first circular on Economic Ornithology, the European sparrow was the subject of many questions. This was the Department's first step in an investigation, started several years before by the American Ornithologists' Union and turned over in 1883 to the United States Government for it to finish. As a result of extensive inquiry into the character and habits of the bird, there was

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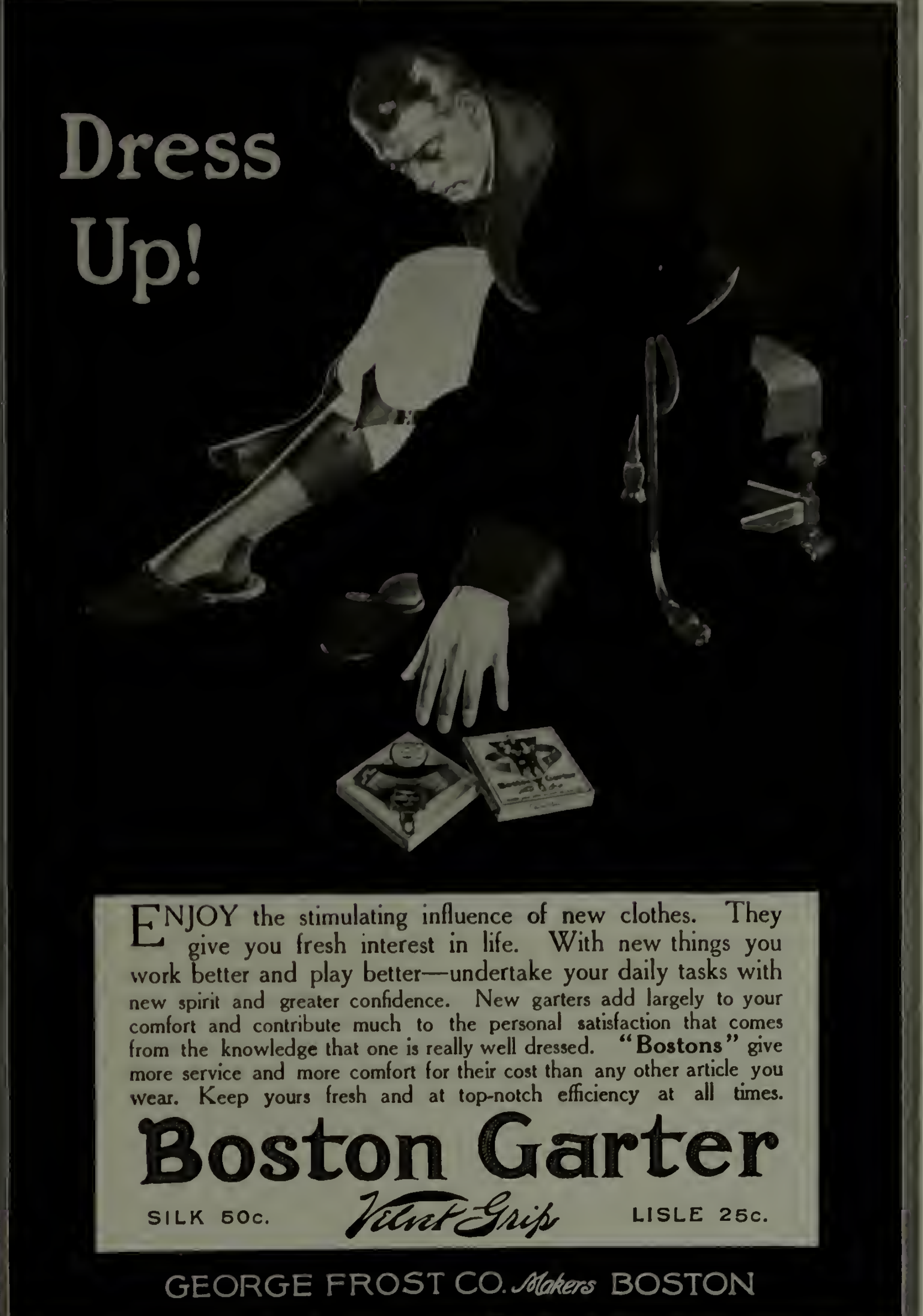

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Simply raise and lower the lever, with the point in the ink, and this type pen refills instantly. The lever locks—an exclusive feature.

Possesses all the superior qualities and patented features of the Regular Waterman's Ideal. The assortment includes a short size for vest pocket or ladies' purse.

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There is a natural tendency everywhere toward equalization of temperatures between neighboring objects and the air surrounding them. This process of equalization is carried on, in a properly constructed refrigerator, by circulation of the air. Air coming in contact with the ice gives off heat, and is therefore reduced in temperature. Air of low temperature, being heavier than air of higher temperature, falls to the bottom of the refrigerator, drawing the warmer air from the top and bringing it in turn into contact with the ice.

As the air drops from the ice chamber it passes over food which is of a higher temperature than itself. It takes heat from, and reduces the temperature of the food, its own temperature necessarily rising. With this rise in temperature the air again becomes lighter and ascends to the top of the food chamber.

Thus the air is always circulating, and as it circulates it not only "chills" the food, but carries off and deposits on the ice all objectionable odors. These odors are absorbed by the wet surface of the ice and pass out of the drainpipe in the water as the ice melts. The ice also takes the dampness from the air which passes over it.

The result is a dry, sweet-smelling food chamber.

In a good refrigerator—one so constructed that it prevents, as far as possible, the transmission of heat from the outside through its walls and doors—the process of reduction in temperature is carried to a point much more closely approaching the temperature of the ice than is the case in an inferior refrigerator.

The lower the temperature is, the more perfectly the food is preserved, and the longer the ice will last.

This means the elimination of danger that the food will spoil, and a saving in ice bills.

Lewis & Conger refrigerators are good refrigerators, properly constructed

There is a size, shape and capacity for every requirement. Catalogs will be sent by mail if desired—or a visit to this store will enable us to assist you in the selection of the proper refrigerator for your home.

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completed in 1888 and published in 1889, Bulletin No. 1 of the Division of Economic Ornithology and Mammalogy, with more than 400 closely printed pages, in which the English sparrow, as popularly named, received the first great broadside of disapproval from those who had studied its habits, and at the same time almost the last faltering support from its thinning ranks of admirers. The newcomers from Europe, who had longed for the familiar chirp of their house sparrow, came in time to know him for a nuisance that followed the farmer's grain from stalk and shock to stack and crib, as the Government bulletin explains, levying his tribute at each step of the way.

The Government investigators went so far as to make a serious attempt to popularize the English sparrow as an article of food, and published many interesting reports to this effect: "An excellent article of food," "commonly served as 'rice birds,'" "superior to quail," "delicious in potpies," "Philadelphia and Albany markets disposing of large quantities."

Apparently, nobody who ever wrote seriously about the English sparrow loved him. Professor Walter Bradford Barrows (Dept. of Zoology and Physiology, Michigan Agricultural College) who did most of the work for the Federal Department of Agriculture on Bulletin No. 1 in 1888, devotes more than five pages in his 800-page book, "Michigan Bird Life", to the *Passer domesticus*. In all the 250 lines of print just four are required for a statement of the bird's redeeming qualities—and they, in the author's mind, do not redeem him. Part of what Professor Barrows says is of course purely technical; there are a few broadside onslaughts for introductory statements; then come the four lines on the good qualities, followed by 90 per cent. of the whole matter given over to a résumé of those qualities which stamp the bird as an unmitigated pest, and to a consideration of ways and means for its destruction.

Edward Howe Forbush, who as Ornithologist of the Massachusetts Board of Agriculture produced a valuable book under the title "Useful Birds and Their Protection," could not appropriately give formal consideration to the English sparrow at all, and does not; having only fourteen minor references. I looked up all of these, searching for a good word, and the nearest thing I found to a compliment is an observation that on two or three occasions the English sparrow was seen eating caterpillars which destroyed trees. But even this is spoiled in effect for there are other observations that the sparrow was more frequently seen to drive away other birds that really were making a serious attack upon the worms. Professor Barrows makes systematic denunciation and catalogues his complaints. There are ten separate and distinct counts in his indictment, and some of the ten might easily be subdivided to make more. He prefers charges thus: a grain eater, damaging crops in field and shock; eats buds, sprouts, flowers, and every green thing cultivated; at certain times does great damage to fruit (this is admittedly one of the culprit's lesser crimes); comes early and monopolizes nesting sites, dispossessing other birds; is filthy in his habits, defacing dwellings; chokes eaves troughs and gutter pipes with nesting material, sometimes defiling cisterns; strongly suspected of carrying germs of hog cholera from place to place; distributes poultry lice (in one instance a single feather in a sparrow's nest harbored 72 chicken mites, and as there were 250 feathers in the nest, it is assumed that there were 18,000 mites); the tenth count in the indictment is based upon fecundity—three and sometimes four broods in a single season, so that a dozen pairs of healthy birds might produce hundreds of thousands in three or four seasons.

Still, in spite of learned investigators, or perhaps because of them—as a relief from their technical findings—it seems desirable that one should find, appended to the long summary of maladventures, at least one event in the English sparrow's life that touches either upon the heroic or the kindly. Is not the isolation afforded by such generous enmity in itself heroic? Or is the heroism too successful in perpetuating itself to merit any esteem? Is there not the seed of some kindly thought for such a bird when it seems to flee all its lesser enemies to seek a refuge in proximity to the greatest of them all? Or must this be looked upon as evidence of taking an unfair advantage? Can nothing better be said than that he enlivens winter landscapes when there are few other birds about? HARVEY WHIPPLE.

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Every screen on door, window or porch is plainly to be seen from both outside and in. If properly made, screens can add materially to the attractiveness of your house.

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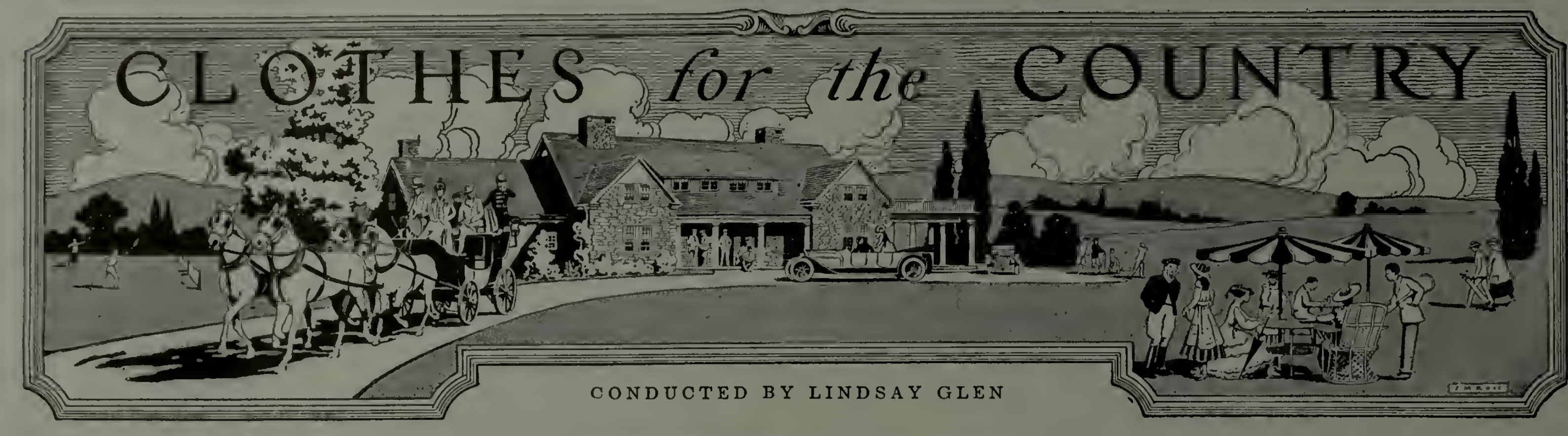
Patio in residence of Mrs. M. C. Russell, Hollywood, Cal. Elmer Grey, Architect. Finished with Bay State Coating.



CONDUCTED BY LINDSAY GLEN

WITH THE SPRING THE TALLY-HO

AS THE spring comes, so assuredly comes the coaching season. This proves that though the automobile as a means of transportation may have supplanted the horse, the horse is still the pride of the sportswoman. There is no sport which compares to the driving of a four-in-hand; testing the mettle of the spanking leaders and wheelers and guiding them through a busy thoroughfare as easily and gracefully as on an open road, is a feat in horsemanship which takes a cool, clear head and splendid nerve. Yet many women tool their own coaches and at the annual coaching parade in the spring it is a charming sight.

If a woman is tooling her own coach she naturally and fitly appears in a plain tailor-made suit, with a light high-collared top coat over all, and one of the snappy English silk four-in-hand ties. Her hat is a plain, stiff sailor shape in a glazed straw, in black or white, with an elastic band about a quarter of an inch wide to keep the hat in place. Heavy gloves in tan or corn color finish her useful costume. Her women guests are free in their choice of attire and may be a bit more feminine.

The hats for coaching this season are charming in their wide variety; one of the ultra men milliners has a rare selection of soft straws in bewitching shapes, done in a wonderful shade of pink, corn color, or navy blue, and even in a canary yellow. These hats have flowers or fruits either painted or embroidered on them as trimming, and they are eminently suited for coaching as there is nothing to catch the wind or dust.

Another famous hat shop has a new model in a natural colored plaited weave straw; the edges are bound with a bit of ribbon for stability, and a ribbon band runs through the crown and ends in a stiff little bow knot; at the back a bunch of flowers in worsted appear as trimming. A hat which appealed as most effective was in brown straw with a parrot embroidered on the crown, in the vivid greens, blues, and reds of birds of that ilk. Then for the woman to whom the small, smartly built hat is more becoming, there was a fine double straw in black with an ostrich feather quilling and a straight ostrich feather clipped and curled closely, standing high directly in front—less youthful perhaps than the sailor shapes, but most effective.

The parasols for coaching this spring are a bit on the Japanese order, with a short stick and a silken cord to attach the parasol to the wrist when not in use. The coverings are most gay, the main part of the cover being in a plain silk gathered in to a straight border gay in many colored flowers. An umbrella as well as a parasol is a distinct asset for coaching. These are along plain lines, but appropriate for the practical comfort of protection from the sun; they have the crook handle in either leather or wood covering, and may be had in plain red, dark blue, or slate color.

New model of a top hat for the "whip" and heavy leather gloves for tooling the coach and four this spring

A parasol for coaching—a short handle with loop to attach to the arm for safety. The parasol is in gay colors and most effective. An English coaching "en tout car" for both rain and sunshine—in slate color with leather covered handle

THE WHIP ON PARADE

A SPORTSMAN tools his four-in-hand himself, but permits his chauffeur to run his car, which proves that the horse is still supreme with him. The driving of four prancing, perfectly appointed horses is a sport of the few, as it is a luxury, and so will remain the pride of the horseman until in this machine-driven world the horse becomes as extinct as the dodo. It is a far cry to that day on Long Island.

In the appointments of his horse and coach, as well as in his own apparel, the whip is most scrupulously correct. Every detail is inspected before turning out at a club function, where the horn of the tally-ho and the gayly dressed women add to the festive appearance of a polo game or a race meet.

Men's apparel changes very little in style from year to year—it is only the observant eye which notes a new model.

The top hat of the man who tools his own coach this season appears larger than that of last year's model. The crown is straight, less tapering at the top, and the brim is wider, a two-inch brim being quite the correct thing. A black or mixed gray and black cutaway coat and a soft black silk tie slightly puffed is the proper thing for the formal coaching function. The gentleman whip on a public coach wears the light top hat in gray or a sand color, with a top coat to match, and a white soft tie.

HANDLING THE RIBBONS WITH GLOVES

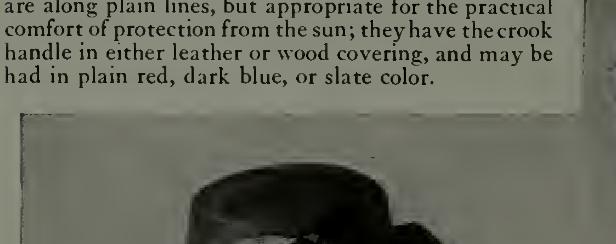
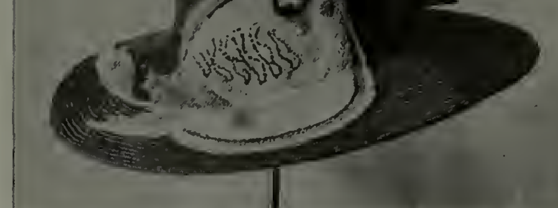
The gloves for coaching are worn very loose and are in a heavy cape or doeskin, in tan, red brown, or corn color, with stitching of the same shade as the leather.

The handkerchiefs for men are in fine white linen with a hemstitched edge and a border in cross-bar effect, the initials being embroidered in one corner. Other handkerchiefs less fine, and with a rolled hem, are serviceable for less ceremonious occasions, and are not so expensive.

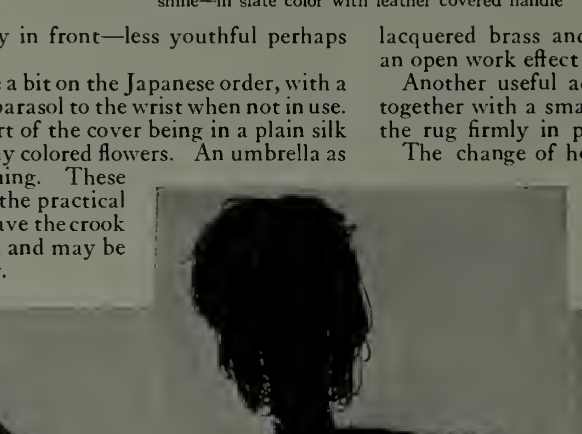
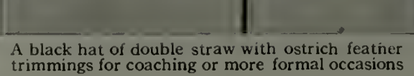
An accessory for the rug which is folded neatly and precisely over the knees of the driver is a brass disk to be fastened on the rug in the centre of the lower edge. It is in lacquered brass and has the initials of the owner engraved or cut out in an open work effect on the plate.

Another useful adjunct of the coaching outfit is a pair of clips bound together with a small chain and made in the same lacquered brass, to hold the rug firmly in place.

The change of horses at the way stations of the coaching trip must be accomplished in record time. A watch which comes in a handsome leather case, to be worn on the wrist, is one of the necessary belongings in the comfort of the coaching outfit. These cases come in pig skin or in various kinds of black leather.

A hat in fine brown straw with an embroidered parrot in colors spread effectively on the side

A black hat of double straw with ostrich feather trimmings for coaching or more formal occasions

A large hat in natural straw—fancy weave—with a ribbon binding. Has bunch of worsted flowers on the brim

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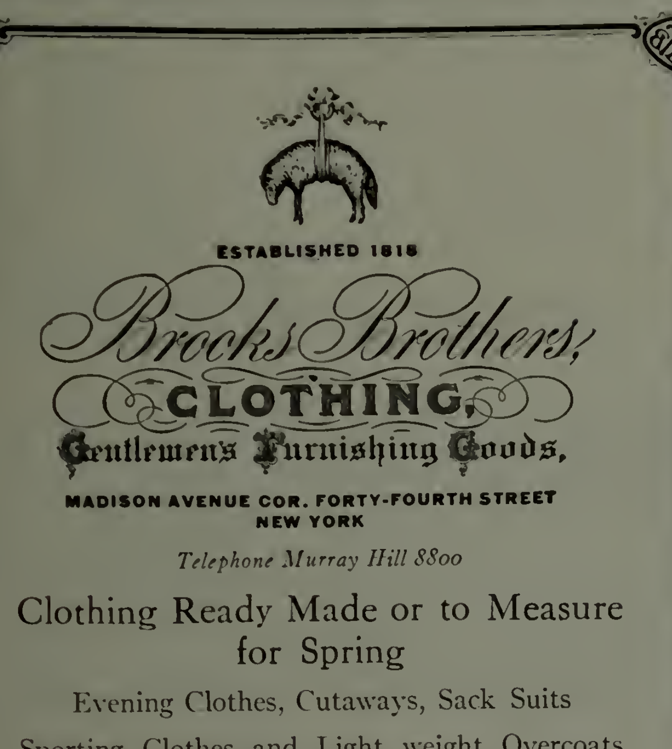

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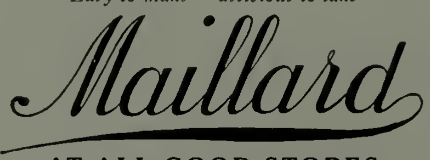

AT ALL GOOD STORES

UNLESS we are following a strict diet to preserve the *svelte* slender lines of the figure, we can appreciate the feeling of the small boy invited to his first dinner. He came home crestfallen and on being asked the cause, he whispered, "It wasn't a real dinner after all because there wasn't no potatoes."

Potatoes are thought a commonplace commodity, because most cooks give little thought to the variety of ways of preparing them. They are usually served as a vegetable and are either mashed, boiled, or baked; but the hundreds of more appealing ways are not thought of.

A dinner of potatoes in many forms could be served from soup to sweets. A delicious soup is a cream of potato with a dash of onion.

CREAM OF POTATO SOUP

One quart of fresh milk, 6 large potatoes, 1 stalk of celery, 1 small onion (if liked). Put milk to boil with celery. Pare potatoes and boil thirty minutes. Then mash them fine and light and add the boiling milk. Butter, salt, and pepper to taste. Rub through a strainer and serve immediately. When in tureen add a cup of whipped cream as an improvement, not a necessity.

POTATOES AU GRATIN—A VALUABLE AND TRIED RECIPE

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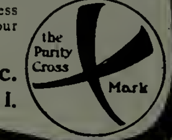

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dredge with salt and pepper and sprinkle a teaspoonful of fine chopped parsley over the dish, cover with a pint of cream sauce and place in the oven for ten or twelve minutes. In that time the potatoes should become slightly browned.

Recipe for the sauce is as follows: Melt two tablespoonfuls of butter, and add one tablespoonful of flour. Stir until smooth and frothy, then draw back to a cooler part of the stove and add gradually one pint of milk. Season with salt and pepper and boil for one minute.

POTATOES AS AN ENTRÉE

A pretty way of serving potatoes for a lunch party is to make a little ring of creamy mashed potatoes, and fill with finely chopped French mushrooms, with a thick cream sauce, adding the juice of the cooked mushrooms to the sauce. Garnish with minced parsley, and serve.

POTATOES AS A VEGETABLE

Another way of serving potatoes which is appealing is to stuff them; a good recipe is as follows:

Select and wash fine, large, old potatoes and bake until mealy, when cool cut in half, remove all the inside of the potato, taking care not to break the skin. To each potato add one tablespoonful of milk, one teaspoonful of cream or butter, beat until very light, season with salt and pepper to taste, and put on the stove in a saucepan, allowing it to remain until it just comes to a boil. Fill the potato skins with this mixture, cover over with grated cheese, and put in a hot oven to brown.

POTATOES À LA BÉCHAMEL

Steam the potatoes, and when done, cut them in slices and place on a heated dish, have a béchamel sauce ready, pour it over the potatoes, and serve very hot.

POTATO BOULETTES

As a garnish for a fish dish or a baked meat course, boulettes of potatoes are most satisfactory, they are made in the following way:

2 cups of mashed potatoes
1 tablespoonful of chopped parsley
1 teaspoonful of onion juice
1 teaspoonful of salt
a dash of cayenne
yolks of two eggs
2 teaspoonfuls of cream
1 teaspoonful of powdered sweet marjoram
a piece of butter the size of a walnut.

Beat the yolks lightly and add them to the potatoes, then add all the other ingredients; mix well, put into a saucepan and stir over the fire until the mixture leaves the sides of the pan. Take from the fire: when cool, form into bullets, dip first in egg and then in bread crumbs, and fry in boiling fat.

GLAZED SWEET POTATOES

Cut cold sweet potatoes in slices about an inch thick and season well with salt and pepper. For one quart of potatoes, melt half a cup of butter and add two tablespoonfuls of sugar to it; dip the slices in this liquid and lay them in a large pan. Cook twelve minutes, in a very hot oven. They should be a rich, glossy brown.

POTATO SALAD

Potato salad has been called the poor relation of the salad family, but if properly dressed it is a delicious hasty salad. The thoughtful housekeeper has always a small bowl of cooked potatoes as a foundation for many wonderful dishes. The secret of success in any salad is the dressing, and the vital part of the dressing in the oil used; it is a culinary crime not to use the best olive oil made—it will be the cheapest in the end. A recipe for a good potato salad is as follows:

Boil six large potatoes, in their skins, in stock or boiled salted water; skin, slice, and pour over them a dressing made from two tablespoonfuls of cream, one tablespoonful of olive oil, two tablespoonfuls of vinegar (one tarragon and one cider), with salt to taste. Toss together with a small piece of onion and a tablespoonful of parsley chopped fine. Chill and serve.

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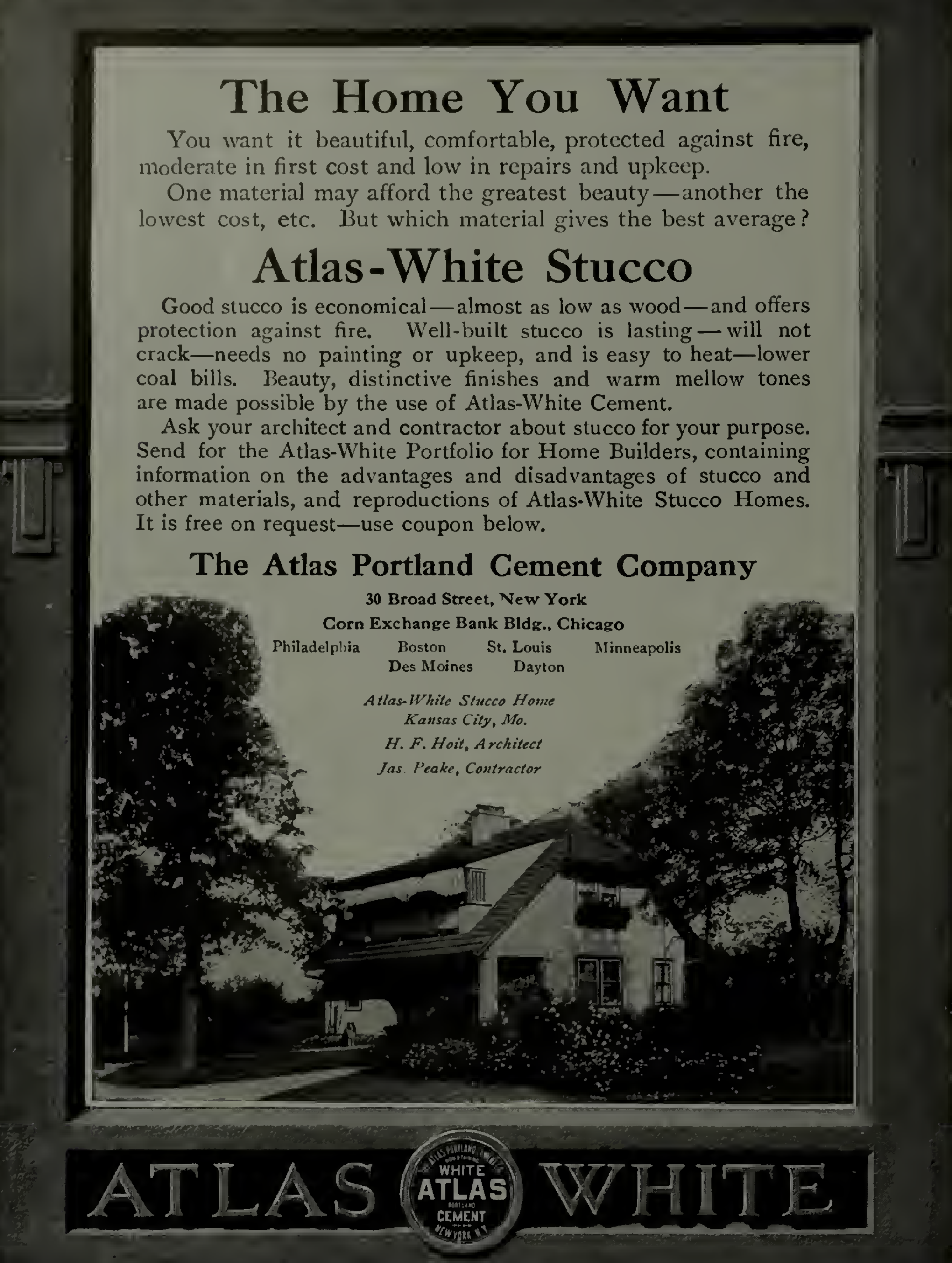

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THE REINDEER OF ALASKA

COUNTRY life in Alaska is something that most of us know very little about. There are, however, interesting agricultural developments going on in that country, wherever agriculture is possible, which will, in time, greatly increase Alaska's economic value to the United States.

But what of the vast reaches of territory, cold and snowbound, where tillage of the soil is practically impossible?

Twenty-four years ago the Eskimos on the great untimbered grazing lands of the Arctic and Bering Sea coastal regions, from Point Barrow to Alaska Peninsula, were nomadic hunters and fishermen, ekeing out a precarious existence upon the rapidly disappearing game animals and fish. During this quarter of a century these Eskimos have become a race of civilized, thrifty men. Education is partly responsible for this change, but the most important factor has been the introduction of the reindeer industry. They now have in their herds assured support for themselves and an opportunity to acquire wealth by the sale of meat and skins. These reindeer, too, furnish a new means of transportation and an assured clothing and food supply to the mining and trading settlements in Arctic and sub-Arctic Alaska.

For this change in Alaskan living conditions, the Bureau of Education of the U. S. Department of the Interior is responsible, and the man to

A reindeer herd at Mountain Village on the Yukon

whom most of the credit is due is Mr. W. T. Lopp, Chief of the Alaska Division of the Bureau. He planted most of the original herds, and educated the natives who are now the leaders of the industry among their people. Incidentally, he probably knows more about the reindeer than any other man in the United States.

The reindeer industry in Alaska began in 1892, with the importation by the Bureau of Education of 171 reindeer from Siberia. The importation continued until 1902, and a total of 1,280 were brought over. At the time the last report was compiled there were 57,872 reindeer in Alaska, distributed among sixty-five herds. This total represented a net increase of 22 per cent. during the fiscal year, notwithstanding the fact that nearly 6,000 reindeer were killed for meat and skins; 66 per cent. of these are owned by natives. The average value is $25 a head, and the total income of the natives from the industry for the year, exclusive of the meat and hides used by themselves, was $77,934.

Statistics are always dull, but these figures will give some idea of the difference the reindeer must have made in the life of these Northern wards of ours. The Bureau of Education is distributing the reindeer as rapidly as the natives can be trained to individual ownership, the policy being to encourage initiative and independence among the native population.

The reindeer service is an integral part of the educational system, and the district superintendents of schools are also superintendents of the reindeer service. Promising and ambitious young natives are selected as apprentices, receiving six, eight, or ten reindeer at the close of the first, second, and third years respectively, and ten more at the close of the fourth year. Upon the satisfactory termination of his apprenticeship, the native becomes a herder and assumes entire charge of a herd, and must in turn employ and train apprentices.

The industry is carefully protected. No native is permitted to sell or otherwise dispose of a female reindeer to any person other than a native of Alaska, so that there is little danger of white men depriving the natives of their means of livelihood.

The figures quoted show that the reindeer is a

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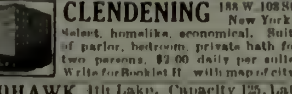

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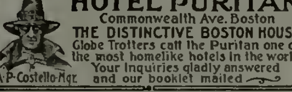

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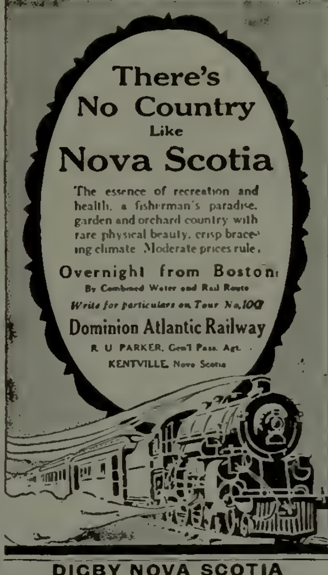

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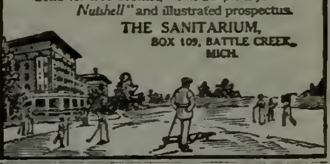

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prolific animal and has made itself at home in Alaska. The rate of increase is encouragingly high. No deterioration in the herds on account of inbreeding has been noted. On the contrary, Mr. Lopp maintains that the reindeer now in Alaska are larger animals than those which comprised the original stock imported from Siberia, and that the climate is better adapted to the industry than is that of Siberia. The herds of Alaska average more than 700 reindeer each, so that the danger of inbreeding cannot be serious. The introduction of wild caribou into some of the herds has increased the size of the reindeer in those herds.

The greatest menace to the industry are the fires, usually started in the neighborhood of mining camps, which sometimes cause the wanton destruction of vast stretches of valuable grazing lands.

The object of the importation was originally to furnish a source of supply for food and clothing to the Eskimos in the vicinity of Bering Strait, but it has resulted in the building up of a great wealth-producing native industry in northern and western Alaska, with a consequent beneficial effect on the character of the people. Moreover, a means of transportation has thus been provided which is superior to dog teams, and this has worked to the advantage of white men as well as natives, particularly the missionaries and the school superintendents.

Mr. W. D. Cram, the teacher at Barrow, in Arctic Alaska, the northernmost school in the world, reports as follows:

"The purchase of reindeer during the last two years has affected the whole commercial life of the community. It has inspired almost every full-blooded Eskimo with a desire to become an owner. Especially is this true of the young lads, many of whom go to the herds every summer and spend their vacations, there learning all the traits and habits of the deer."

An Eskimo in clothing made of reindeer skin

Mr. Frank B. Snowden, teacher at Noatak, reports:

"The reindeer industry is assuredly growing, and all indications point to reindeer herding as the future occupation of the Eskimo. I never saw people take so much interest in anything as these people do in the reindeer. Even the younger boys take a deep interest in them, and they all aim to become herders."

Mr. Harry D. Reese, at Igloo, writes:

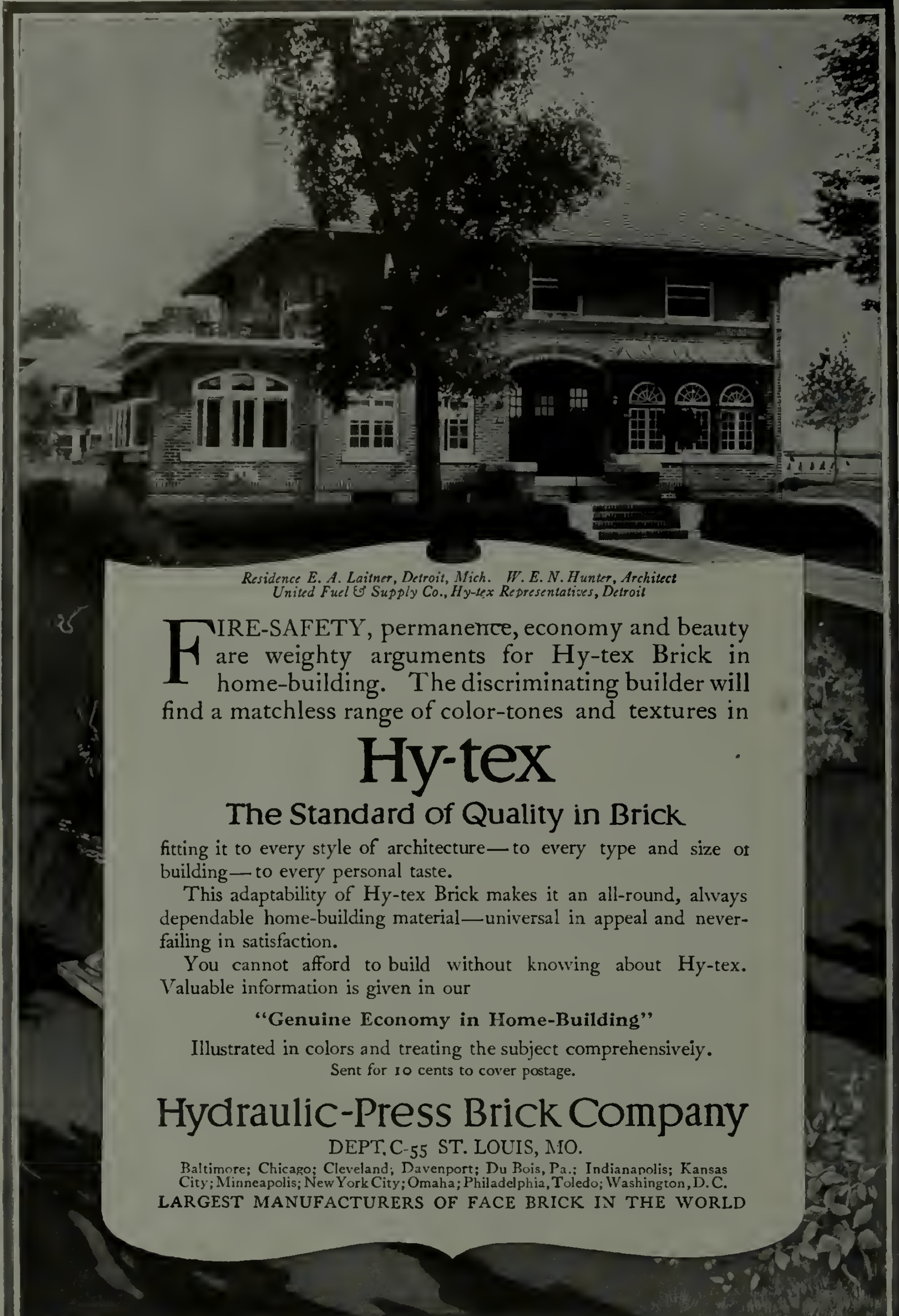
"Reindeer herding is fast becoming the leading industry. The income from the sale of reindeer meat and reindeer skins during the past year will probably exceed that from the sale of furs. Not only are the herds a source of wealth to the natives, but they are also a great boon to the teachers and to other white persons by furnishing them with a supply of fresh meat. The industry also educates the natives in business methods."

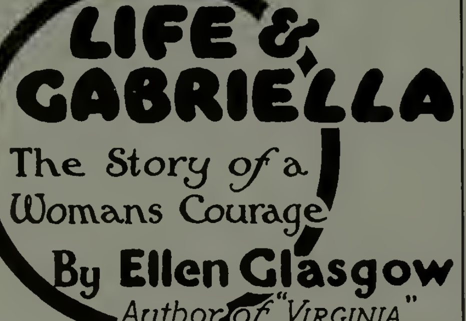
Practically all the teachers in the district report in a similar vein. At Kivalina wolves attacked the herds, but were driven off by the use of bells.

In a personal letter Mr. Walter C. Shields, Superintendent of Schools of the Northwestern District of Alaska, has written me as follows:

"During the past winter I traveled about 1,500 miles with reindeer teams. This is less than my previous trips. One winter I covered about 3,000 miles behind deer. My work takes me over the entire country between Nome and Point Barrow and we have to face the worst conditions of travel at various times. I make this statement for the purpose of showing you that, while practically all of the winter travel up here is done behind dog teams, yet reindeer are used by some of us, and for some of the hardest trips.

"In many ways the industry is going ahead





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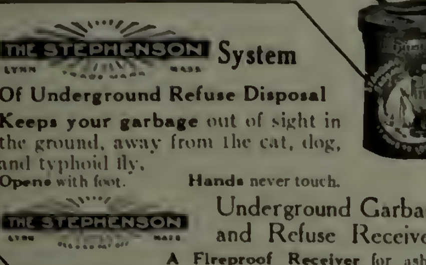

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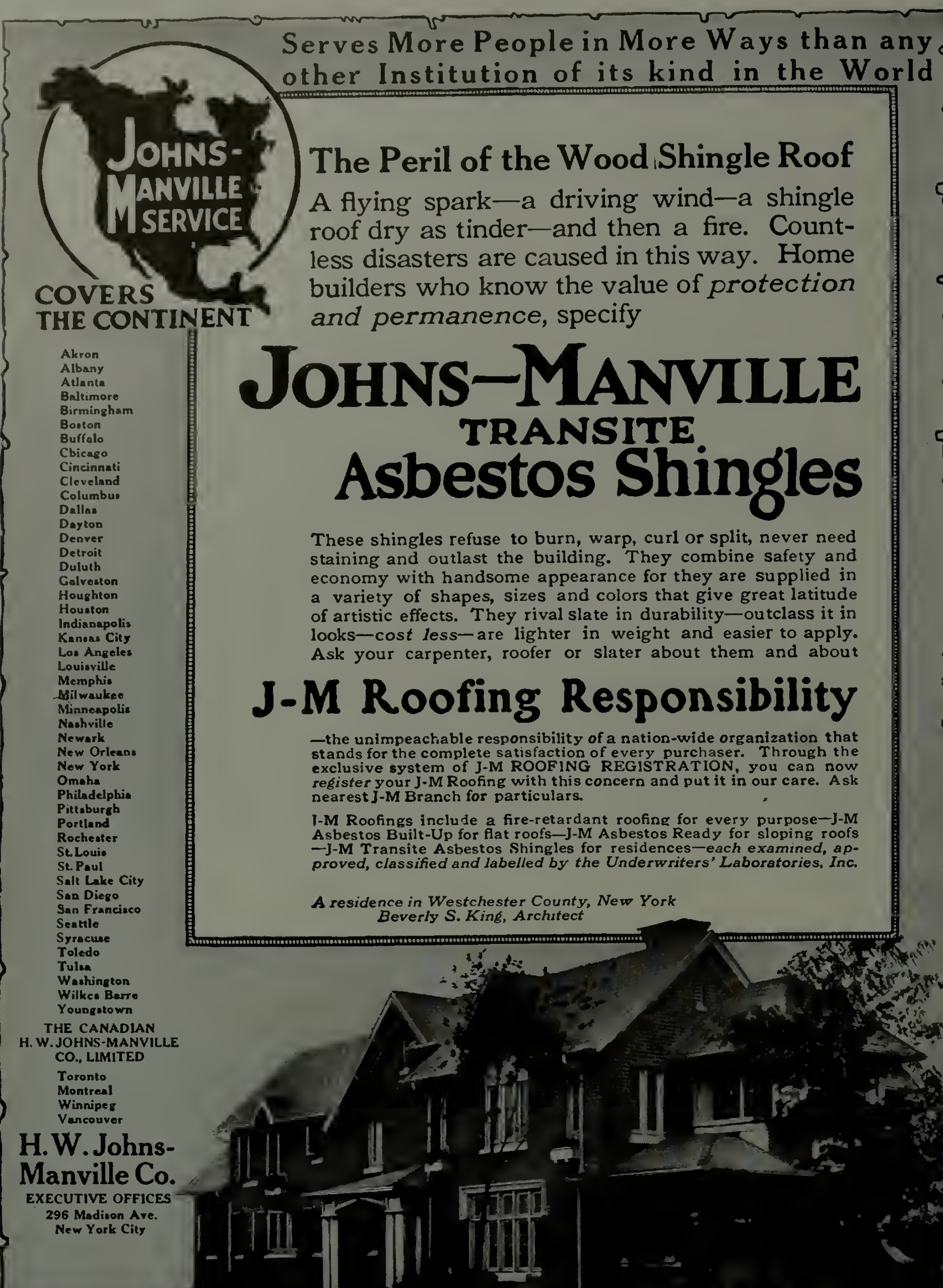

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fast and has outgrown its original status. From being a philanthropic idea to save a people from extinction, it is growing into an industry that will undoubtedly become, in the future, a certain factor in the meat supply, for the western coast at least. Next year will surely see a fairly large shipment of reindeer carcases for sale on the coast. A small number have been sent out each year and the future will see this side of the industry grow considerably.

"Last year we started a fair for all the reindeer men of this section, and next winter will see two in this district. At these fairs we have racing, pulling contests, exhibits of harness, sleds, deerskin clothing, etc.; also lassoing contests and a sort of institute to meet the educational needs of the industry as it affects the natives.

"It is impossible to give a stranger a real insight into this work. Even if you visited the North in the summer, you would learn but little. The only way to get any idea of the work is to spend a winter on one of our trips of inspection, driving reindeer, eating reindeer meat, wearing reindeer clothing from head to foot, sleeping in reindeer sleeping bags, in company with a reindeer herder, talking reindeer, and observing the reindeer herds." ALDEN FEARING.

CUT YOUR GARDEN TO FIT YOUR SPACE

MANY a woman has longed for a flower garden, but because she has in mind some old-fashioned stretch of various shaped beds and wandering grass walks, and has no such half acre at her disposal, has despaired of ever achieving her heart's desire. If this description of a garden that was made a thing of beauty on a bit of ground that did not seem to be good for anything else suggests possibilities to such a discouraged garden lover, it will have served its purpose.

My garden was the by-product of a tennis court. In making the court on a side hill, a terrace was formed of rich surface soil below the level of the court, and some one said, "Why not turn this strip into a flower garden"?

I hardly knew at first whether to say yes or no. A terraced garden with a cement retaining

Entrance to the garden through the arch

wall three feet high at the back and a similar one two feet high in front meant not the dear wandering posy bed of my imagination, for I, too, had had my dreams. However, I came to see many possibilities in this formal garden, and the results have been so charming and so easily obtained that I want to share my experiences with other garden lovers.

The terrace on which my garden is made is fifty-five feet long and fourteen wide. It begins at the drive and ends in a pergola twenty feet long, so that there is a stretch of flowers and vines seventy-five feet in length. The entrance to the garden is through a clematis covered arch set at the back of a semicircle of Japanese snowballs and white hydrangeas. There are two other entrances—one at the opposite end through the pergola, the other in the middle by three cement steps from the lawn. The pergola is at present shaded by trees, but choice varieties of grapes have been planted and will soon cover it. A table and two long benches invite the tennis players to its cool retreat.

I divided my garden space into four equal parts bisected by two walks, and with a circle in the centre for a small fountain. The walks and

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the fountain are bordered with red brick, while the steps, fountain, and walls are built of cement.

The first plants set were two dozen roots of ampelopsis along the two retaining walls, so that they will soon be walls of solid green. The outer border of the walk around the fountain is of day lilies, whose broad leaves have a tropical look and whose fragrant white flowers come in August. It may be well to say right here that this garden is a part of a summer home which is occupied only from the last of June to the middle of September, and for that reason the early spring and late autumn flowers are alike given second place. Still they are not left out entirely. Inside the brick border of the fountain are native ferns and Kenilworth ivy.

I arranged my flower beds according to color. The bed next to the pergola and on the lower

The middle entrance to the garden by three cement steps from the lawn, showing the ampelopsis already in evidence

side of the garden is of purple and gold. Next to the pergola is a great clump of wild asters and goldenrod. Earlier in the spring the same space is filled with daffodils and purple iris. About the roots of the asters are enough pansies to keep a vase filled all the time. Then come marigolds in all mixtures of gold and brown, and next to them a square yard of what the master of the house declares best of all—heliotrope. On the outer edge, fringing the wall, are purple verbenas, while the inside border along the walk is of ageratum and sweet alyssum. In fact sweet alyssum, forms the inside border of the whole garden. All these plants, with the exception of the asters and goldenrod, which are at the end, are so low that they do not hide the beds behind them.

The second bed—the one next to the pergola in the rear—is red and yellow and not inharmonious with the purple and gold. At the end are small sunflowers, a great delight to the humming-birds and goldfinches. At the back, completely hiding the stone wall, is a row of scarlet dahlias of heroic size. In front of them come salvias and gladioli, and the rest of the bed is filled with zinnias. Though the zinnia is rather a coarse flower when studied by itself, it gives effects that nothing else does. The colors are many and none of them is raw; they have the richness and softness of an Eastern rug and seem to blend into one glorious harmony. Of course this bed would not be complete without a border of nasturtiums.

My third bed, the one toward the drive in front, is all in pink and white. Pink and white verbenas festoon the wall, and in the spring pink and white tulips and hyacinths should fill the centre. Later their places are taken by pink and white asters and snapdragons. At one end of this bed is a small crabapple tree, whose tiny pink balls were so beautiful when the garden was made that the tree was spared and has become a permanent part of the garden. Under its shade lilies-of-the-valley and begonias flourish.

The fourth bed is somewhat hidden by this small tree, but gets plenty of sun in the afternoon. It is largely blue and white, but hospitably receives any flowers that find room nowhere else. At the back, tall white cosmos blooms from early in July. Next comes a row of white phlox; then bachelor's buttons, larkspurs, Canterbury bells, stock, balsam, and sweet Williams make a riot of color. This bed is composed largely of perennials.

Besides the flowers already named, corners are filled with tall, fragrant lilies, and mignonette adds its fragrance to the borders. Next year there will be some additions, but if the garden is as beautiful every year as it has been during its first season, it will triumphantly justify its existence.

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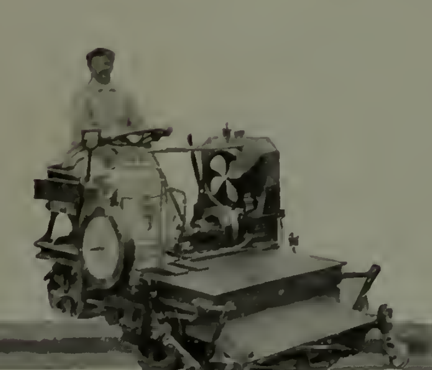

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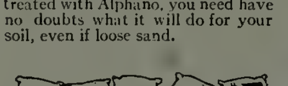

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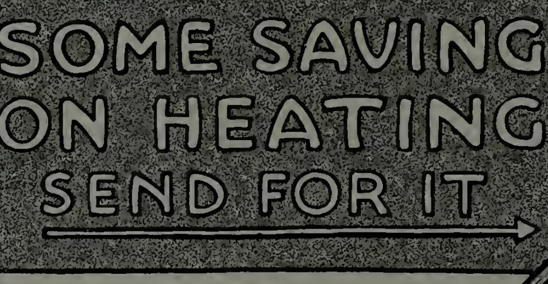

IT IS a meaty little book on heating. It talks with you about steam, water and vapor heats. It tells their advantages and disadvantages. Then it switches over to warm air heat and compares it with all the other heats.

Finally, it ends with the Kelsey Health Heat and gives you frank and fair reasons why it is the most satisfactory of all heats. The book is entirely devoid of sweeping claims, but it fairly teems with interesting facts and proven figures.

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WALKING THE TOW-PATH

IN THESE days of rapid transit on land and sea, the pedestrian is apt to be considered a relic of antiquity, especially if he seriously considers walking trips of any length; but I venture to assert that more vacations are taken afoot than in automobiles or motor-boats, and in the aggregate more actual pleasure is obtained from the experience of the former than of the latter. It may not be preference, but necessity, that forces one to pedestrianism as a form of exploration, but whatever the motive force the result is the same. Walking clubs are numerous all over the land, and in the aggregate they represent a pretty large army of pleasure seekers, tourists, and health-hunters.

"But," somebody will say, "walking is spoilt to-day by the automobiles. They make the roads unsafe and so dusty that a pedestrian finds little pleasure in the exercise."

Where the tow-path climbs a bridge across the canal. The boats go under the bridge

Granted, for the sake of the argument, that this is partly true on lines of travel frequented by automobiles; but if you will take the trip made by a party of walkers a few summers ago, we will assure you in advance that you will not breathe the dust and gasolene fumes, nor be startled by the honk of warning horns, nor once stain your shoes or clothes with the abominable oil and tar with which so many of our highways are surfaced to lay the dust. Even more than this, we will promise you a soft, grass-carpeted foot-path for the most of the way, shaded in many places, and always winding close to the brink of a limpid stream of water whose surface reflects the sun and clouds in perfect harmony with the day. And this foot-path will wind among the hills and mountains, skirt lakes and rivers, and will mount higher and higher by such easy grades that you will never know that you are climbing a thousand feet above the sea level.

Our walking trip was along the tow-path of the Morris & Essex canal from salt water to the Delaware River. The half abandoned canal makes the finest walking route ever laid out by man. The tow-path is grass covered in places, and nowhere dirty, dusty, muddy, or oily. You need neither map nor chart. You can start out any day and find your way across the whole state of New Jersey, or for that matter you can select other routes equally good — the Erie canal, for instance, across the state of New York, or the Raritan River canal across the lower part of New Jersey. We happened to select the Morris & Essex, and of that we know.

The starting point was Newark, where the lower end of the canal begins. It won't appear attractive at this point — not, in fact, until you have passed Paterson — for the meadows and factory sites at this part of the old inland waterway are too suggestive of civilization. So if we were going to undertake it again we would begin at Paterson. Once outside of this town, you strike straight into the hills of New Jersey.

The canal, unlike the railroads, does not try to find the shortest distance between two given points. Instead of cutting through a hill or mountain, or boldly climbing it, the canal winds around it, often going many miles out of its way just to avoid a slight climb. Then when it gets cornered and finds that it must go up to higher ground, it does it all in one jump. Sometimes it is a single lock, and again it is a series of them one after another, or inclined railways. Your climb is therefore short, steep, and sharp, and soon over.

Do not undertake a trip on the tow-path with

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If you wish to take advantage of our very low prices, we must have your order **not later than July 1st**, as we import Bulbs to order only. They need not be paid for until after delivery, nor taken if not satisfactory. (References required from new customers. **For prices on smaller quantities see our import price list, the most comprehensive catalog of Bulbs published, which may be had for the asking.**)

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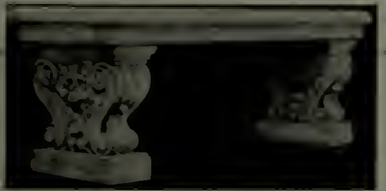

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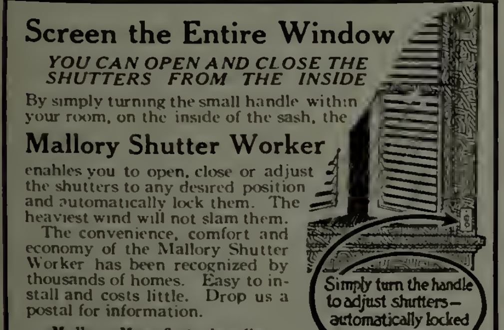

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THAT two wheeled truck contains a powerful little water driven motor that automatically turns back and forth a line of nozzle equipped pipe.

With a water pressure even so low as 40 lbs. you can water a space 50 feet wide and 50 feet long. Falls in a gentle shower. Every part will be watered thoroughly and uniformly. No puddling. No packing of soil. No beating down of plants. Connect it direct to regular hose. Lengths of pipes have easy, quick acting couplings, so they can be easily disconnected and put across top of the two wheeled motor truck, and moved anywhere on your grounds.

This one machine will do the work of a dozen whirly-gig sprayers, and do it far better. Simple in construction, and built to last.

Send for circular and prices.

The Skinner Irrigation Company

218 Water Street Troy, Ohio

the idea that it will be rendered more comfortable by carrying a lot of luggage. We spent three weeks on the trip, and never carried more than a light knapsack. This furnished us with the few necessities required. This trip has the advantage of always keeping you within a short distance of civilization. The canal taps every town and village on the way, and you can stock up with provisions at any one of these, or get meals and lodgings at a minimum price. Between towns and villages you are out in the open, breathing the freedom and elixir of country and woods at every step.

From Paterson to Boonton the tow-path climbs steadily through its series of locks. From Newark to Port Morris it climbs to a height of 1,000 feet above the sea level. Between those points there are upward of sixteen locks and inclined railways. There are no toll charges for walking the tow-path, although if you go through it in a motor boat it will cost you about $13 by the time you have reached Lake Hopatcong.

A picturesque part of the canal tow-path

This inland mountain lake might be called the half-way house. It feeds the canal with its water, and is reached by a short arm of less than half a mile in length. When you reach the lake you can make a side trip around part of it. A day taken off in exploring the lake was considered time well spent by us. It is a veritable gem in the woods, a thousand feet above the sea.

From Lake Hopatcong to Port Morris the trip is accomplished in a couple of hours. At this point you reach the highest point of the tow-path, and from there on you begin to descend toward the Delaware River. By the time you reach Port Murray you can get a fine view of the Delaware Water Gap in the distance, and if you so elect you can take a side excursion to the Gap. But the canal strikes down toward Phillipsburg and Easton instead of aiming for the famous Gap. All around, the country is beautiful and filled with rich farming land, beautiful homes, and lakes and streams that at some point merge into the canal. But there is no chance for wet feet. The tow-path is high and dry, and bridges are provided wherever a stream is to be crossed. The grassy banks are always cool and inviting on the hottest day. You are never far from wooded sylvan dells inviting you to rest and sleep.

Lunch by the wayside is one of the privileges that the pedestrian should take advantage of. Buy your provisions in town, but keep them until you have found an ideal spot for eating them. Then, with a fire to fry eggs and bacon and to cook coffee over, you can find all the comforts and pleasures of a camp without the necessity of carrying your tent around with you.

The total length of the tow-path from salt water to its western terminus is approximately 100 miles, but the walking is so easy that it really seems less. Ten miles a day over ordinary rough country roads, up hill and down, kept up continually for a week or two, is about all that the average pedestrian cares to undertake. You may be able to force yourself beyond this point, but a walking trip should be a pleasure trip — haste spoils it. The desire should not be to get to a certain point at a given time, but to loiter and linger on the way and enjoy every mile of scenery. After all, I think the professional tramp has the best conception of a walking trip. He walks until he is tired, and then he loafs until ready to move on again. There is no objective point for him, no hurrying or worrying. He simply lives in the present.

We made the trip to the Delaware and back,

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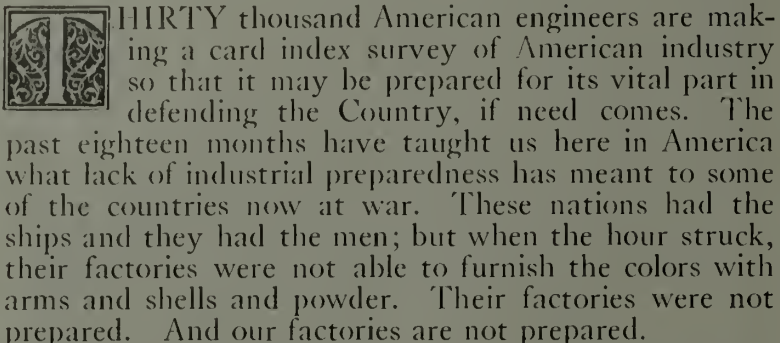
National Defense and International Peace



What the Engineers are Doing

THIRTY thousand American engineers are making a card index survey of American industry so that it may be prepared for its vital part in defending the Country, if need comes. The past eighteen months have taught us here in America what lack of industrial preparedness has meant to some of the countries now at war. These nations had the ships and they had the men; but when the hour struck, their factories were not able to furnish the colors with arms and shells and powder. Their factories were not prepared. And our factories are not prepared.

But it is not enough to draw a moral. In the United States five great Engineering Societies—Civil, Mining, Mechanical, Electrical and Chemical—have pledged their services to the Government of the United States, and are already working hand in hand with the Government to prepare industry for the national defense. They receive no pay and will accept no pay. All they seek is opportunity to serve their country, that she may have her industries mobilized and prepared as the basic line of defense.

All elements of the nation's life—the manufacturers, the business men, and the workingmen—should support this patriotic and democratic work of the engineers, and assist them cheerfully when asked. *There can be no better national insurance against war.*

The Associated Advertising Clubs of the World, representing all advertising interests have offered their free and hearty service to the President of the United States, in close co-operation with these five Engineering Societies, to the end that the Country may know what the engineers are doing. The President has accepted the offer. The engineers have welcomed the co-operation.

This advertisement, published without cost to the United States, is the first in a nation-wide series to call the country to the duty of co-operating promptly and fully with the Engineers to prepare industry for

NATIONAL DEFENSE AND INTERNATIONAL PEACE

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covering, with a few side trips, approximately 250 miles in twenty days. That meant an average of twelve miles a day, but some days we made twice that, and others scarcely five miles. There is probably no better track in the world for walking than the tow-path, and one can make better time on it with less friction than almost anywhere else. The path is smooth and level, and padded in many places with grass and moss, and there is no dust, cinders, dirt, or oil to bother the walker. You are always by the side of the canal so that you can stop and moisten the head and neck if the sun is hot. Trees shade a good part of it, and there is always the grassy slope of the sides to lie down on and rest.

We reached the Delaware River at Phillipsburg and crossed to Easton on the Pennsylvania side. A few side trips were made from this point, but our trip was concerned chiefly with the tow-path. We had started out without a chart or road map, and had reached our destination with scarcely a look at a map. We did have an old map of New Jersey, and we referred to this occasionally only to find out the name of the next town ahead. Not that it made much difference, for all the use we had for towns and villages was to find lodgings and food. Even for these we did not always depend upon the settlements along the way. What is better than a good barn to sleep in and a dinner of rich milk, with plenty of good bread and butter, fresh eggs, and pot cheese! These we found frequently at farms for twenty-five cents, with the privilege of sleeping on the fresh hay in

Along the tow-path of the Morris and Essex canal

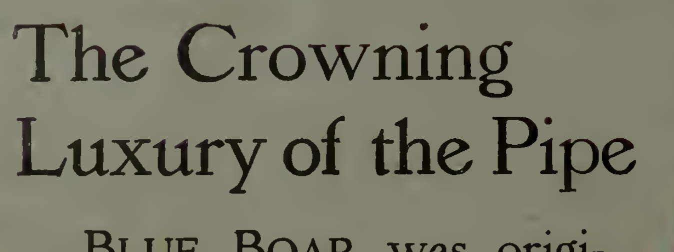
the barn thrown in for good measure. Farmers are distrustful of tramps, but friendly to pedestrians who can establish their respectability. It is well, therefore, to take along some identification card or keepsake. It does not take much to convince an honest man of your honesty if you are frank and open.

When we finished our trip, our clothes and shoes were not much more soiled than if we had simply taken a short afternoon walk. How different would have been the case had we walked as many miles on the ordinary country highway with all its dust and dirt! The canal is not a dirty body of water as some appear to imagine. Where it winds through cities like Paterson and Newark it may be slimy and oily on account of the refuse thrown into it. But away from these places the water is clean and fresh. It makes good bathing, and thousands along its whole course take advantage of it for this pleasure. So we took our daily dip in some hidden nook to refresh ourselves after a hard day's walk. That alone was worth a good deal to us.

The cost of our trip for the three weeks was insignificant — less than $3 a week for each one. We could have made it on less, but we were generous with our appetites and we were not denying ourselves the good things we found. On Sunday we rested a good deal and ate heartily at some hotel or boarding house on the way. These Sunday dinners cost us, however, only half a dollar on the average, and never more than seventy-five cents.

There are other canals in the country which, I doubt not, furnish equally ideal conditions for a long walking trip. The tow-path is practically an abandoned place to-day except for a few pedestrians, and walking clubs will find them the ideal routes for enjoying long or short outings. Moreover, they follow, as a rule, the line of some railroad, and if obliged to return earlier than expected, the train is waiting for you at some convenient point. E. P. Smith.

Thirty-five Cents
Country Life in America
June 1916
Doubleday, Page & Co Garden City, NY
J. MELROSE



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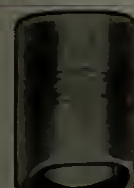

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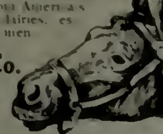

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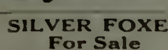

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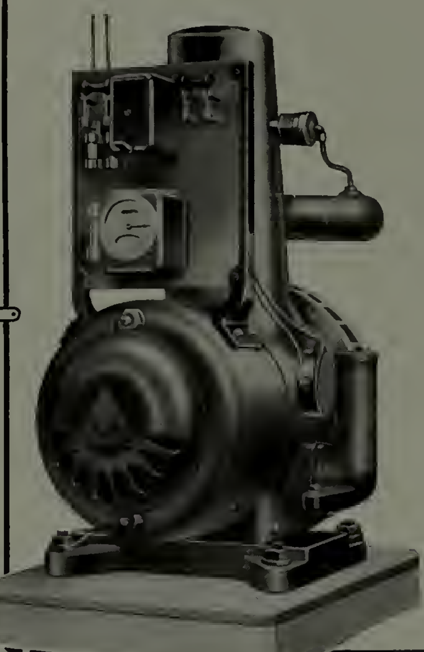

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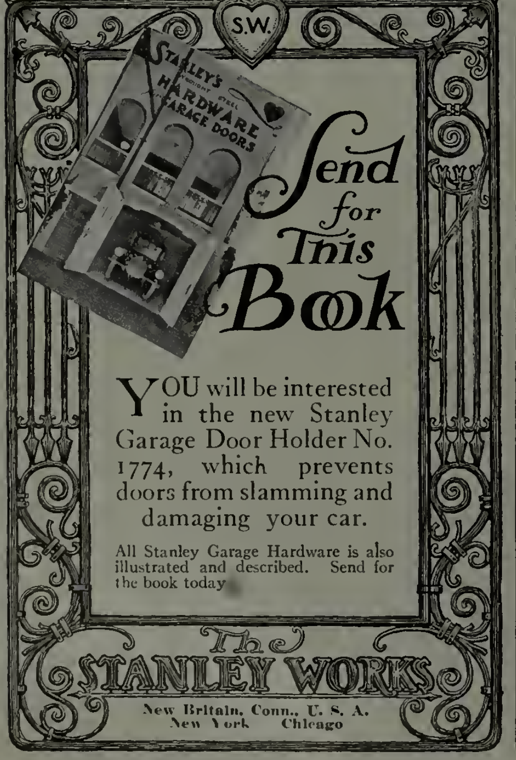

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RODENTS IN THE ORCHARD

YOUNG fruit trees, like babies and young stock, pass through so many vicissitudes that it is surprising how many of them live to become strong and vigorous. In the spring of 1915 I discovered a dozen of our finest young Baldwin trees dead, dying, or practically defunct on one side. They were three-year-old trees and had a fine start. Apparently all had started out blithely enough when the first warm days came, and then faint-heartedly gave up the ghost. I was at a loss how to account for it and consulted the authorities. It seems that the condition was general over a large part of Massachusetts and was due to a dry fall and cold winter, known as a winter drought. When the trees started out vigorously in the spring there was not water enough in the soil at that particular point to sustain them, and they died of thirst.

Down on lower ground I found two dead Northern Spies, where there must have been plenty of moisture. I examined them and found that they had been girdled. Rabbits! Now there is apparently no cure for winter drought, but there is a cure for rabbits. Get rid of them.

I recalled our early experiences with deer that browsed on some young Rhode Island Greening and McIntosh trees and set them back two years. I was told that I would have to build a deer-tight fence around the whole place if I wanted to save the trees, but the State of Massachusetts came to the rescue and declared an open season, and the hunters have pretty effectually driven the deer back from the farms. So I consulted a neighbor's boy and told him to get his gun and go as far as he liked. He is a good shot and a natural hunter, and I forgave him for some minor depredations, for I haven't been troubled further by rabbits. I think a good Airedale terrier would prove equally effective, and he would also get the woodchucks out of our stone walls. However woodchucks do not make good eating, and I was willing that our neighbor's larder should be replenished in this mutually advantageous manner.

I am still knocking on wood, for the boy and his gun may not get all those rabbits, and I have accordingly been arming myself with information against their possible return. This information, which comes from Washington and Amherst as well as from fruit growers of experience, may perhaps be of value to others.

One fruit grower stated that the simplest method was to tie a guard of thin wood veneer about the trunk of each young tree, from close to the ground up perhaps 18 inches. This must not be tied so tightly as to choke the trees, and they must be watched closely to guard against their outgrowing their collars. As we have only 600 young trees, I suppose this would be possible, but it seems like a good deal of a job.

The fathers at Washington state that cottontail rabbits are apt to become a pest at any time in the Eastern States, in spite of the efforts of hawks, owls, cats, dogs, and hunters to exterminate them. They are tremendously prolific and not without wiles of their own. They eat vegetables and clover in summer and will gnaw the bark of young trees in winter. A fence 30 inches high, buried 5 or 6 inches in the ground, and made of a $1\frac{1}{2}$-inch wire mesh will keep out the rabbits. That is all right for a garden but rather expensive and troublesome for a commercial orchard. In small fruit gardens a cylinder of wire netting can be placed about each tree.

Where the law permits, poison may be used to advantage, and the U. S. Department of Agriculture will furnish formulæ for poison to be applied to oats, orchard prunings, carrots and parsnips, and the like. I am told that this is the method commonly employed in the West. Of course, great care should be taken to prevent live stock from getting a taste of the poison. Strychnine washes may also be applied to the trunks of the trees themselves.

I have never been troubled by mice, but the Washington authorities state that pine mice, which live in the ground like moles, have been very destructive in some states. Pieces of sweet potato, poisoned with powdered strychnine and placed at the entrances of their holes, produce a fairly complete extermination.

DALTON WYLIE.

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And, by the way, there is no reason why it should not bring gaiety, too, to hearts that do not motor.

Also, the good natured, delightful pair who made their first adventures in "The Lightning Conductor" return in this story—Jack Winston, now of the British army, invalided to America from service in France—and the very attractive lady, Molly, now Mrs. Winston. Both our old friends show their added years very little.

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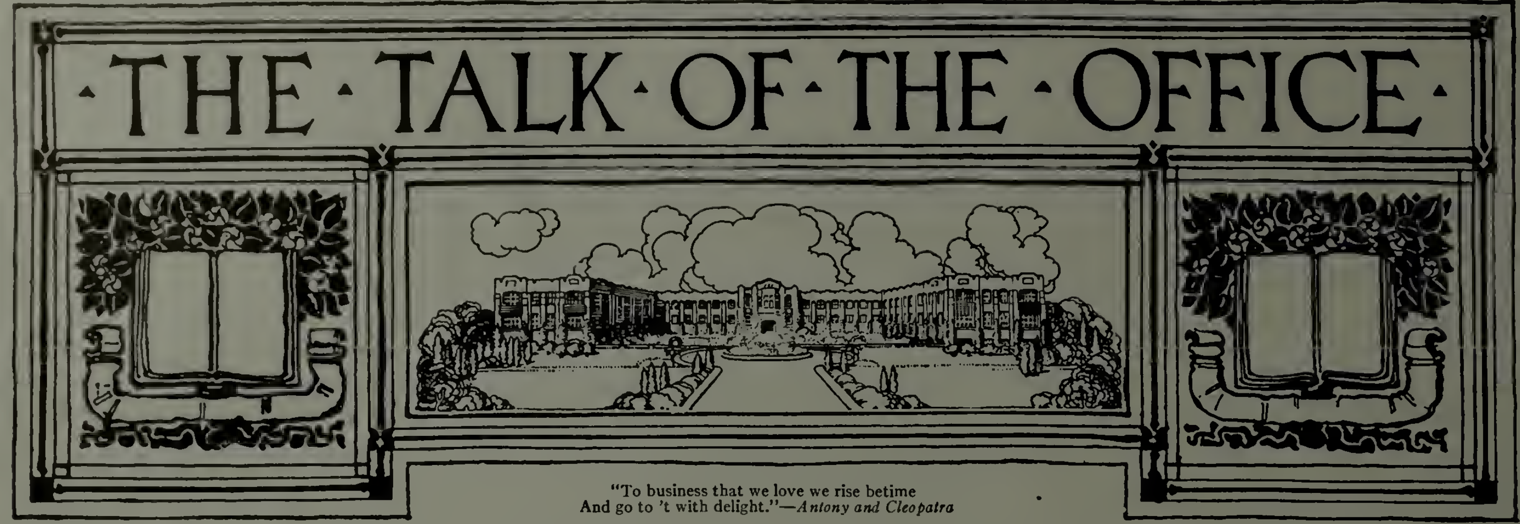

"To business that we love we rise betime
And go to 't with delight."—*Antony and Cleopatra*

THE HIGH COST OF PAPER AND BINDING

EVERYTHING that goes into the making of a book or magazine has increased in cost from fifty to one hundred per cent. For paper for books and magazines we are paying in some cases nearly double when these lines are written, and it is likely to be higher before these lines are printed. Ink, binder's cloth, glue, and all other materials have within a few months gone up in price in a very unexpected and extraordinary degree, and in our opinion will be maintained at a high level until *some time after the war.*

Beside paying a little more, or getting a little less for the same money, every reader can help by heeding this notice sent out by the Department of Commerce at Washington:

SHORTAGE OF PAPER MATERIAL

SAVE YOUR WASTE PAPER AND RAGS

The attention of the Department of Commerce is called, by the president of a large paper manufacturing company, to the fact that there is a serious shortage of raw material for the manufacture of paper, including rags and old papers. He urges that the Department should make it known that the collecting and saving of rags and old papers would greatly better existing conditions for American manufactures.

Something like 15,000 tons of different kinds of paper and paper board are manufactured every day in the United States and a large proportion of this, after it has served its purpose, could be used over again in some class of paper. A large part of it, however, is either burned or otherwise wasted. This, of course, has to be replaced by new materials. In the early history of the paper industry publicity was given to the importance of saving rags. It is of scarcely less importance now. The Department of Commerce is glad to bring this matter to the attention of the public in the hope that practical results may flow from it. A little attention to the saving of rags and old papers will mean genuine relief to our paper industry and a diminishing drain upon our sources of supply for new materials.

A list of dealers in paper stocks can be obtained from the local Chamber of Commerce or Board of Trade.

(Signed) William C. Redfield,
Secretary.

Almost all magazines (and we presume newspapers) are sold to the dealers, who supply the readers for less than the cost of paper, printing, ink and shipping—in many cases at less than half these costs estimated on the old prices of these materials. The publishers' profits come from the advertisements, and competition to secure these advertisements has become so keen that the percentage of profits from this source has been much reduced. Now that it is costing nearly double to print these same advertisements, what is going to happen?

In our opinion, every one has got to contribute a little: the advertiser, also the subscriber who gets ridiculously low "club prices," and perhaps when we get through this war we may be on a more solid and reasonable basis.

"THE LIGHTNING CONDUCTOR DISCOVERS AMERICA"

If all goes well, the Williamsons' book, "The Lightning Conductor Discovers America," will be published about June 1st. There is more information in this book about the country we all know so well than we ever knew before. Readers will remember how the authors made places of interest in England stand out in that delightful book, "Set in Silver"; Spain in "The Car of Destiny"; Holland in "The Chaperone" and this American story, in the interest of its characters, as well as in everything else, is the most wonderful of all. Here are a proofreader's comments, and proofreaders are never over enthusiastic:

"The Lightning Conductor Discovers America," I think the house should realize, is the very best thing the Williamsons have ever done. Does the Selling Department appreciate this fact? It is a story of much more than usual human interest; it is vital with joy, life, love; it is fiction, and at the same time a truthful description of scenes on Long Island, in New England, and New York State; in that far it is history. But more than this—vastly more—it is a book of mystery; not of the occult, or of the common, ordinary, every-day kind, but mystery of such mystifying mysteriousness as to characters and plot as to rob the reader of the faintest clue whereon to base even an attempted unravelment. Every character is a mystery unto itself and each is engaged in trying to solve the mystery that surrounds his neighbor mystery. After reading more than two hundred pages of the manuscript I know not one of the characters, and am eager for the solution.

PEONIES AT GARDEN CITY

If you are interested in roses, peonies and iris, come to see the Country Life Press gardens in June. Last year we picked 6,000 blooms from 10,000 peony plants in one day. You will find here the collection gathered by the American Peony Society; there are about three hundred varieties, and in a large section of the garden one specimen of each is shown carefully labeled so that every peony of the three hundred varieties can be easily identified. Take your ticket to Country Life Press station, or come by motor to Franklin Avenue just south of the railroad track that leads to Hempstead.

MILLIONS OF BOOKS

A good many people who visit Country Life Press (and visitors are always welcome) wonder how a single printing office like ours, which is by no means so large as many, can find readers for so many books. Here is one reason:

The 44 branch libraries of the New York Public Library lent 10,384,579 books in 1915. This seems to show that reading still holds its own with motoring and the movies as one of the most popular amusements. Of these ten million books, 4,415,794 were juveniles. That, too, is encouraging.

THE LORD & TAYLOR BOOK SHOP
CONDUCTED BY
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is doing well. The "literary Mondays" at Chickering Hall in the Lord & Taylor building, 38th Street and Fifth Avenue, have interested many people, and these *causeries de lundi* are a very pleasant feature of the Book Shop's activity. Every Monday some speaker or author of prominence is secured for a lecture on some topic of interest. Among recent speakers have been Mr. Clayton Hamilton, who gave an illustrated address entitled "On the Trail of Stevenson," and Mr. Percy MacKaye, who read from his Shakespeare Masque, "Caliban." May Day was set apart as John Martin Day, and John Martin entertained a hall full of children. Mr. Saylor, the Editor of *Country Life in America* recently gave an illustrated lecture on "American Country Houses," and Mr. Leonard Barron, the Editor of *The Garden Magazine,* talked about Horticultural Books. The Lord & Taylor Book Shop hopes in this way to interest an ever widening public in books and reading of all kinds.

The manager of the shop writes:

It may interest you to know that among the first mail orders received was one from a distinguished gentleman in Buenos Aires, Argentine. He enclosed a draft for $50 with an order for some good books on banking, which he asked that we should select. We made up a list that in our judgment was good and then submitted it to the Economic Division of the New York Public Library, which approved of it.

We are obtaining books almost every day from out of the way concerns not known very generally. We think this service is going to be an important asset, for as a usual thing many booksellers do not care to go to the bother, and, besides, the profit on an individual transaction is usually *nil.*

We have hundreds of visitors who are surprised to know that just our kind of Book Shop exists. They like the atmosphere, and the comfort of being able to sit and browse while making a selection. Without exception they have been more than kind in their praise of the "new kind of book shop."

COUNTRY LIFE PRESS IN FILM

We have had a film picture made of Country Life Press at Garden City. One sees the author step off the electric train at our station, walk through the garden, present his manuscript, and have it accepted. It then goes to press, and we follow its course from the typesetter to the completed book, which leaves in the freight car at the door.

The picture shows other interesting things — the farm and our own coöperative grocery store, the little hospital and the trained nurse, the pool, the gardens, and all the rest.

At the moment the film is being enlarged and perfected. It runs to something less than two thousand feet, and is loaned to libraries, churches or such educational institutions as may care for it. Already there are applications received which indicate that it will be shown perhaps a thousand times in 1916 and be seen by many hundred thousand people. If you are interested, will you write to us about it?

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HENRY H. SAYLOR, EDITOR

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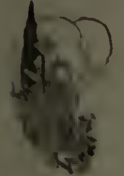
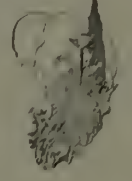
SQUIRE STROUD'S HOUSE WAS CONSIDERED BY MANY THE BEST OF OLDTOWN'S HOUSES FOR THE GENTRY—SIMPLE IN MASS BUT WITH ALL ITS ARCHITECTURAL MOTIFS DONE IN THE SUPREME MANNER

COUNTRY LIFE
IN AMERICA

VOLUME XXX | June, 1916 | NUMBER 2



OLDTOWN—A DREAM



By Frank E. Wallis

FELLOW OF THE AMERICAN INSTITUTE OF ARCHITECTS

MY TRIP to the North Country had great consequences for me, great beyond my desire or power of imagination. The routine of my office work had bored me to extinction, and the constant clatter of the untidy city had annoyed me to such an extent that my nerves shrieked to heaven for the balsam and pool and the isolation of nature. I had fished the Averils and Colebrook with the cry of the city wolf growing fainter in my memory until on that fateful day when fish, dunnage, canoe, and self respect were thrown pell-mell from the lap of life into chaos and forgetfulness.

There can be no explanation, nor do I desire to analyze that strange reversion of mind which followed my accident in the swift waters of the upper Le Pran. That the facts which I am about to relate are correct, I most strenuously attest. Indeed, my diary, my photographs, and my sketch books check me in every particular. I had frequent moments of thankfulness that my training as an architect had been such that it enabled me to comprehend the mental and physical creations of Oldtown with which I was to become so intimately associated. While there remained in the dimness of my memory some faint assurance that I actually belonged to and was a product of the twentieth century, I had the most peculiar and comfortable satisfaction of fitness and appropriateness in the life which enveloped me here in Oldtown during this late eighteenth century time. I frequently thanked the good Lord that he had in his infinite goodness given me this new life, and that fast-moving time had been reversed for my benefit and comfort.

We, all of us, have a most amazing desire to dream of and to enlarge upon memories of atmosphere—some atmosphere or some memory of some old town. These dreams are of more potentiality and of more comfort to us than that knowledge of facts which seems of so much importance. The memories of burning firewood, of the drizzle and swizzle of rain drops through the leaves, the smell of sweet lavender and sandalwood long concealed in old chests, of dried rose leaves in Canton jars, of old laces and gowns in shadowy attics, mean more to us than the assured knowledge of mathematics or the price of a new hat.

"The town was noted for the beautiful elms which lined the streets and bordered the Common"

So that since my undesired return to these twentieth century days, I have comprehended that my Oldtown with its river banks, its Common and the elms, its Fort and the friendship of real people, created the essential facts which were visualized for me through the keenness of my desire, and which have given me moments so rarely found in this hurly-burly of life.

I must describe my Oldtown before introducing you to the intimate characters which colored its atmosphere. Settled in 1632 by a group of people from Salisbury in Old England, palisaded against the Indians, and later protected by its earth fortifications from the encroachments of the French, and again in later days from the privateers and small fry of the English navy, it lies on the gentle slope along the westerly bank of a broad and not too shallow river. Water Street, the old toll road, parallels the river with its miniature ship-yards, rope walk, and boat landings backing up against the trading houses of the town. At the northerly end of the town Mill Creek empties itself, after having worked its passage from Lake Utopia by turning the huge wooden wheels at the saw mill and the grist mill. The toll bridge at the mouth of the creek on Water Street is covered with a roof of bluish colored boardings, and permeating its shades and shadows are those strange acid odors which only such a structure could have. Its heavy truss and rails are carved with interwoven hearts and initials, love tokens of many long since dead or married.

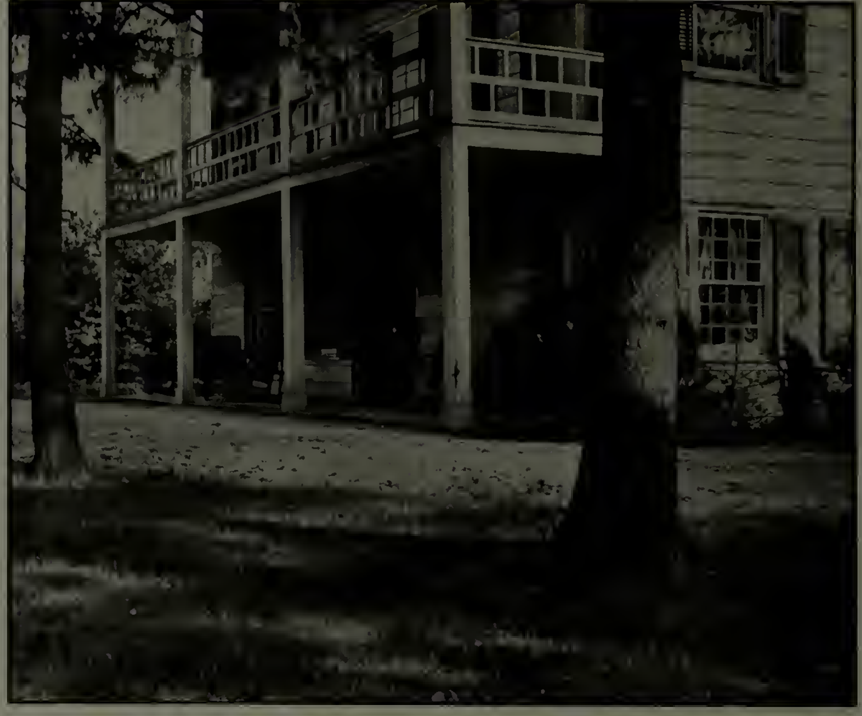
A little to the west of the bridge and Water Street, the Common flattens itself, following the line of the Creek on the northerly side and originally losing itself in the shades of Sanders' Woods to the northwest. This Common is of a size, I should say twenty-five acres more or less, such as Oldtown needs. Here we find the Presbyterian Church, the Church of

England, the Baptist, and the Methodist, all of them Firsts. Oldtown Academy, from which many of our great statesmen have been graduated, encloses the southern side of the Common facing on School Street.

Beyond, and to the south, is Fort Sullivan, a grassy hill with the old earthwork in fairly good repair, while beyond and a little to the west is Powder Horn Hill, with the ancient powder house whitewashed and dated with strap iron letters "1685." During my stay in Oldtown, stage coaches from Rivermouth to Sandersville passed daily, there being a relaying station at the Hotel Swan, which was a treasure house of memories, and the place where George Washington had stopped on his way to Cambridge. Lafayette himself, had feasted there, and General Putnam had eaten its wheaten flapjacks.

Coach hours and packet boat sailings were the joy times of the floating population of Oldtown, for then the strange outer world seemed to open its maw and steal away our friends, and many times deposited strange samples of humanity for our delectation.

The town was noted far and wide for the beautiful elms which lined the streets and bordered the Common. The pride of the people was such that, shortly before my arrival, a town meeting had fined one Josiah Green the sum of thirty shillings for desecrating the elm at the front of Squire Stroud's house on the Common. It was the grandsire of this same Squire Stroud who had planted many of these stately giants, and naturally the old Ichabod was more or less excited over the disrespect shown his grandsire's trees. He, however, paid the fine himself and forced Green to work it off in his grist mill on Mill Creek.



The porch of the Hotel Swan, already famous as the place where George Washington had stopped on his way to Cambridge, and for its wheaten flapjacks

My friend, Dr. Bump, who had found me in the whirlpools of the river, bruised, broken, and sodden, had me carried to his old home on the Common, where he brought me back to this ancient life with a bumper of Barbadoes rum forced down my gullet with a silver spoon. I awoke lying on an old haircloth sofa, slippery and heavenly, for had I not slipped from my drowning and beastly modernity into Oldtown's atmosphere of the old time by way of the river? Directly opposite me on a splay-footed table was a model of a full-rigged ship which Bump afterward informed me was the war vessel H. M. S. *Wasp* on which he had served as a surgeon. This, I also found, accounted for his wooden leg. His idiosyncracies were many and his observations were always human. During my residence with him, on the stormy evenings of the days which followed I found him with Squire Stroud, Joe Hackey the smith, and Nick Meaton the ship joiner, a group of philosophers such as Voltaire must have admired.

The stately home of Justice Whitehead, chief of the commonwealth's supreme court, whose character was as markedly erect as the tiers of his front windows

My own rough sketch of Oldtown in plan

Joe Hackey was the giant of Oldtown, standing six feet three and weighing 16 stone, while Nick Meaton, smuggler and King's sailor, had a most benign smile and a sweet tooth. The wisdom of this old Bristol man far surpassed the modern sophistry with which I had become inoculated.

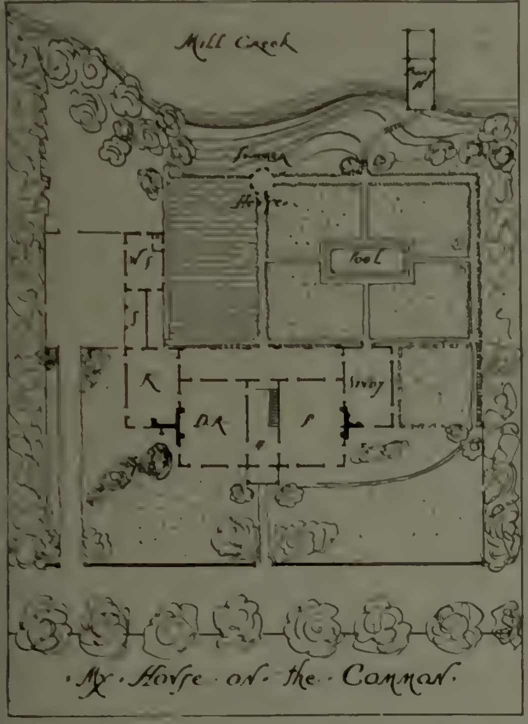
My personal desires carried me at other and various times to the Widow Grimes's taproom in the Swan, where, in front of a cheery fire, Mary Grimes sewed or crocheted, gossiping between whiles or showing me the Rouen platters, the Staffordshire tureens, and the pewter porringers, while serving hot grog to old man Dick, the millman, or to Hutch, the keeper of the toll house. Lowestoft, Spode, and ancient Wedgwood graced the shelving and the cupboards, while old prints of sea battles and wonderful copperplates of ancient worthies decorated the walls. Mary had a leather mug of which she was passing proud, for George Washington had once accepted it from her as a stirrup cup; that hero had caressed its cross-cut lips and smacked his own over her noggin.

At other times I spent many hours in the boat house of Nick Meaton, whittling little models, and between whiles listening to his highly colored stories of pirates in the China seas, all of them tuned to the present odor of tar and pinewood.

Doctor Dick, the clergyman of the First Baptist Church, was a graduate of Balliol and an erudite scholar. He had a most piquant fondness for old rum and church vestments. The discussion of the evils of sprinkling, immersion, the elevation of the host, and the Homeric Greek were frequently followed by Homeric heads the following morning, but they were never sufficient to overcome the desire for another bout in his book-lined library where India rugs and William and Mary cabinets filled with silver snuff boxes and china dogs enamoured the eye, and where that mysterious odor of sandalwood and old leather bindings permeated everything.

Not wishing to impose myself for too long a time on the generous hospitality of these good people, I looked about for some means of earning my own livelihood. My twentieth century training as an architect, though

The home of Joe Hackey the smith, an old Indian fighter and early settler, who was in spirit a most astonishing aristocrat, and one that dearly loved an argument



A plan of my own house between the Common and river

The office end of Dr. Bump's house, inside which, with churchwardens and hot grog, the long winter evenings rolled themselves into the past

at this time the memories of it were faint and elusive, was to serve me in good stead, for I soon struck up a copartnership with the husky son of my friend Meaton. This son, Joe, had had the opportunity, while sailing as first officer in trading vessels running to Bristol, of visiting those towns which were on the Reading Road, over which all sailor men must journey to London. He had also some experience as a ship joiner and was possessed of a library of some merit. Such books as "Vignola's Standards," the "Essays of Vitruvius" and some loose plates of English prints showing spires, doorways, overmantels, and wood turnings, which he had picked up in his wanderings, were on his shelves. He had, in fact, drafted the plan of the main Academy buildings and the First Baptist Church, so that our coming together seemed most natural.

Those of you who know what in later days would without doubt be labeled "Colonial architecture" can appreciate the family resemblance between the blacksmith's shop, which was simple and very beautifully designed in mass, and the First Congregational Church, where the mass was equally fine but with all of its architectural motifs and details done in the supreme manner. The Common was lined with these examples, the churches, the Academy, and the houses of the gentry. Squire Stroud's house was the supreme example of this type, and it was considered by the country folk in all the country round as comparing favorably with the Court House (which was, during the later days of my stay, erected from the designs of the great Bulfinch) as well as with the First Congregational Church and the Church of England which had been designed by McIntire, although some now claim that the great Wren designed them.

I had the good fortune to meet the great Bulfinch on one of his visits, he having come into the town on the Thursday trip of the coach Rattler to attend a meeting of the selectmen on business having to do with his plans for the new Court House. This, however, is anticipating, as these visits took place many years after my first knowledge of Oldtown.

Not all the houses in Oldtown had the honor of having been designed by such celebrities as Bulfinch and McIntire. There were many miniature examples of the works of other men, which showed all the evidences of the love and care with which they had been conceived and formed. Such an one it was my good fortune to get possession of, for I had long since fallen into the ways and manners of these early people. Having been forced by conditions to remain, I hired a small place on the north side of the Common which was of sufficient size for my bachelor comforts. That which appealed to me greatly was the Doric boat-house with its float extending on Mill Creek. I presume the rose garden and the trellised temple of Venus, which was a most marvelous place to browse in on warm afternoons, influenced me somewhat. I had my daffodils, my hollyhocks and roses, as well as my lilacs, which graced the entrance. These for the satisfaction of my soul, for here peace came to me and dwelt by my hearthstone, and I longed no more for the noise and the hurly-burly of the twentieth century city.

It was in the study of this little house that I found my greatest pleasure, for I was soon honored with the friendships of such men as the Judge, the Parson, and the Doctor, and many pleasant evenings we spent in arguments, for we had no other resource but that of argumentation, with men like his honor, Justice Whitehead, the chief of the commonwealth's supreme court, born in Bath, England, some sixty years or more before this time; Squire Stroud, the local justice and the great timber merchant whose ships sailed the seven seas; Nick Meaton, our ship-builder, a man acquainted with the philosophy of the world, for he had spent his full manhood on the quarter deck and had assimilated the mysterious power of the great spaces of the sea; Parson Dick, a Greek scholar and aristocrat of the old English type; and Joe Hackey, the smith, an old Indian fighter and early settler. These meetings were held in my own study, at Squire Stroud's house, or in the office of Dr. Bump, where, with churchwardens and hot grog, the long winter evenings rolled themselves into the past and through our memories. The judge was an ardent socialist, whereas our friend Hackey was a most astonishing aristocrat, and between these two and the others, theories on the rights of man and the uselessness of kings were most hotly contested. In my own thoughts, not being interested in the politics and the arguments of the aristocrat and the socialist, I dreamed of the power of color and form, of beautiful cities and streets lined with the expression of those of my craft, and of the uplift and the broadening power of my art, and I perceived that my art and that of my fellow crafts-

men were to be responsible for betterment in life, and that those who were to follow me were to become of more importance to the world than my friends allowed. I contended that the ordinary things of life were the true luxuries and that my art was the most vital necessity. That the friendship and the comradeship of my time would extend itself into the future, and that a great society would grow from the feeble efforts of my craft. My friends agreed with me that a society or institute of craftsmen such as might possibly come from those of us who were engaged in the drafting and building of churches, court houses, houses, and cities, could be of use in the Utopia which we all of us desired.

It may be that the spirit of the jug affected our thoughts somewhat, or perchance our dreams were but forecasts of that which was to follow, for we saw a great country spreading itself from the Atlantic to the great western ocean, dotted with mills and factories and crossed with trading roads, but with my craft standing in the sunlight of life, coloring the thoughts and actions of the great nation.

That the work which my ship-joiner friend and I subsequently carried out was well designed cannot be gainsaid, for we soon became well known in all the country round, and indeed we were employed to make a draft of and to build the new meeting house at Rivermouth. This was desired in the Doric fashion, and here the books of Vignola came in most handily. The deacons wished to have sittings for full three hundred and fifty worshippers, with the servants' gallery and the organ loft to be added. This work we entered into with great pleasure, for the parish was rich and wished a proper house of worship. Our work was put forward in the spring which followed our new arrangement, and while my partner attended to the labor of getting out the timber, I, myself, made the drafts and the moldings. We designed the church with a spire and belfry tower, and provided a comfortable Doric porch with imitation quoin stones at the corner of the main building, and a cornice with a cavetto, and molded blocks with one row of eggs and tongues, and the new *carton pierre* which we had ordered from the Jacksons in London. We were compelled to substitute this new material where we wished to enrich our work with carvings. This meeting-house was much admired and we gained great credit thereby.

The First Congregational Church facing the Common. It, with the Church of England, had been designed by McIntire, though some now claim that the great Wren designed them

I do not think it wise to explain these many technical matters, as they can be understood only by our own craft, and shall therefore refrain, mentioning only such things as will be most easily understood by the lay mind.

The mansions for which we made the drafts were laid out most often in the fashion of the times. That they were comfortable, there can be no doubt, for first we planned the wide hall from the front doorway to the garden door at the rear, placing on either side the parlors and dining room of a size and fashion in accord with the ability of our client to pay. Our outhouse and sculleries were mostly in a wing on one side. In the work which we did in many of these houses we had great pleasure, and our imagination could be given some play by means of the new *carton pierre.* This same medium also enabled us to employ the many copies which were made of the work of the great masters in England and France and Italy, as well as the ornaments of the ancients. The mahogany which we used for our doors came to us from the West Indies in the trading vessels, and for our door harness and other needs we were well supplied by the special craftsmen in our employ. Frequently, when the masters failed us in the authority for detail, these special men applied their diligence to the solution of the problem, to the great gain of the craft.

We had many opportunities to meet the men of the craft from the cities and towns of the state, for we had our yearly convention in the Capital whence we journeyed by stage coach or by a trading vessel. At these conventions we took great joy in meeting the various masters of the art and the journeymen of intelligence, and interchanged with them ideas for the new appurtenances which our labor required. At these conventions we also visited the works of our fellow joiners and architects, gaining great profit thereby. It was through this means that improvements and inventions were encouraged, as well as a pride in our profession, for were we not masters in that great craft which made the houses of worship, the chambers for our law makers, and the homes for the people? And were we not the descendants of those great ancients of the old world whose names are writ in gold?

Though we had no assurance that those who were to follow after us would entertain an equal respect for their craft, we applied ourselves with such diligence to the carrying out of our own responsibility, for pride of self and for pride of craft, that no craftsman, not any from the great carver down to that one who mixed the mortar, relaxed his pride, and so through the efforts of all we were enabled to express ourselves, our town, and our nation, as only good men and true can do.

At my birth I had been blessed, or cursed, as you please, with a power of imagination, and while this sense had many times given me cause for great pain, it had also paid its own way with blessed comforts. Having acquired the habit of dreaming dreams in my rose garden in the shade of the trellised temple, which the play of my imagination demanded in my reveries, I dreamed of the future and of these things which I was doing with others for the delectation and comfort of those who were to follow. Would they understand the restfulness and the sureness of the right thing which we all of us were doing? Could they grasp that degree of comfort and simplicity which our Oldtown expressed? This expression could be comprehended only through those buildings which lined the Common and the streets of the town, aided and abetted by the familiarity and the nearness of the wonderful elms. Was it these things and these alone which spelled peace, or what exactly was the atmosphere that enfolded us? It could not be the forest and the stream, with the rolling hills and the quietness of undressed nature, for the response to these is quite another story. It must be, and it is, beyond peradventure, that the nature hunger of ourselves is to be satisfied only by the songs which our craftsmen have written. It is here where the charm lies and this charm is only possible when the form and the mass, the well proportioned detail and the color are in balance with our unexpressed desire. During my latter days at the conventions I had contended with Bulfinch and with McIntire and with those other masters, that our responsibility was great, greater than the responsibility of the clergy, for they, when they fail, have the great God to correct their errors, while when we craftsmen fail in our discourse, the poor, who must abide with it, have no rectifier. In my dream I saw greed and mental clumsiness, personal selfishness and chicanery, blotting out the great cameraderie of our craftsmanship, and my soul cried out that I might take my message to those who were to follow us, the message which Oldtown gave to me with reverence, the message of truth and plain dealing.

[Note. In case there are any sticklers for historical accuracy in the audience let us hasten to add, in this very small type, that Squire Stroud's house is in reality the Stearns house at Bedford, Mass., and was designed by Reuben Duren, architect; the elm-shaded street on page 27 is in Litchfield, Conn.; Justice Whitehead's house is well known as the Isaac Royal house, Medford, Mass.; the Hotel Swan porch is an end of the André house, Cresskill, N. Y.; Joe Hackey's house is the old Brinckerhoff house at Hackensack, N. J.; Dr. Bump's office end is on the Dorothy Quincy house, Quincy, Mass.; and the First Congregational Church is a restoration of the well known meeting-house at Lyme, Conn.—Editor]

A view of the whole group of buildings that made up Mt. Vernon, taken from the slightly higher point of land to the northeast. From the lower left corner runs the ha-ha wall that kept the cattle in the meadow and off the lawn

GEORGE WASHINGTON AS A PLANTER AND COUNTRY GENTLEMAN

By Paul Wilstach

THE career which George Washington planned for himself was that of planter and country gentleman, which was the most polite and opulent occupation for the American Colonial gentry of the South. It signified proprietorship, an acreage which usually amounted to domain, lordship over hundreds of slaves, and a broad margin of leisure. South of Philadelphia the great Colonial names almost invariably were associated with the country rather than the city. The gentry rarely had even a town house.

Washington participated natively and genuinely in this preference of his time, he schooled himself diligently in scientific agriculture and became literally a farmer. His plantation and his experiments in soil, crops, stock, trees, and other numerous by-products of his landed establishment remained an active interest with him in his absences, and at the end of his official life he returned with relief and affection to his acres and the life in the country. At that time Mrs. Washington's granddaughter, Nellie Custis, wrote Mrs. Wolcott: "Grandpapa is very well and much pleased with being once more *Farmer Washington*."

He found, by his own confession, "much more delightful to an undebauched mind the task of making improvements on the earth, than all the vain glory that can be acquired by ravaging it by the most uninterrupted career of conquests."

Washington inherited from his half-brother Lawrence an estate of 2,500 acres fronting on the Potomac River and Little Hunting Creek. On this land stood the centre portion of the now historic dwelling and other buildings. His first addition to Mount Vernon was the Clifton tract across the original Little Hunting Creek boundary, thus extending his river front to the east. From Thomas Hanson Marshall, of Marshall Hall across the river but in sight of Mount Vernon, and from his kindly but unfortunate neighbor, Captain John Posey, and from others, he added land to the south and westward which completed the original tract of 5,000 acres as it was when it came into the hands of Nicholas Spencer and John Washington in 1674, extending from Little Hunting Creek to Dogue Creek and fronting on the river. Other lands were acquired which carried the estate westward over the hills at the head of the latter inlet. At the time of Washington's death Mount Vernon included above 8,000 acres and nearly three quarters of its boundaries was water-front.

He divided Mount Vernon into five farms: the Mansion House Farm, on which stood the big house and the village of surrounding buildings; the River Farm, which lay across Little Hunting Creek to the east; Muddy Hole Farm, on the low meadows northwest; Union Farm, next west of the Mansion House Farm along the river and the creek; and Dogue Run Farm, which extended up the valley of the north branch of the run feeding Dogue Creek. About half of all Mount Vernon estate was in woodland.

Each farm was a separate establishment with its own overseer, hands, quarters for the slaves, farm buildings, and stock. Over all the farms was a general steward or overseer, who was responsible directly and only to Washington. He called this man his manager. Once a week, on Saturday, reports to his manager were made from all the farms. These were set in order and passed on to the master. Washington transcribed the data in these reports with scrupulous exactness into note books, diaries, and account books, as those which survive attest in his own handwriting. They recited in detail the work undertaken and accomplished; the labor performed by each farm-hand; the time, place, and condition of sowing, harvest, and sales.

Map showing Washington's five farms which totaled above 8,000 acres. The "References" are in the General's own hand

He described thus the mode of farming which prevailed in Virginia: "There is, perhaps, scarcely any part of America where farming has been less attended to than in this state. The cultivation of tobacco has been almost the sole object with men of landed property, and consequently a regular course of crops has never been in view. The general custom has been, first to raise a crop of Indian corn (maize) which, according to the mode of cultivation, is a good preparation for wheat; then a crop of wheat;

The brick ice house at the northeast corner of the group, showing the greenhouse in the background

after which the ground is respited (except from weeds, and every trash that can contribute to its foulness) for about eighteen months; and so on, alternately, without any dressing, till the land is exhausted; when it is turned out, without being sown with grass seeds, or any method being taken to restore it; and another piece is ruined in the same manner. No more cattle is raised than can be supported by lowland meadows, swamps, &c., and the tops and blades of Indian corn; as few persons have attended to sowing grasses, and connecting cattle with their crops, the Indian corn is the chief support of the laborers and horses. Our lands . . . were originally very good; but use, and abuse, have made them quite otherwise."

For the prevailing conditions he gradually studied out a substitute on the basis of stimulating and resting instead of taxing and exhausting the land. He finally drew up for his manager this rotation table, covering six years, as best for Mount Vernon farms:

1st. Indian Corn, with intermediate rows of Potatoes, or any root more certain or useful (if such there be) that will not impede the plough, hoe, or harrow in the cultivation of the Corn.
2d. Wheat, Rye or Winter Barley at the option of the Tenant—sown as usual when the corn receives its last working.
3d. Buckwheat, Peas or Pulse; or Vegetables of any sort, or partly of all; or anything else, except grain (that is corn crops)—for which this is preparatory.
4th. Oats, or Summer barley, at the discretion of the Tenant, with Clover, if and when the ground is in condition to bear it.
5th. To remain in clover for cutting, for feeding, or for both—or if Clover should not be sown—or if sown should not succeed; then and in that case the field may be filled with any kind of Vetch, pulse, or vegetables.
6th. To lie uncultivated in pasture, and for the purpose of manuring, for the same round of crops again."

From the time that he settled at Mount Vernon Washington conducted experiments in combinations of soil, fertilizers, and seeds. Probably none is more interesting than one of his earliest set out in his diary—"Where, how, and with whom my time is Spent," for April 14, 1760; an example in theory and practice:

"Mix'd my compost in a box with ten compartments, in the following manner, viz:—in No. 1 is three pecks of the earth brought from below the hill out of the 46-acre field without any mixture;—in No. 2 is two pecks of the same earth and one of marle taken out of the said field, which marle seem'd a little inclinable to sand.
3. Has 2 pecks of said earth, and one of riverside sand.
4. Has a peck of horse dung.
5. Has mud taken out of the creek.
6. Has cow dung.
7. Marle from the gullies on the Hill side which seem'd to be purer than the other.
8. Sheep dung.
9. Black mould taken out of the Pocoson on the creek side.
10. Clay got just below the garden.
All mix'd with the same quantity and sort of earth in the most effectual manner by reducing the whole to a tolerable degree of fineness and jabling them well together in a Cloth.
In each of these divisions were planted 3 grains of wheat, 3 of oats, and as many of barley—all at equal distances in rows, and of equal depth (done by a machine made for the purpose).
The wheat rows are next the number'd side, the oats in the middle, and the barley on that side next the upper part of the garden.
Two or three hours after sowing in this manner, and about an hour before Sunset I water'd them all equally alike with water that had been standing in a tub about two hours exposed to the Sun."

Later he made this proposal for the feeding of cattle: "I think it would be no unsatisfactory experiment to fat one bullock altogether with Potatoes;—another, altogether with Indian meal;—and a third with a mixture of both;—keeping an exact account of the time they are fatting, and what is eaten of each, and of hay, by the different steers; that a judgement may be formed of the best, and least expensive mode of stall feeding beef for market, or for my own use."

Another kind of experiment which was always going forward was the testing of foreign seeds in Mount Vernon soil. Washington's fame as a farmer after some years spread to England, and a lively correspondence grew up with English farming enthusiasts and experts. Mount Vernon became a kind of experimental station for the growth of the sample grains and seeds which they continually sent him.

Thorough in everything, he said "I had rather hear it [grain] was delayed than that it should be sown before everything was in perfect order for it: for it is a *fixed* principle with me, that whatever *is done* should be *well done*."

The upper terrace of the kitchen garden, taken from the west end where the whitewashed brick wall, surmounted by its trim picket fence, swings around in a graceful curve

Indeed his thoroughness must have been the despair of his managers and farmers. His study in detail extended to the count of the number of honey locust seeds in a quart, and he found: "a (large) quart contains, 4,000 seed; this, allowing ten Seed to a foot, would sow, or plant, four rows of 100 feet each."

His experiments were not all to circumvent the perversity of soil and seed. He had to contend with much perverse human nature. In plain terms, the overseers of the various farms stole and sold the seed allotted to them to plant. To prevent this his manager was directed to "mix in a bushel of well dried earth as many pints of seed as you allow to an acre, and let it be sown in this manner. Two valuable purposes are answered thereby—1st in this State, the seed is rendered unsaleable; 2dly a person not skilled in sowing small seeds, will do it more regularly when thus mixed."

Tobacco was the purchase crop of the colony, in a sense the legal tender, and as such every planter was obliged to raise it. Some planters raised scarcely anything else. Washington began his farming at Mount Vernon with large acreages of the leaf, but he very soon discontinued it; he said: "I make no more of that article than barely serves to furnish me with goods." Eventually the estate raised large crops of wheat, corn, oats, hay, flax, buckwheat, potatoes, clover, hemp, sainfoin and barley.

In addition to selected breeds of plow and draft horses, Samson, Magnolia, Leonidas, Traveller, and other stallions, with many brood mares, kept the farms supplied with the best of horseflesh. Washington was also interested in jackasses of which he had several presented him by General Lafayette and the King of Spain. The roads on and about Mount Vernon were familiar with the leisurely progress of yoked oxen, which were driven until their eighth year, when they were fattened for the market. The meadows took a decorative effect from the flocks of sheep and from the grazing beef cattle which were branded on the right shoulder with their owner's initials, "G. W."

The old mill, which his father, Augustine Washington, built, was im-

proved and it turned out a quality of flour so well approved that the Mount Vernon label on a barrel was sufficient to pass it through the English customs without examination. His diary (April 8, 1760) tells of word coming to the big house that, as a result of a heavy night rain, the mill was "in great danger of blowing." He hurried off with all hands and arrived there "just in time to give her a reprieve for this time by wheeling dirt into the place which the water had wash'd." A thunder shower held him at the mill and he experimented on "what time the mill requir'd to grind a bushel of corn, and to my Surprise found she was within 5 minutes of an hour about this. Old Anthony attributed to the low head of water, but whether it was so or

The stable, and at the left, the gateway leading into the farm road. The little white building at the right is the coach house

Looking down the central cross axis of the flower garden to the greenhouse. Within the gates are the marvelous convolutions of old boxwood

not I can't say—her works [being] all decayd and out of Order, which I rather take to be the cause."

He rebuilt the mill in 1770 and reconstructed the mill-race in 1795. Time and neglect have since destroyed both, and the creek has so filled since, that ships can no longer come within hundreds of yards of the old landing. During the last century the ruin was known as Jack's Mill, from the name of the last miller Washington established there. Like Gray, who gave his name to Gray's Hill on the heights to the west, he was one of Washington's legion, a recommendation which never failed to reach the heart and interest of the commander.

A distillery was set up on the place and furnished liquor for the hands at harvest time or when malaria gripped them. When a deposit of stone was found it was quarried and supplemented the brick kilns in furnishing foundations for the buildings. When the price of wheat and flour was down they were turned into biscuit. One of the old contracts survives, signed by Washington, and provides for his delivery "at his mill on Potomack one thousand Barrells of fine barr flour & . . . Barrells of good, well baked biscuit for a long voyage. . . . And it is agreed by Geo. Washington to lend his boat to assist in getting the Flour from the Mill door to the Ship at the Mouth of the Creek."

Second only to the productiveness of the soil was the yield of the waters of the Potomac. The diaries often refer to the fishing shore, his seines, and his schooner built on the place in 1765. One entry reads: "The white fish ran plentifully at my Sein landing, having catch'd abt. 300 in one Hawl." At another time "the Herrings run in great abundance." Herring was the staple fish, and when abundant they were salted down in barrels for use on the place or for winter market at an advanced price. Of the generosity in both fish and corn which went forth from the place, Peake, a manager, gives this testimony:

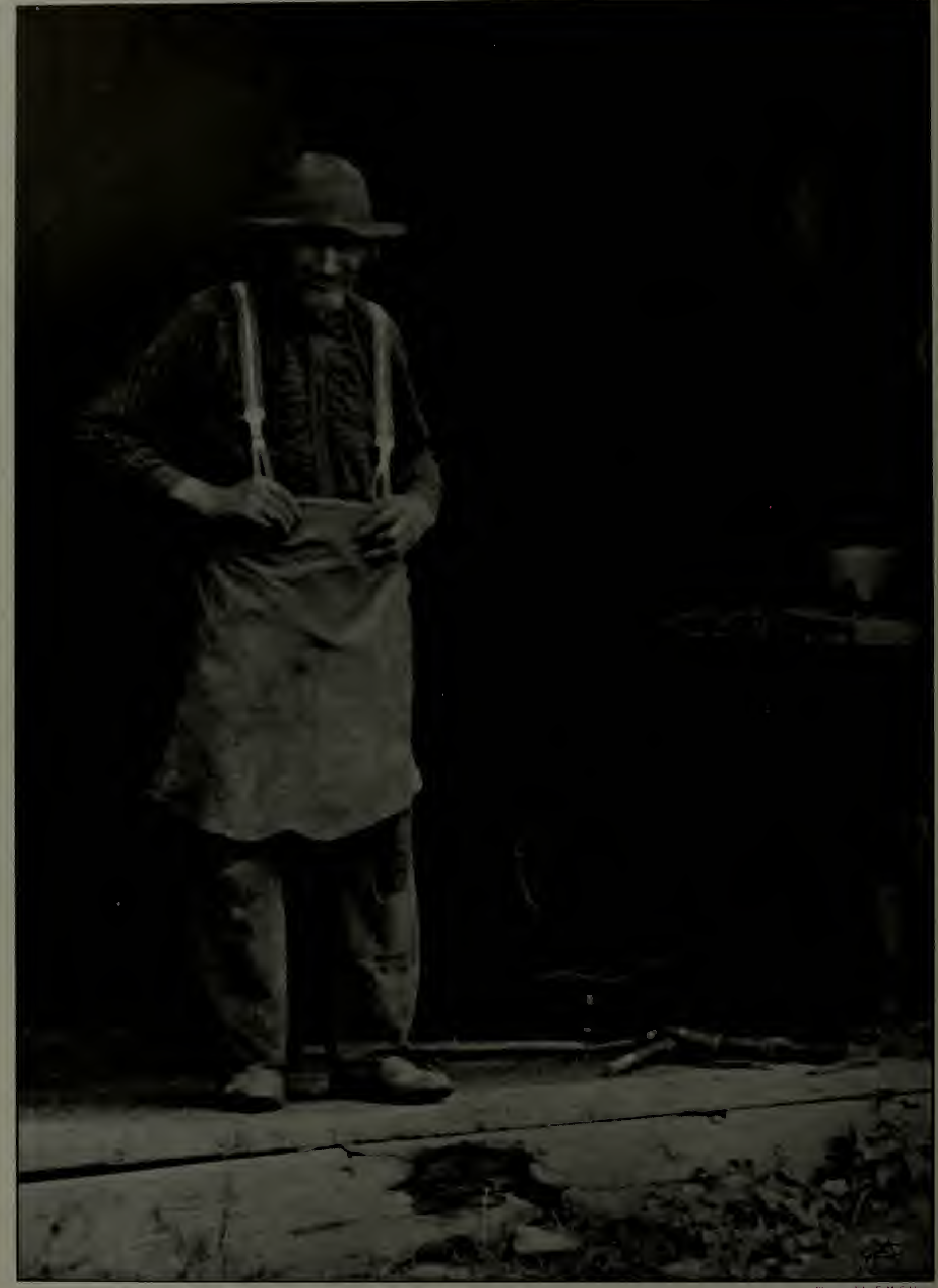
"I had orders from General Washington to fill a corn house every year, for the sole use of the poor in my neighborhood, to whom it was a most seasonable and precious relief. . . . He owned several fishing stations on the Potomac, at which excellent herring were caught, and which when salted, proved an important article of food to the poor. . . . For their accommodation he appropriated a station—one of the best he had—and furnished it with all the necessary apparatus for taking herring. Here the honest poor might fish free of expense, at any time, by only an application to the overseer; and if at any time unequal to the labor of hauling the seine, assistance was rendered by order of the General."

Mount Vernon was eventually brought to high productiveness, but the scale of life there was such that rarely did the farms show a balance wholly on the right side of the ledger. Washington found its true and largest asset in the fulfilled ideal of private life and in solving the interesting problems of the planter.

From the time Washington first left home in 1775 to take up his career as General of the Army, his estate was in the hands of a manager. But he exacted a weekly report from his manager by the post leaving Alexandria each Thursday, and he, on his part, wrote each week, usually devoting Sunday afternoon to the preparation of the long letters, which covered two or three, and even four, large, closely written pages. He referred to the hundreds of slaves by name, and knew the names of each of their children; he knew exactly where windows and doors were to be placed in all the buildings, and their dimensions; what was boarded and what was free; what carpenters were available and best suited to the various jobs; what money was owed and what money was owing him; the condition of his growing crops; the potentiality of each field; the stage of the foaled mares; and seemingly every other imaginable detail. That an absent proprietor with no other concerns should exhibit such a grasp would be remarkable; that it was the concurrent if not the secondary interest at first of a general conducting a great war and later of a president organizing an infant nation, excites a truly natural wonder.

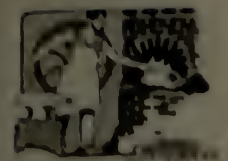
Washington has left an interesting account of how his days were spent in a letter written on his return from his eight years in Philadelphia as President, in the spring of 1797, to his friend James McHenry:

"You are at the source of information, and can find many things to relate; while I have nothing to say, that could either inform or amuse a Secretary at War in Philadelphia. I might tell him, that I begin my diurnal course with the sun; that, if my hirelings are not in their places at that time I send them messages expressive of my sorrow at their indisposition; that, having put these wheels in motion, I examine the state of things further; and the more they are probed, the deeper I find the wounds are which my buildings have sustained by an absence and neglect of eight years; by the time I have accomplished these matters, breakfast (a little after seven o'clock, about the time I presume you are taking leave of Mrs. McHenry) is ready; that, this being over, I mount my horse and ride round my farms, which employs me until it is time to dress for dinner, at which I rarely miss some strange faces, come as they say out of respect for me. Pray, would the word curiosity answer as well? And how different this from having a few friends at a cheerful board! The usual time of sitting at table, a walk, and tea, brings me within the dawn of candlelight; previous to which, if not prevented by company, I resolve, that, as soon as the glimmering taper supplies the place of the great luminary, I will retire to my writing-table and acknowledge the letters I have received; but when the lights are brought, I feel tired and disinclined to engage in this work, conceiving that the next night will do as well. The next comes, and with it the same causes for postponement, and effect, and so on. . . ."



Photograph by F. M. Cable

"WHEN THE LAST OF THE OLD-TIME SMITHS IS GONE, AND NONE STEPS FORTH TO TAKE HIS PLACE, LOVERS OF HORSES WILL HAVE SUFFERED A LOSS INDEED"



WHERE ARE THE SMITHS OF YESTERDAY?

By E L D Seymour

Is the day of the apprentice, of his thorough, practical training and his painstaking, self-respecting skill, lost to us entirely?

WHAT is to become of the good old trade of blacksmithing, now so overshadowed by those of chauffeur, repair man, and mechanician? And in the same breath, where is the future source of careful, intelligent, beneficial horseshoeing for those of us whose equipages are still propelled by muscles instead of motors?

Eliminate the farriers of the U. S. Army, and the limited number of specialists retained by, or accessible only to, the racing fraternity and the more than well-to-do, and who is left to perform similar offices for the rest of us and our steeds? A very few masters of their craft who have studied long under old Dr Experience and who, in their work, take equal parts of pains and pride. But these, alas, are mostly of a generation past, old masters indeed, whose gruff but sound advice we must make the most of for the few years it can be vouchsafed us.

For the rest—the omnipresent foreigner—Slav, Pole, Italian—cutting and fling away at a hoof with about the same delicacy and restraint with which he would attack a ditch to be dug, or a tree to be felled; or perhaps the youthful, half-trained beginner just starting in because he cannot make the farm pay, or because a job under somebody else has proved distasteful.

Is the day of the apprentice, of his thorough, practical training and his painstaking, self-respecting skill lost to us entirely? Are there no young men left of the same metal that makes good farmers, good soldiers, good mechanics, who are willing to learn by doing, slowly and carefully, under the eye of those old masters whose places they must fill?

My smith tells me that he can no longer get that sort of helper; that the men that come to him are about as well equipped for work on the roads or the wharfs or in the mines as in his shop; and that the thought of really learning his trade and excelling in it is as foreign to their minds as Greek and psychology.

Yet the gloom is not wholly unrelieved by rays of hope. Two means of almost infinite possibility are at hand, if men will but realize and utilize them.

For one thing let instruction in farriery be attributed its due importance and receive its due attention. Make of it something more than a two or three hour, half-year course in our agricultural and veterinary colleges. Already the first timid step in this direction has been taken in the establishment at Cornell University of America's first School for Horseshoers. Under the direction of experienced veterinarians and a practical graduate of a similar institution in Dresden, this school, which opened last year with a class of about twenty experienced New York blacksmiths, offers unlimited possibilities and an example that other states will do well to follow.

But this plan, admirable as it is, covers only half the field. Unless some premium is placed upon expert workmanship, unless the profession is given new dignity, and made to offer some sort of definite attraction and reward, such schools will languish and die for want of patronage. In other words, enlist the stimulating aid of competition, adapting, perhaps, another of the excellent customs of the continent. At the many splendid livestock exhibitions of France, we read that, "A side show in which keen interest is exhibited is a horse-shoeing contest between farriers from the provinces and from several regiments in the French army. A well equipped shelter, with forges, anvils, and shoeing stalls, is provided for the contest. The test involves almost every feature of the farrier's skill, from the making and fitting of shoes to prescribing for horses with peculiar hoofs and hoof diseases. A board of experts representing the agricultural college and the army is present to give a vigorous oral examination to the contestants. A farrier who can win a prize in one of these show contests has demonstrated his ability beyond question. The contest results in encouraging a high-grade group of farriers which gives a basis to the Frenchman's boast that French horses are the best shod in the world."

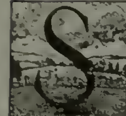
These masters of their craft are of a generation past

Applied to our own state and country fairs, this plan suggests tremendous possibilities not only in the temporary interest of such contests but also in their indirect, far reaching influence.

Here, then, is a programme, simple, practical, needing only a concerted effort to carry it to successful completion. And but little time remains for fruitless discussion, for when the last of the old-time smiths is gone and none steps forth to take his place, lovers of horses will have suffered a loss indeed.

SOME REFLECTIONS of A BACK-TO-THE-LANDER

By John Anthony



SUSAN and I made several jumps into the dark. We got married, bought an orchard, and came to live in it—three hazardous experiments.

We have been here three years. Our lives haven't worked out as we expected them to, and we are going to leave for a while. No, distinctly, we have not given up the experiment, but we didn't get the relationship of things just right, and we are going away to adjust values and perspective. We couldn't bring ourselves down to the level of the old owner of the place nor could we, at once, lift it to our own plane.

This orchard is not the right size. It is too big for one man and not big enough for two. The fruit is too good for ordinary grades and not enough of it good enough for fancy box packing. It takes a long time to lift the product into the higher grades. There are too few trees of the table varieties to warrant the organization necessary to do first-class boxing of the fruit, and yet a percentage of the apples are too good for other use. Nobody told us anything about fitting the place to ourselves or fitting ourselves to the size of the place. That is one reason why I am telling about our experiences. It may save some other adventurers from temporary dismay while they are adjusting themselves to new conditions.

Our vision of the promised land

The good things of life on this hilltop were the first that I saw when I visited the Wests. They welcomed guests and had time to give to their entertainment. The land yielded an abundance, and the table was bountifully supplied with country richness. The hours of work seemed moderate and the work itself a sort of play. Hiram talked with his city guest until eleven at night and then went out to his cows, for, as he said, "I can milk any time, but I don't get a chance to talk like that often."

The place had grown under his ownership without his realizing just what it was doing. He was born and bred a farmer and from his dairy eked out a scant living. His orchard cost him little and the sale of fruit was nearly all clear profit, save for the harvesting expenses. He gave his hours to the cows who returned him little, and devoted his minutes to the trees which rewarded him largely.

He did not realize the potential value of the orchard, nor the economic waste of a dairy of low-grade stock. And yet, under his management, the place yielded a living each year and a surplus when nature, in kindly mood, touched the trees with the wand of fruitfulness and kept away the bugs.

He could wait, high ideals didn't worry him, nor third-rate cows make him ashamed.

Susan and I were submerged in ideals. Indoors and out we wanted to renovate, to paint, to build, to radiate success and joy in being alive.

If we had had the money to spend, these things would have been easy, but unwise until we were tempered by experience. All the faith in the world doesn't make a New England hillside farm a revenue producer, and it and its owner should prove out before it is good policy to put much money into it.

We devoted our energies to the resurrection of the trees, for we recognized the value of the orchard, but in doing this we lost sight of the immediate revenue coming from a six-cow dairy of ordinary stock. Our ideals would have kept us from this anyway, for we don't want poor cows and we don't know enough to keep good ones, nor are our steep pastures adapted to fancy breeds.

We put our faith in the trees. "It's like putting money in the bank," reassuringly remarked Hiram, as he watched the heavy pruning of the first year. It was more like putting it in an entailed estate. For two years the crops were nearly failures, and on the third the market had no bottom. Through all the vicissitudes we hammered away at our markets and established our name and raised the quality of our product.

Easy-going Hiram put his seed potatoes in the ground with a little fertilizer, sprinkled the bugs with a bit of paris green, and dug his crop in the fall. He had plenty of potatoes to eat and sometimes some to sell. What if they were afflicted with scab? Mrs. Hiram could cut out the bad spots and it didn't hurt the taste—it only made more work for "Marm."

We were bothered with standards. I wouldn't raise potatoes with scab, and Susan wouldn't use them. It is easy to prevent this trouble, but it means more work and material. The first fall I brought into the cellar a crop of beautiful quality potatoes, free from every trouble. We sold of the surplus at a good price and builded a bit of reputation. The next year we expanded and planted many potatoes and went after the market which had begun to sprout the year before. Too late we discovered an insidious disease for which the books do not supply a remedy. Our care and more costly methods had availed us not one whit for that season, and our special market was lost.

We advertised our apples in the local papers. It didn't pay in direct orders, but it extended our reputation and added solid value to our orchard by making it known. When Susan and I drove around the country in her pretty runabout behind a well-groomed horse, we were pointed out as the "apple people".

Susan is the best cook alive, and when special visitors came to see our orchard we kept them to dinner. The meal was served before a cheerful blaze in the old-fashioned Dutch fireplace in the replastered living room. The table was set with Canton china and real damask cloth. No wonder our guests left, thinking that a bit of Eden had escaped from the long ago. Susan's meals would insure that.

I wish to sell my apples at fancy prices because I wish to raise and pack fancy fruit. It is good business to do it, too, for high prices minimize the cost of our long haul. But our trees are a heterogeneous lot, many of the varieties unworthy of the box package and others on the border line, while a few demand the very best. It costs nearly as much to get an expert box packer for a few boxes as for many, so we were between the horns of a dilemma. We must and we couldn't.

Lacking ideals, Hiram met this condition by packing everything in barrels and made money each year.

Having ideals, we met the same condition by packing everything possible in boxes and we haven't made money yet. We are educating our public and elevating our apples. The Tracy apple packed in a barrel is a mediocre sample of fruit. This same apple, wrapped and packed away in a box until early spring, becomes a first-class variety. But the people don't know it and we are teaching them. Each year our apples are better and our customers demand more of them. Yes, ideals pay.

Hiram lived within the income provided by the place, but he let half of his apples rot on the ground and his orchard was unknown. Susan and I have lived beyond and above the place. The fresh paint in the living room, the whitewash and

new methods in the packing house have captured the interest of every one who has come to visit us. Our apples have traveled across the Atlantic and more than half way across the continent. Our methods of advertising are taught in state colleges of agriculture and by at least one board of trade. Our product is sought by two wholesale houses whose heads have come to see us. One of them, hearing of the possibility of our managing another and very much larger orchard, hastened to express a wish for the whole product of the two places for a series of years. This is why we are leaving our own orchard for a time. But it is to go to other work in the country.

"The hours of work seemed moderate, and the work itself a sort of play"

We believe in our work and in our orchard. Oregon men have succeeded, why should not we? When I compare the advantages of the East and West I can wait, with patience, for our young orchard. The result is certain, if the Western man is not more than five times as bright as I.

From Portland, Ore., to Boston in carload lots the freight is $1 per 100 pounds. For us it is less than one fifth of that. The express rate is $7.65. For us it is 84 cents. I can deliver my apples by express by the single box at the house of the consumer in considerably less time than the Oregon man can land his in car lots at the station. I can reach the retail end of the business for less money than he can grasp the wholesale rope.

Oregon is handicapped by barriers which she can never overcome. New England is handicapped by lack of coöperation and plain business sense, obstacles which she should overcome within a single decade. Her farmers will not see that the golden harvest which Oregon has reaped through modern methods of fruit raising should have been theirs, and can be if they will ever learn the lesson so plainly taught. With a home market surrounding them, the market of the country within a day's journey of them, and the ports of the Atlantic almost within sight, they have let the energetic Westerner steal their birthright.

If the demand for apples keeps pace with the supply, New England growers should profit because of nearness to markets and quality of product. If the supply overruns the demand, then New England, not having high freight rates nor interest on costly land to pay, should thrive and supply the best markets of this country and abroad. She wins, heads or tails.

So we dream, and Susan and I put our faith in the future and are happy in our vision of the promised land. And not unhappy in the present, for when we go to the city and see the tired workers in the streets and the cars, we see the faces of people harassed by dull routine and read in them of lives that are encompassed by walls of brick and organized society. Initiative has been squeezed out and a juiceless pulp left behind. Clad in overalls, I'd rather milk the cows than ride in a crowded trolley to a joyless job. Our living depends on our initiative; mere existence is ours for a minimum of labor. We think we have the better of it.

When we came here I was tired enough of the apparent futility of life to want peace at any price, and Susan thought she was. We could both see flaws in the way things were done on our hilltop and we felt that we could improve methods and results. We hoped to find happiness in a simple mode of living wherein we did our own work and were free from the cares and worries of the big outside world.

Susan delights in cooking and finds happiness in housework. She sings all day when we can be alone, when the table is set for two, but she rebels at the continued presence of the hired man. She feels the thrill of providing for the harvesters and packers and infusing life and spirits into a household of a score at that busy season, but she doesn't want her living room continually invaded by the alien. I can find pleasure in cleaning the horses. I like to hoe the garden and even enjoy going after the cows. But a boy can do these things. I can run the gang in our busy season, think out new ways to connect with the consumer, and instal efficient methods of handling our crops. It would take a precocious youngster to do that. Susan is not adapted to running a boarding house for one boarder and my capacity is not taxed to do the stable chores. We must find other outlets for our energies.

Three years spent up here have taught us many things. We have discovered that we are more truly working on the problems of the world on our hilltop than ever we were when in the midst of the whirl. Here we are face to face with the questions of production and distribution.

The world is dependent on its food supply, and every question solved concerning either of these, on however small a scale, is that much added to the welfare of our fellow man. If, in learning to handle our labor problem, we can teach our neighbors the value of organization and show them the benefit of helping each other, we are doing a bit of good in our community. When Susan teaches them the value of a vegetable garden and the use of milk in the diet, she is driving in a wedge that may open up a road of health and strength for children yet unborn. This is the life that we see ahead of us, one of helpfulness to others and good things for ourselves.

We cannot abide quietly in isolation. Our orchard cannot yet support the number of people necessary to do all these things that must be done. These be days of reconstruction. The old is passing and the new is coming into being.

Typical of the growth is a single tree, number 525 on our books. The last year of Hiram's reign it bore a dozen apples. The following season it yielded two dozen big, red beauties. Last year a box of fruit hung to its branches. This season more than three boxes of fancy McIntosh Reds were picked from that tree.

Up on the hillside, above the old place, there is growing up a new orchard. Year by year, these young trees are climbing toward fruitfulness. In a single season they should have the first apples, and on that day, coming ever nearer, when these, our own young trees, shall really begin to bear, the old régime will have passed and the beginning of the new era will have dawned. Susan and I will come into our own and will know the joy of having reached our "promised land." The place and its owners will have adjusted themselves to each other.

"The land yielded an abundance"

Garrison House is another name sometimes given the Spencer house, because of its use at one time as a storage place for powder. The fact was fixed in popular memory by an explosion which blew out one side of the house, depositing an old slave in the boughs of a near-by apple tree

ONE OF THE OLDEST HOUSES IN NEW ENGLAND

The Spencer House (1651), Newbury, Mass.

ONE of the oldest houses in New England is the Spencer house, or, as it is sometimes called, the Garrison House, now owned and occupied by a Newburyport banker.

The house was built in 1651 by John Spencer, Jr., on land that had been willed to him by his uncle, John Spencer, to whom was granted 450 acres at the mouth of the Merrimac River, for his eminent services in settling the colony.

The public records of Salem, Mass., show that this property was deeded by John Spencer, Jr., to his uncle, Daniel Pierce, ancestor of President Pierce, November 26, 1651, and that in addition to the usual form, the transfer of title was further confirmed by following an old English form of conveyance called "Turfe and Twigge," an account of which is given by Coffin in his history of Newbury. The testimony is as follows, by deposition of Anthony Sowerby:

"This deposition saith that about the year 1651 I was at ye farm John Spencer sold to Mr. Daniel Pierce in Newbury, and Mr. Spencer and Mr. Pierce with myself and another, and, as we were going through the land of ye said farm Mr. Pierce said to Mr. Spencer, 'You promised to give me possession by turfe and twigge.' Mr. Spencer said, 'Soe I will if you please to cutt a turfe and twigge,' and Mr. Pierce did cutt off a twigge off a tree and cutt up a turfe and Mr. Spencer took the twigge and stuck it into the turfe and bid us bear witness that he gave Mr. Pierce possession thereby of the house and land and farm that he had bought of him, and gave the turfe and twigge to Mr. Pierce, and, further saith not.

"Taken upon oath 10th Jan. 1679, before me John Woodbury, Commissioner. Recorded in the Registry of Deeds, Salem, Book 4, page 133."

The door to the "porch" as it was called, but which we might now call a sort of vestibule

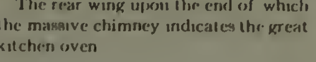
During the Revolutionary War the property was owned by Nathaniel Tracy, a wealthy merchant who had many privateers, whose incoming with prizes he would watch from the east windows of his house. He married one of the greatest beauties of the day, a daughter of Colonel Lee of Marblehead. During his occupancy of the Spencer house Mr. Tracy entertained many notable guests, among whom were the Marquis of Chastellux, Baron de Talleyrand, M. de Montesquieu, and the Marquis de Vaudreuil, whose squadron was then at Boston.

The Marquis de Chastellux, who was a member of the French Academy, wrote as follows of an evening spent at the Spencer House:

"Mr. John Tracy (Nathaniel's brother) came with two handsome carriages and conducted me and my *Aide de Camp* to his brother's house.

"I went by moonlight to see the garden, which is composed of different terraces. The

The parlor, as renovated by the present owner. In the old days inside shutters were closed at night



The rear wing upon the end of which the massive chimney indicates the great kitchen oven

house is very handsome, and everything breathes that air of magnificence, accompanied with simplicity, which is only to be found amongst Merchants here. At ten o'clock an excellent supper was served. We drank good wine. Miss Lee sang, and prevailed on Messieurs de Vaudreuil and Baron de Talleyrand to sing also. Toward midnight the ladies withdrew. Pipes were brought on. Mr. Tracy entertained his guests with stories of his privateers and the varying fortunes they brought him. Sometimes he would be on the verge of ruin, then a rich and unexpected prize would carry him as on a high wave to prosperity again."

A member of the Massachusetts Historical Society reporting on the house in 1896, said: "The walls ... are of gray split stones and are very thick. In front is a two-storied brick porch, and at one end is an early addition built of wood.

"On the lower floor there are two large wainscoted rooms ... quaint and delightful. It is a substantial, very homelike house, more like an English one of its date than any the writer has seen in Massachusetts."

Lucius Foote Spencer

Inside the front door, which, with the tiled floor, is nearly as it was almost three centuries ago

A rather steep and narrow stairway starts just opposite the front door

In the dining room the solid inside shutters give place to slatted blinds

The lupin is easily the most conspicuous of the border flowers. A good plant for light, sandy soils

The GARDEN OF HAMMERSMITH FARM NEWPORT, R. I.

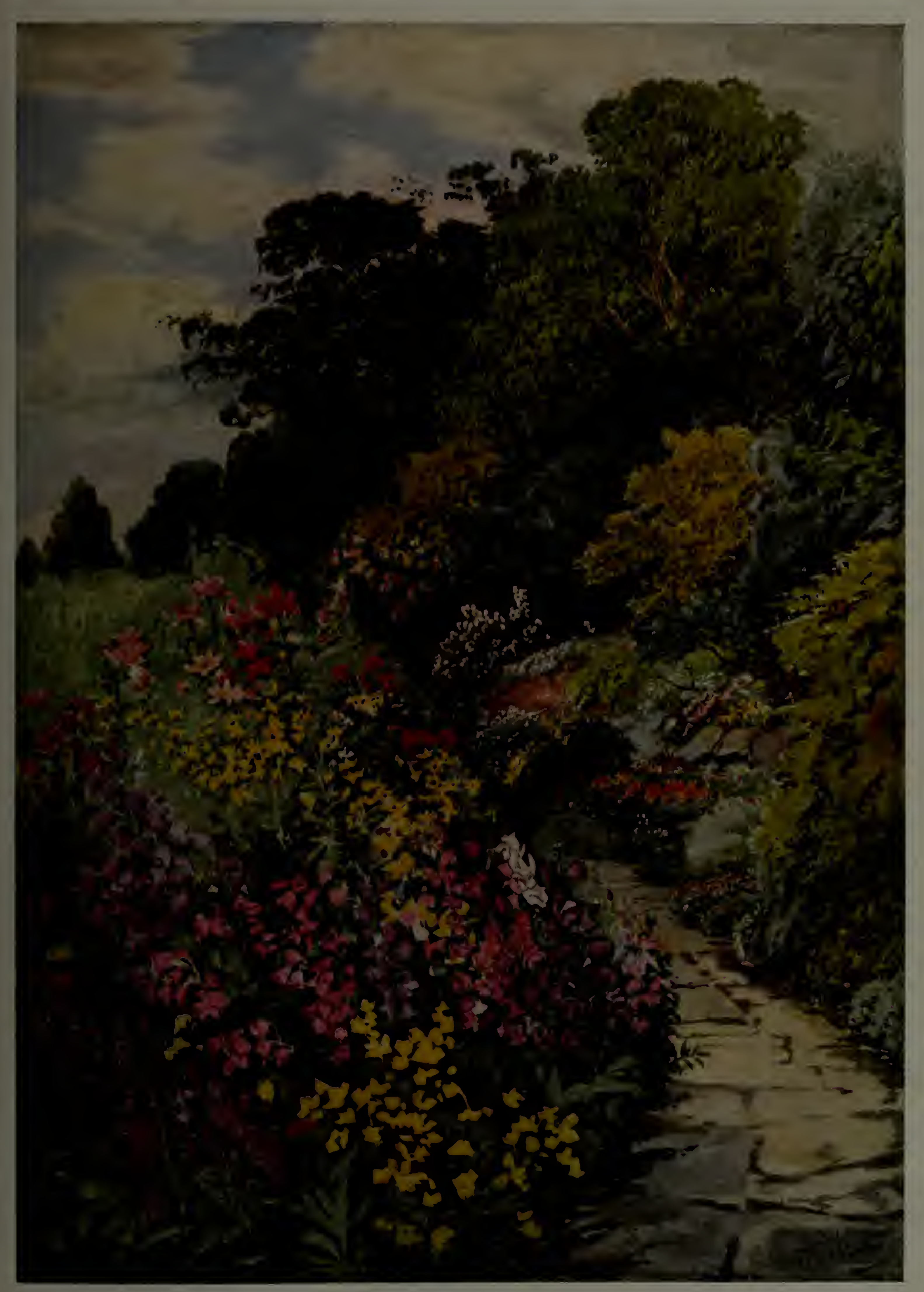
The Summer Home of Hugh D. Auchincloss Esq.

Photographs by Arthur G. Eldridge

Lilies of the speciosum type flower freely. In common with other lilies, they prefer not being overfed

The large parterre, bordered with formally designed beds and suitable furniture, forms a semicircular apron to the long, tile-paved, shelter house piazza

The parterre is enframed by a vine covered arcade, and is approached through borders and beds of herbaceous plants, water lily pools, etc.



THE ROCK GARDEN, HAMMERSMITH FARM
From the painting by A. C. Wyatt
Hammersmith Farm is the summer home of Mr. and Mrs. Hugh D. Auchincloss, at Newport, R. I.

THE HERBACEOUS BORDER, HAMMERSMITH FARM

From the painting by A. C. Wyatt

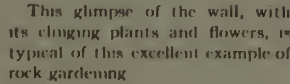
Mr. Wyatt was awarded the only Diploma of Honor for garden painting at the Royal International Horticultural Exhibition in London, 1912, and his style of painting was a favorite with the late King Edward, who possessed a number of his canvases

The rugged steps are of shale taken from the site and laid without cement

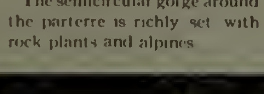
Extending on the axis of the parterre, and below it, is the rocky gully with its outlook to the sea

While Achillea lends the tracery of its shadows to the flagstone walks

Gasplant (fraxinella) is one of the more conspicuous of the taller plants, and fits in well with the surroundings



This glimpse of the wall, with its clinging plants and flowers, is typical of this excellent example of rock gardening



A bit of truly rugged rock effect, part of the natural stratification of the place

The semicircular gorge around the parterre is richly set with rock plants and alpines

FROM A COUNTRY WINDOW

THE SPORT OF LOAFING

A GOOD MANY people have been puzzled by Walt Whitman's remark about loafing and inviting his soul. A sentiment to be heartily disapproved of, they say, or merely an example of the poet's fondness for strange phraseology.

It is evident that such people have never really loafed, or they would understand—loafed in a thorough, sportsmanlike manner, that is, right in the middle of the week, on a perfectly good working day.

Loafing is a sport that can be thoroughly enjoyed only by the industrious; to be sweetest, a loaf should be deliberately stolen from the midst of working hours. And the game is best played alone.

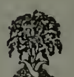
It is something like this: on your desk there is a pile of mail to be gone over; there are several important letters to be written. Brown is waiting for a decision on the matter of that real estate deal. There is a brief or a sermon or an editorial or a speech to be prepared before the end of the week. There's that garage door, too; you really must decide to-day whether you're going to fix it yourself or telephone to the carpenter.

Wherefore and accordingly, you hunt up the oldest, softest felt hat in your collection, steal quietly out at the front door and around the house, and then stroll nonchalantly off down the road, having reached the conclusion that the United States Government, the Stock Exchange, the Presbyterian Church, the Republican Party, the Western Union, and the local Historical Society can all suspend business till 5.30 P.M., or find some way to struggle on temporarily alone.

Over your shoulder you carry a fish-rod that you do not use, though you wander along by the brook. Anon you start to climb a rounded hill; but you change your mind half way up, throw yourself flat on your back under a big oak tree, and squint up at the loafing clouds, just as you used to do when you were a boy and knew what loafing really was.

On the grass beside you is a book you do not read; in your pocket is a pipe you do not fill. Small insect and animal things come to life under the low shrubs near at hand. Overhead the little leaves dance and flirt, and the birds are busying themselves with gay and important affairs.

As the hour approaches for afternoon tea, all nature seems to knock off work and to gather about you for a bit of gossip and relaxation. And if you are at all the right sort you will discover that you are not an unwelcome guest at this chatty, informal affair, and that even your soul—that half-forgotten, half-starved thing that had become so nearly buried beneath business and habits and conventions—your soul, too, has been invited.

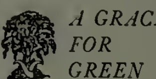


THE SUNRISE SYMPHONY

TO THOSE of us who, like Charles Lamb, fail to enjoy the chilly, dewy experience of watching the sunrise from a knoll behind the house, it is comforting to find one phase of dawn which can be enjoyed from the coziness of one's bed. I mean the early morning concert. Before the first ray of light steals in through the shutters on summer mornings, you can hear soft noises from the world without: first a cricket's chirp, repeated more insistently after a little, until, with a gentle flutter of unfolding wings, the whole race of insects stretch themselves. They deliver the prelude before the birds, the real performers, take the stage.

The orchestra undoubtedly needs a conductor, for its lack of ensemble is its greatest weakness, but in variety of tone and brilliance of solo passages it has no rival. A conspicuous and oft reiterated theme is the bobolink's outburst of gleefulness; a few slow but insistent notes serve to attract your attention just before his exuberance of songfulness bubbles over in an incoherent jumble of liquid tones. Equally unmistakable is the vireo's high, unvaried warble; it is an irritating motive by reason of its abrupt ending, which puts you into the same state of nervous tension which you felt as a child when you played "Going to Jerusalem." Other melodies are contributed by the goldfinch, and the chickadee, and the song sparrow, each distinct in pitch, rhythm, and quality of tone. Rather of the nature of accompaniment are the minor strains supplied at intervals by the meadowlark from a near-by hayfield and the thrush from the edge of the woods. Occasionally the red-winged blackbird intones his rough three syllables in the swamp below the hill.

About the time that the gray light brings into outline the picture frames on your bedroom wall, the musicians end their performance and go about the more serious business of getting breakfast. And by the time you step out on the porch for a whiff of the good country air before breakfast, you need not expect to see any of them, except perhaps a single nuthatch performing his perilous perambulations around and around the trunk of a tamarack tree, or a Phoebe twitching her tail in the lilac bush by the door while waiting for a chance to slip quietly into her nest under the porch roof.



A GRACE FOR GREEN

CHARLES LAMB once suggested that before opening a good book we ought to say a grace. It would be never a whit less proper to give thanks for the blessing of green.

I would give thanks for green, because it is the recuperative color. Was it not said of green leaves that they should be "for the healing of the nations"? And has not the olive branch stood for these thousands of years as the emblem of peace?

But I would also give thanks for green because of its many minor services. Because it is unassertive. Because it is as reassuring as a dependable personality. Because it has a way, like another type of personality, of bringing out the best in everything it comes near. Because it enhances the beauty of reddening apples on the trees. Because it lends a felicity to the red roofs of homely cottages. Because it softens the glare of many a red brick house in city streets.

And again, I am grateful for the green of shadows that, like waves of rich content, spread over the rolling lawn. I am grateful for the green of darkling woods, where a hush comes over the spirit while the deep-breathing universe seems to invite the soul into a mighty fellowship.

And then, I must be grateful for this green as a mere hue. I must rejoice in the very fact that here is not one of those things with tactile value, one of those far too numerous "objects in life" which are forever bidding us come clutch them. Rather here is a pervasive sort of companionship that tacitly relegates human effort to its proper insignificance in the large scheme of existence, in comparison with the mysterious realities. Here is a presence that, annihilating strife, seems to excuse a moment or two of purely sensuous living. Yes, I would bask in green as your cat basks in sunshine.

TRELLISES OF OLD CAPE COD

At Hyannis, Mass. The free standing trellis seems to have received the carpenter craftsman's best efforts in design

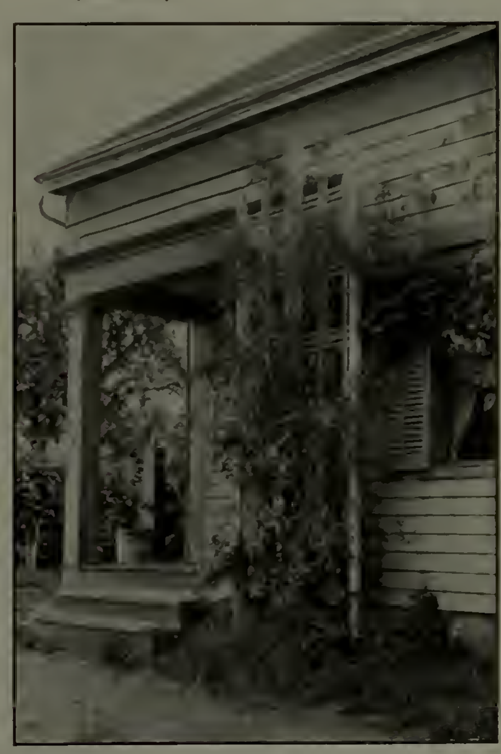
A simpler type at West Dennis, in which the curved members are of lighter material held in a sturdy frame

The trellises are frequently found in pairs, symmetrically disposed as on this little cottage at South Harwich

Another pair at South Chatham, from which one of the climbing rose bushes has long since passed away

Still another pattern at Harwich, the top piece sawn out of a solid board

The type is at its best when not too high, as in the left-hand example of these two at Hyannis



One of the best, with turned tips and a fine feeling for the spacing of parallel lines

HIGH LIGHTS IN AMERICAN POLO

BY HERBERT REED

IT IS characteristic of the American sportsman that, however much he may enjoy his game of a day or the campaign of a season, he is none the less always ardently planning for the future. It may be five years, or it may be ten, before it will be possible to hold another international polo match, but that some day such a match will be necessary no one doubts. That it is none too soon to begin to prepare for such a match none of the lovers of the game in this country will deny. They are conservative in the extreme when they speak of the possibility of another quest of the International Challenge Cup carried away not so long ago by Lord Wimborne's team, but it is plainly apparent that such a quest is always in the back of their minds. Really it simmers down to a question of sportsmanship. How soon after the close of the war may we decently challenge for a trophy gallantly brought back to this country after a long stay in England, twice so keenly defended, and in the end so gamely lost to one of the best fours that ever came out of the British Empire?

We know that such a challenge will be forthcoming in course of time. And it is possible that in the meantime some of our best players will be out of the saddle, at least so far as the galloping game is concerned. It follows, then, that we shall have to look to the younger element in the American game, carefully advised by the veterans, to maintain American polo prestige. And that is just what is being done—sometimes consciously, sometimes unconsciously. It makes for the health of the game in this country, and for international triumphs of the future.

At the moment many American polo players are pessimistic over the situation in England. They maintain that it will take years to raise the game at Hurlingham, Ranelagh, Dublin, and other polo centres, to its old standard. The players, practically to a man, have gone to the war, and under modern conditions of warfare there is no doubt that the vast majority will never return. Yet England is so steeped in polo traditions that I believe there will be an enthusiastic and thorough revival of the game as soon as the war is over. We shall miss, in the polo lists, some of the names that have gone ringing down the annals of the sport—indeed, most of them. But your Englishman is by nature a horseman, and I believe that there will be men, and good men, too, out for polo when the war is over, just as there will be good men out for every other sport. It is significant, I think, that there is hunting in England, even now, despite the menace of the Zeppelins, and that the age-long interest in horseflesh is still stoutly kept up in the face of all sorts of discouragements.

Granting that there will be the men at hand to play the game, what about the mounts? Every one who saw the last international matches at Meadowbrook doubtless remembers the remarkable string of mounts, in the main Irish, that Lord Wimborne brought over. Well, that string is practically intact. These Irish mounts were really ponies. They were not so big as the American mounts, but they were almost uncannily handy. In the early stages of the war they were taken across the Channel, and were promptly brought back. They were found unsuited to the conditions they were forced to confront. At least that is the official version. At all events, they are back in their stables, and they are hardly likely to be needed on a battle front where the life of a horse averages less than five days. No, it is hardly probable that England will lack for polo mounts once the war is over.

It may be ten years before an American team deems it sportsmanlike to challenge, according to the more conservative, but I am inclined to doubt it. In the meantime, reinforced by the younger players, who are coming along splendidly, we shall have some fine polo right here at home, with every prospect, in the long run, of a team that may be sent in course of time against England, Spain, or the Argentine, probably quite as capable as the Big Four of Meadowbrook which has done so much for the game pretty well all over the world.

This year the non-playing (but none the less enthusiastic) as well as the playing public may well turn its attention to the development of the American game, which promises to be formidable. The enthusiast will see in action practically all of the mounts that made reputations in the last international matches. They may miss some of the Hawaiian mounts, but there will be enough left, and probably enough new blood to make the tournaments laid out by the Polo Association well worth while.

Before coming down to a consideration of the young men who are to keep up the standard of American polo in the future, let us have a brief look at the situation as regards mounts in this country. Even without international competition there is a constant feeding of new mounts to the important clubs. This year James C. Cooley has been in England looking over the field, and it is possible that he will be able to bring back English or Irish ponies that will add materially to the strength of some American string, while Malcolm Stevenson has made his annual pilgrimage to Coronado, in quest of mounts from the same sources tapped by Carleton Burke for such speedy and handy animals as the chestnut gelding Scotty, the best of his string, the gray gelding Don Doma, and the two full sisters, the chestnut, Rebecca, and the gray, Rachael.

Photograph by Paul Thompson

Thomas Hitchcock, Jr., No. 2 in the suggested polo combination, carries a handicap of 4, and can play any of the four positions thoroughly

With the American game established on the foundation of supreme pace, these California mounts that are to-day almost pure thoroughbred are very much in demand. Others of like breed are obtainable in San Antonio, Tex., and in several Western centres. In other words, the American polo strings are constantly being kept up to international standards, and when the time comes for the younger men to get into an international affray, they undoubtedly will be as well mounted as their predecessors. Even to-day they hardly need ask odds on the score of mounts from any team in the field.

It is perhaps necessary to explain to those who love the game yet can play it only spasmodically or not at all, that the building up of a representative team is a different process from that followed in the selection of a representative American college crew or a tennis team. What is commonly known in other sports as making the team, the process of selection under fire, is not so noticeable; and it does not follow, either, that the best four polo players in the country make the best combination. The really worth-while combinations come about naturally. And what more natural than that in the long run the younger players will be found joining forces? The success of the famous Meadowbrook Four was founded upon an intimate knowledge, a knowledge that in time became practically instinctive, of each other's methods of play. This four played together for years—orthodox polo most of the time, the polo of genius when occasion demanded. It proved that time spent as a combination was of the very essence of the game. When one of the members of this four dropped out it was found that the combination creaked. With such a lesson before them, the youngsters who already are doing so well ought to, and I think do, realize the value of an early and long continued combination.

In these days when polo is in the throes of scientific development so far as combination is concerned, and when teams are being run by signal, no combination of men that aspires to the front rank as a team can afford to delay getting together and working out a scheme of team play that is likely to take the enemy by surprise. Take the case of Midwick of Pasadena last year, which resorted to a neat but simple signal system designed to produce the unorthodox; and two years ago, the triumphant Englishmen ran their team by whistling signals. The signal is insisted upon in the training of the cadets under Captain Lindsey at West Point, and American polo players are making scoring factors out of the rapid interchange of positions in the heat of action.

Among the younger men—the half dozen or so who are being closely watched by the veterans—there is every element of a successful combination. Among these elements are the presence of an able leader and field general in the person of Wister Randolph, of the Point Judith Polo Club, (handicap 3) and of

other men who are all-round polo players, who ought to be able to change positions under fire, and at hard gallop, just as did the Big Four when the pinch came. The really promising younger string of to-day is made up of the following: Randolph, already mentioned, who would make an excellent rallying point for any four that could be selected from the list, Barclay McFadden, of the Bryn Mawr Polo Club (handicap 2), R. E. Strawbridge, Jr., of the same club (handicap 2), Rodman Wanamaker, Jr., another clubmate (handicap 1), John O'Day, of the Piping Rock Club (handicap 2), Berens Waters, of the Rumson Country Club (handicap 2), and the very remarkable Thomas Hitchcock, Jr., of the Aiken Polo Club (handicap 4).

Photograph by Underwood & Underwood

Rodman Wanamaker, Jr., winning the hurdle race on Polly, at the new Pinehurst track. He is suggested for substitute No. 3

A good judge of polo, who has made a careful study of the work of these young men, has suggested the following combination, designed as an enduring team that in the course of time might well become another Big Four:

No. 1.	John O'Day, Piping Rock,	Hadcp	2
No. 2.	Thomas Hitchcock Jr., Aiken,	"	4
No. 3.	Wister Randolph, Point Judith,	"	3
Back.	R. E. Strawbridge Jr., Bryn Mawr	"	2
	Total handicap		11

We have here a versatile combination whose average age would come to twenty years or less. Young Hitchcock, carrying the highest handicap, is well under twenty. He can play any one of the four positions thoroughly and with a dash of genius. Further, he and O'Day have frequently played together as they are placed on this team. O'Day's specialty is at No. 1, a position of which American polo players have made so much. The other two are found here in their natural positions, but could interchange without seriously affecting the play of the four. In case of injury, or of necessity, Rodman Wanamaker could go in at No. 3, McFadden at No. 2, and Waters could serve as utility man.

I believe that were this team to take the field, and I am supported in that opinion by excellent judges, with its eleven-goal handicap, it could make a deal of trouble for the best four in the country. Further, it is as close as anything can be to a certainty that the first four chosen will, in the course of the next seven or eight years, at the outside, work their way up to the select eight-or-nine goal class. Starting the combination suggested, they ought also to bring up team play in this country to the very highest standard.

Of course it depends very largely upon the present season and the arrangements already made with the teams that are to play in the more important events, whether the younger players will get together at once, or just naturally drift together in the course of time. There are many players of the game, however, looking forward to another international some day, who would like to see them do it now.

To return, now, to a consideration of what the present season holds forth. The Polo Association has sought to emphasize, this year, the intersectional matches that it is hoped will in a way make up for the lack of international competition. Just how they will turn out no man can tell. It is to be hoped, for the sake of the game, that they will result in the keenest sort of competition. But of the continued popularity of certain other fixtures we may rest assured. With the California season—a season, by the way, not without its accidents to more than one of the leading Pacific Coast players—and the Rumson Country Club's tournament (a substitute this year for the old Lakewood events that were always looked upon as the real opening of the Metropolitan season) out of the way, the crack players will turn in June to Bryn Mawr, then Deal, putting in a good part of the month in the low goal and high goal tournaments at Meadowbrook. The Meadowbrook flat event in the closing week of June will be one of the important fixtures of the season. One side of the stands used in the international matches has been removed, and what used to be the automobile parking space has been turned into an extra field. This club is constantly adding to its plant, and some of the best polo of the year should be played in this attractive section of Long Island.

Copyright by Underwood & Underwood

John O'Day of the Piping Rock Club. His specialty is at No. 1—a position of which American polo players have made much

Barclay McFadden of the Bryn Mawr Polo Club, suggested for substitute No. 2

Wister Randolph of the Point Judith Club—able leader and field general

Photographs by Reily & Way

The Junior and Senior Open Championships will be held at Point Judith from July 17th to August 14th, and these, of course, will be the banner events of the year. I find a growing demand among keen polo men for an extension of the Point Judith polo—another week of play would be appreciated. The inter-circuit events will close the season, these to be held at Philadelphia. It is hoped that the various circuit winners will carry their teams intact through the earlier events and so swing into the Philadelphia affair at the top of their form.

Just how the army men will come through the season is a problem. They are, of course, more subject to the stress of stormy times than their civilian brethren in the saddle. It is the history of army polo that no sooner does it get well under way with every prospect of accumulating momentum and achieving a higher standard, than something untoward happens. It is indeed a pity, for up to the present writing the game in the service had never before been in such excellent shape. It is to be hoped that what few army mounts suited to the game are available will not be called upon for military duty, although it is their suitability for that sort of thing which has formed the backbone of the army officers' contention that they ought to be regularly used in the service, as well as the usual charger and remount. In this connection it is a fact not generally known that the Government does not furnish at its own expense the officers' cavalry mounts in our army. Hence army polo depends upon the rather slender purses of the officers themselves. However, there is no reason to believe that even under abnormal conditions there will be any failure to keep up the good work in polo, theoretically and practically, that has been under way at West Point for some time.

Two events of perhaps as great sentimental interest as any will be held at Piping Rock this year. These are the tournaments for the Visitors' Cup, a trophy left behind by the players of Lord Wimborne's team, and the Westminster Cup, presented by the Duke of Westminster. These trophies occupy about the same place in polo that the King's Cup does in yachting, and they are always eagerly fought for. The former cup becomes the property of the team winning it twice, while the latter is a permanent trophy.

Part of the herd of elk in Yellowstone Park. Although possessing some of the world's richest resources of scenic beauty and ethnological interest, we have only barely begun the development of these national treasures

PREPAREDNESS *and the* NATIONAL PARKS

UNTIL the "War of the Nations" made European travel impossible, the plea to "See America first" aroused only lukewarm response. Perhaps it was a sort of patriotic confidence in the supreme attractiveness of their native land that led many Americans to "save the best till the last;" perhaps it was that peculiar tendency to procrastinate in visiting — the thought that "we can go there *any* time,"—which sent them overseas to visit mountains and lakes no more beautiful, ruins hardly more ancient, than those that can be seen without going beyond the limits of this nation. At all events they went—to the Lake Country, to the Riviera, to the Continent, and the Orient—and in the going spent as much as $350,000,000 in a single year. And this, much to the surprise and disappointment of the little band of loyal adherents to America's offerings.

Would their surprise have been so great, however, had they realized that whereas the

Not even the mirrowed beauty of famed Como surpasses that of Crater Lake in the National Park of that name

Mountain sheep in the Yellowstone

The Yosemite Falls. One of the most wonderful beauty spots of the world is Yosemite National Park, and fathered by John Muir

Black tailed fawn of the Yellowstone

Old World has been for hundreds of years preparing for, and specializing in, the reception of tourists, the United States, with some of the world's richest resources of scenic beauty and ethnological interest within its borders, has only barely begun the development and appreciative exploitation of these national treasures? There have been created, it is true, fourteen National Parks aggregating more than four and a half million acres of some of the grandest country in the world, and thirty or more reservations or National Monuments, all consecrated to the education and recreation of the American public. These have been placed under the general supervision of the Department of the Interior, but with no definite, constructive, comprehensive system of management or development, and little or no means for carrying out such plans even if they were evolved.

To meet these obvious and essential requirements—vital now, of all times, when the millions of dollars heretofore carried annually to Europe are to be distributed largely throughout our own country—there is before Congress and the public the bill introduced by Representative William A. Kent of California providing for a National Park Service to have as its sole duty and responsibility the care, administration, and development of these playgrounds of the people. Men who know the Parks, their priceless treasures, and their problems at first hand (including Mr. S. T. Mather, Assistant to Secretary Lane, who has general charge of them under the present regime), business men who can realize the wisdom of such unified management, nature lovers, and patriotic citizens throughout all the country, have mingled their voices in behalf of the measure. But there is still need for every other person who has not yet voiced his convictions, to add the weight of his opinion and influence. The creation of such a service and, no less important, its efficient organization and a high principled, disinterested performance of its duties, will pave the way to unlimited benefits not alone for the country but for its people.

The afterglow of sunset on the Upper Two Medicine, Glacier National Park

Looking across Tyndel Glacier from Flattop Mountain, in Rocky Mountain National Park

THE FARM THAT CAME BACK ON BACTERIA

By H · W · COLLINGWOOD

MOST of the farms we have thus far studied came back slowly, and often painfully. Year by year they gradually gained, until finally they took rank as improved land. The one we are now to consider came back with a running jump—you might say it came back on the back of bacteria.

In the summer of 1913 a black and white cow stood at the top of a high field in Onondaga County, New York, and made remarks to her companion, who was brown and white, and who had puffed up the steep hillside. They stood some 300 feet above the Erie Canal, which lay only a few miles away from them. How an Illinois prairie farmer would have smiled if some one had told him that within a year that tough looking hillside would be paying nearly 25 per cent. interest on the high valuation of his own Western land!

The black and white cow was talking alfalfa—a pleasant theme to any one that walks either upon two or four feet, for all who have tasted alfalfa, either the plant as it comes from the field, or the money which the plant brings, become alfalfa cranks forthwith. You might say that the black and white cow was monarch of all she surveyed, yet it was hardly worth surveying. There was scarcely feed enough on that dry hill to tempt any sensible person to assume the throne. She looked off over the pleasant, rolling country and saw here and there the dark green patches of alfalfa, and then ran her eye over the scanty herbage of her own stamping ground.

It could not be said that this farm of sixty-five acres which the cow looked over was depleted or exhausted. Very little of it had ever been tilled or cropped, and while no manure or fertilizer had been used on it for sixty years or more, very little had been taken off. It had simply been used as a summer pasture, and that means the removal of the small quantity of plant food in the milk. The hill had stood there idle, waiting for somebody to turn it up. Nature had done her best, but at last she was ready to admit that man must step in and help her out. She had grown tired of waiting for a man to have sense enough to do his duty, and so she had turned the key in the lock, told the grass to hustle for itself, and the bacteria in the soil to keep on working, and off she had walked down into the valley to boss a few alfalfa jobs.

It seemed ridiculous too, for here was good soil—Miami loam—light, porous, and loose, underlaid with limestone rock. The entire farm of sixty-five acres was rented for $130 per year—$2 per acre. Take out about $35 a year for taxes, and you would have a net income of $95 a year, or less than $1.50 per acre; yet the land was valued at $40 per acre at that time, not because of its actual earning, but because most of the soil near by was known to be alfalfa land, and thus this hillside had a prospective value. When you have real estate to sell, or when you want to say something nice about the unfortunate and lazy relative, you say that they have potential value. This soil had that kind of value, and alfalfa was the potentate.

Nature might leave such a farm, weary of waiting, and lock the door behind her, but man had his eye on that soil, and was prepared to enter it through the cellar window. A skilled cattle breeder needed more alfalfa, and he knew this hill could be made to produce it. You ought to understand that alfalfa is not a poor man's crop, although it makes wealth faster than any other forage crop that grows. Throw buckwheat and turnip seed into the soil, or start with rye, and these hardy fellows will do their best at least without complaint. Alfalfa is like a skilled and pampered worker, who will not try unless the conditions are right. Call on her to eat up the mortgage as though it were chocolate candy, and she stops to ask a lot of questions: "Is that soil right—is it sweet with plenty of lime—is is fine and open with a deep subsoil—are there plenty of bacteria in it to do my housework for me—is the soil well drained? I don't intend to put my dainty toes down into sour and soggy soil. The moment I wet my feet I get out. Plant dollars with me in the soil, and I will pay back ten to one. If you think I am in the same class with rye or buckwheat, take me out, or I will get out."

No use arguing with any such character. If you want her, you must simply get the dollars somewhere, put them into the soil with her seed, and give her every modern convenience. The farmer who took this hill in hand knew all about this, for he had lived long enough in the alfalfa country to understand her character. He knew that soil too, so early in March operations began. Most of us who live in the latitude of New York City have been driven by experience to believe that late summer is the best season for seeding alfalfa. When seeded in the spring the weeds come with a rush, and smother the young alfalfa out, for our soil is cold, and likely to be sour. Seeded in the late summer, the weed growth is not quite so heavy, while in the warmer soil the alfalfa goes on faster, for you must remember that the baby alfalfa plant is a delicate and sickly child, not equal by any means to the young red or alsike clover. Around Syracuse it is often thought best to seed alfalfa in the spring with a light seeding of oats, but in this case a permanent field was wanted, and they made sure to kill out thoroughly the sod on that old hill. There must be no ghosts of weeds and tough grass to disturb the dreams of the alfalfa.

The first thing was to plow the field, just as deep as the soil would permit. That means down to the limit of the subsoil, so as to turn the old sod under without showing the yellow soil on top. It was a tough job, but the furrows were turned over evenly. No doubt the weeds and tough grasses were chuckling to themselves down at the bottom of the furrow. "This man has turned us over out of sight, but that is not our finish. We will hold the hill against all comers. Baby alfalfa plants are very sickly citizens. Just as they get going nicely, we will start up, reach the surface, and smother every one of them out.

These insurgents would have done it too, if the farmer had not known their character fully, and so when the plowing was done, instead of seeding at once he started the disk harrow. Stand a tin plate up in the sand and roll it ahead, pressing down hard as you roll, and you will see how this disk harrow sent the hopes of those weeds glimmering.

The value of alfalfa lies in its power to put its roots down deep into the soil and extract the nitrogen from the air. A ten-year old alfalfa plant with a root fourteen feet long

Then came the spring tooth harrow. This tool is the Henry Clay, or great compromiser, among farm implements. The plow, the spike tooth, and the disk intend to smash or cut their way through every obstacle, and they do it or break a point. The spring tooth hits a stump or a root or a stone, and it compromises. "Oh! well, we will not argue about it, I will just pull this tooth back, give one good kick for luck, and pass on, and the next time around I will kick you again and give you one more yank in passing."

That is the character of the spring tooth harrow. The roots and the stems and the flat stones see this artless dodger passing around them, and they think that they have beaten the farmer. First they know, those swinging and kicking teeth are at them once more, and the cheerful compromiser finally gets them out. Instead of riding over the flat stones, as the disk had done, the spring tooth pulled and yanked them loose. The horses had a grouch against these stones, for they had jerked back at their shoulders many a time. It was the most enjoyable part of their job when they pulled in front of the wagon, and the hired man loaded those flat stones in. Off they went to the dump, in order that the farm might be like an ash heap. This is surely what its surface looked like when the stumps and bushes were finally grubbed out, and the spring tooth had finished its fourth journey over the farm. When at last the roller had packed the surface down, they figured up and found that the labor thus far had cost $864.50. This was about one third of the value of the farm. It required the net increase for the entire place for twelve years simply to shave and massage its face so as to make it attractive to Miss Alfalfa. This certainly looked like planting dollars with the seed to please the lady, and yet they had hardly begun. About the middle of July the fertilizer had been spread.

Fertilizer? I thought you said the soil was rich and strong. It was, as little had been taken out of it for years, yet a surplus is always better than a deficit. No doubt corn would have jumped and stretched in that field, and given a good crop from the sod alone. Whenever you go calling upon Miss Alfalfa, it will pay you to show a liberal spirit. The lady might own a conservatory or greenhouse, yet a few flowers from the outside would please her, so this farmer spent more than $275 for fertilizer, and put it in liberally. It was a mixture containing 3 per cent. of nitrogen, $8\frac{1}{2}$ of phosphoric acid, and 1 of potash. There would have been more of the latter, if it had been obtainable. These chemicals were mixed with the land plaster, and sowed broadcast over the farm just before the last harrowing. Then that spring tooth, no longer forced by root and stump to compromise, kicked and scratched the chemicals into the soil.

Then they were ready for the seed. A wheelbarrow seeder scattered it evenly over the soil at the rate of twenty-seven pounds per acre, and then a sixty-tooth smoothing harrow covered it gently, and the job was done. Nature had left that soil full of bacteria, which proceeded at once to give the alfalfa seed a royal welcome. On my own farm, and on most others in the East, it would have been necessary to go outside and obtain a supply of these germs. We should have dug up the soil from some old alfalfa field and scattered it over the farm, or sent to a laboratory and bought a supply of "bottled bacteria," for they now send these germs to college. They take them out of plain farm dirt, and train and educate them in a laboratory so as to thrive in bottles, and come out as missionaries to make alfalfa satisfied with new surroundings. When the colleges take boys and girls right out of the soil in this way, and undertake to train them for the uplift of agriculture, it is doubtful if they can do as good a job as they do with these germs. There was no need of doing that, however, on this old farm, for the soil was already full of bacterial life. All along the roads, and creeping in along fences, were clumps or plants of sweet clover. It has the reputation of being a weed, but it is really a sort of half sister of alfalfa, with a strain of wild, vigorous blood which puts it just outside of the dainty lady's class. You may have seen the village belle, pretty, and wholesome, and bright, and with her the big, healthy, country cousin. The former is truly the toast of the town. The latter with her slow, homely service and sense sees that the toast is kept crisp and dainty and warm. Few care to dance with her perhaps, but she sees that the belle has partners in plenty. When the belle has a household of her own, the sensible cousin goes ahead and sees that it is properly fitted up with modern conveniences. While she is doing that, some sound and sensible citizen of middle age comes along, appreciates her, and they "all live happily ever after."

That is sweet clover, the John the Baptist of plant life, classed as a weed at first, yet stocking the soil with the needed germs so that the alfalfa may follow and prosper.

If you have ever read essays or books on alfalfa culture, you will remember how frequently you see the word "lime." The bacteria may keep alfalfa good natured and satisfied, but lime is her strong counselor and friend. Even her beloved bacteria could not long keep her happy in a sour soil. It would be like putting some light, emotional creature into a lonely old country mansion, where on dark nights the frost makes the timbers creak, and the dim light makes haunted corners and shadows. Such a house would drive a back-to-the-lander close to insanity, yet flood it with light, and make every room warm, and the women folk will be filled with joy, and that takes care of the household. Lime working into the sour, discouraged soil is like the light and heat for the gloomy house. Unless it be freely used, alfalfa will pack up and disappear.

There was no need of liming this old farm, however, for it is located on the streak of limestone which runs through central New York. The soil is mostly decomposed limestone rock, part of the great wealth which nature piled into these valleys ages ago, and which alfalfa is now taking out. You may have noticed from the last census how the cities and towns through the New York alfalfa belt, on the limestone ridges, are gaining in wealth and population. Perhaps you thought it was due largely to railroading and manufacturing, but the real foundation for it is the

Alfalfa is usually planted with a nurse crop, but if conditions are right and the seeding is properly done, it does better alone

power of alfalfa to put its roots down into this limestone soil and extract the nitrogen from the air. This plant has never yet failed to bring prosperity into every section where it was made contented and at home.

They made one mistake in seeding this farm, when they put five acres of wheat in with the alfalfa, so as to give it a nurse crop. This did not pay. The wheat grew to be more of a curse crop than a nurse. That is another thing about alfalfa—get the conditions ideal and seed properly, and the crop does better alone. As a rule, if you seed it with grain in the fall, the alfalfa seems to feel that you cannot trust her, and you will find great, bare spots of ground after the grain has been cut.

When they had harrowed the last of that seed into the ground, they figured up and found that they had spent $2,090.66 on that farm. The total cost of the farm at $40 per acre was $2,600, so that when the horses finally pulled the harrow out of that field the farmer had put up $4,690.66. The detailed items of expense are given as follows:

To interest on $2,600 at 6 per cent. for 1914 and 1915	$ 312.00
To taxes for 1914 and 1915	66.00
To plowing at $3 per acre	195 00
To removing stone at $3.60 per acre	234 00
To disking at $2 per acre	130 00
To harrowing (4 times) at $4.20 per acre	273 00
To rolling at 50 cents per acre	32 50
To sowing fertilizer at 75 cents per acre	48 75
To sowing seed at 25 cents per acre	16 25
To cost of fertilizer at $4.25 per acre	275 60
To cost of alfalfa seed at $11.25 per bu.	339.06
To cost of seed wheat at $1.25 per bu.	12.50
To interest on money expended in improvements for one year	156.00
Total expense	$2,090.66

Alfalfa is a responsible worker, and knows how to appreciate a good thing when it is well harrowed in. Every desire and every whim had been gratified. Her sister, sweet clover, had gone ahead and fitted up the house for her, leaving the soil full of bacteria. The soil had been made sweet and open with lime, and the old sod was breaking up into the finest sort of humus. There was good drainage, and no need of wearing rubbers. The soil had been chopped and stirred until it was full of sunshine, and the chemicals provided a full ration of available food. So when the seed found itself in that warm and congenial soil, it did what any skilled workman will do—proceeded to work its patent hard. The legumes carry a trade secret of taking nitrogen out of the air, and as the roots of that alfalfa spread out into the soil, millions of bacteria settled upon them and proceeded to pump nitrogen out of the air. There are millions of tons of nitrogen in the air, bathing the face of Onondaga County, and every pound of it is worth 20 cents at least. Taking nitrogen out of the air and packing it away into alfalfa is about the surest way to boost prosperity that you can think of, and once given the chance of its life, that old farm came back with a jump. In 1915 they had their first crop which figured out this way:

161 tons of alfalfa at $17	$2,737
135 bu. of wheat	135
Total	$2,872

The cost of harvesting was estimated at $2 per ton, or $322, and this leaves a net income the first year of cropping of $2,550. Thus the net income for the first year paid all expenses for packing the dollars in with the alfalfa seed, and left $459.44 for a nest egg, or the bacteria for a bank account.

Remember that the first year's crop of alfalfa is never a full yield, usually not more than two thirds of what may be expected when the field is three or four years old. Also remember that there will not be for some years any expense for plowing, seeding, or cultivating, and but little for fertilizer, for when alfalfa is satisfied she pays her own wages and boards herself. In 1916, with an ordinary season, this farm will produce 200 tons of alfalfa, which at the same price of $17 per ton, means a year's income of $3,400. The expenses of harvesting, interest, and taxes will not exceed $800, which will leave $2,600 as net income for the year. Let some one with a good head for figures tell us what such land is worth, considered as an investment at ordinary rates of interest.

And remember that this is not a fairy tale, or the dream of some back-to-the-lander. The only fairies connected with it are the tiny bacteria down in the soil, waiting, as they did for years, to get an opportunity to show what they can do.

Let any man put a roll of $2,600 into his pocket, and he will certainly not consider it a dream. But reading this, he must not imagine for a moment that he can go out anywhere into the highways and byways, put the dollars into any soil, as this farmer did, and spend the rest of his life counting money. Men go into a gold region and dig out wealth because nature has packed it away for them, but they cannot go out into the back yard, open up anywhere, and do the same thing. While alfalfa can be grown on most land to fair advantage, if the farmer will pay the price, it is probably only along the natural alfalfa soils that such results as are here recorded can be worked out.

The high tonnage per acre from alfalfa is due to the fact that from three to six cuttings are made in one season, depending on locality

BIRD NEIGHBORS

CONDUCTED BY T. GILBERT PEARSON

Secretary of the National Association of Audubon Societies

[*Mr. Pearson will be glad to answer any questions relating to birds; for convenience, kindly address Readers' Service,* COUNTRY LIFE IN AMERICA, *Garden City, N. Y.*]

NESTING DAYS

IN VIEW of the fact that birds display much activity about their nests, there is a great advantage in studying the nesting bird. Once locate an occupied nest, and by quietly watching for a time, your field glass and bird guide will usually enable you to learn the owner's name. If you do not know where any nest is to be found, go out and hunt for one. This in itself will be found to be an exciting sport, although it should be pursued with good judgment. Children unattended should not be permitted to hunt nests in spring. A very excellent way to find one is to keep a sharp watch upon birds at the time when they are engaged in nest building.

By noticing every bird suspected of being interested in domestic affairs, you are pretty sure to discover one before long with grass, twigs, rootlets, or other similar substances in its bill. Now watch closely, for you are in a fair way to discover a nest. The bird may not go directly to the coveted spot. If it suspects that it is being watched it may hop from twig to twig and from bush to bush for many minutes before revealing its secret, and if it becomes very apprehensive it may even drop its burden and begin a search for insects, with the air of one who never thought of building a nest anyway. Even when not suspecting that it is under observation it will not always go directly to the nest.

Early morning is the best time of the day to find birds working at their nests, for then they are most active. Perhaps a reason for this is that the broken twigs, leaves, and dead grasses having been dampened by the dews of night, are more pliable, and consequently more easily woven into place.

For nesting sites, birds as a rule prefer the open country. Rolling meadow lands, with orchards, thickets, and occasional streams, are ideal places for birds in spring.

After the young have hatched it is even easier to find nests by watching the parents. The nestlings are hungry at all hours, and so the old ones are visiting the nest at frequent intervals throughout the day. Birds do not all behave alike when their nests are discovered. A cuckoo will glide away instantly and will make no effort to dispute your possession of her treasures. A crow will also depart, and so will a wild duck, and some others. On the other hand the mockingbird, robin, or shrike, will raise a great outcry and bring about her half of the birds of the neighborhood to pour out on you their vials of wrath, unless happily you have the good judgment to retire at once to a safe and respectful distance. Warblers will flit from bush to bush, uttering cries of distress and constantly showing their uneasiness. The mourning dove, nighthawk, and many others, will feign lameness and seek to lead you away in a vain pursuit. A still larger number will employ the same means of deception after the young have hatched, as for example, the quail, kildeer, sandpiper, and grouse.

However much a bird may resent your intrusion on the privacy of its sanctuary, it is very rare for one to attack you. I remember, though, a boy who once had the bad manners to put his hand into a cardinal's nest, and had his finger well bitten for his misdeed. Beware, too, of ever trying to caress a screech owl sitting on its eggs in a hollow tree; its claws are very sharp, and you will need first aid attention if you persist.

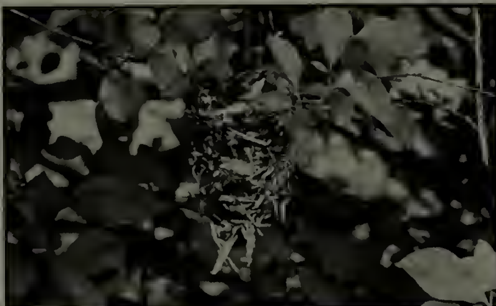
T. G. P.

Chipping sparrows feed their young almost entirely on insects that are injurious to vegetation

THE CHIPPING SPARROW

THE chipping sparrow or hair bird, *Spizella socialis*, is a product of civilization. He is very democratic in all his tendencies. He believes in a plain dwelling, an inconspicuous garb, healthy nestlings, and many of them, and a generous diet of weed seeds and insects taken from the garden, the fields, and the trees of the orchard and the street.

These birds construct their nests of materials that they find around the house. The foundation frequently consists of coarse grass roots, or bark fibre from the fence posts, or again of miscellaneous materials such as culms of hay, plant stems, and the like. They will even pick up shreds of raffia or string and embody them in their neat little structures. The lining is usually of horsehair, or sometimes of human hair. So constant a factor is hair in the nest building of the chipping sparrow that he has acquired the name of hair bird.



A white eyed vireo on her nest

In the spring of 1914, I timed two chipping sparrows building. The male accompanied the female to and from the nest while she was gathering materials. She seemed to do the greater part of the work. The burden of the work was accomplished in the early morning when the materials were wet with dew and easily molded into shape. At the end of four days the tiny house was ready for occupation.

The following year I spied a nest in a spruce in the corner of the orchard fence, just as the sparrows were completing it. June 5th, Mrs. Chipping Sparrow laid the first egg in the diminutive brown cradle, and the following day she placed another beside it, and began to brood. On the two days following, she added two more eggs to the number. The brooding bird was so gentle that she remained on duty when the family passed the tree, even though they lingered to admire the charming picture.

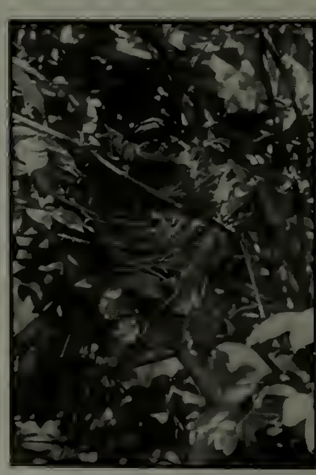
The 18th of June, at 4 o'clock in the afternoon, there were three nestlings in the nest, one egg still remaining unhatched. The bird had been incubating twelve days.

I was very anxious to obtain a photograph of the mother performing her nesting duties, so on the 25th of June, I trimmed around the nest a little and put a bird blind near by that the birds might get used to it. This was the seventh day after the first nestling hatched and it was the beginning of the feather stage. The following morning, when I went to clip a twig between the nest and the blind, the four nestlings, with loud chips, flew in different directions and sought refuge in the grass of the orchard, The parent birds came to their assistance at once with much fluttering, and most expressive language.

Toward evening, on the 28th of June, I was walking in the orchard. The chipping sparrows called as they gathered insects for the young from the trees about. The thought came to me, "What a pretty picture a young chipping sparrow would make! It would be tangible proof of the vigor and endurance of this branch of the sparrow family." At the same instant I was startled by a young bird rising out of the grass at my feet. The temptation to photograph him was too great to resist. I caught him and carried him to the house, where he was soon so much at home that he partook of fresh ants' eggs, with an occasional drop of water. He fed freely on fresh steak, that I cut into bits and presented on the tips of the scissors. Also he posed readily for his photograph. When I took him back to the orchard he began to chip to his parents, and instantly they were all excitement. They swooped down upon us with a frenzy of chips! I was in a great hurry, so I simply placed the young bird on the branch of a fir, near his parents, and fled.

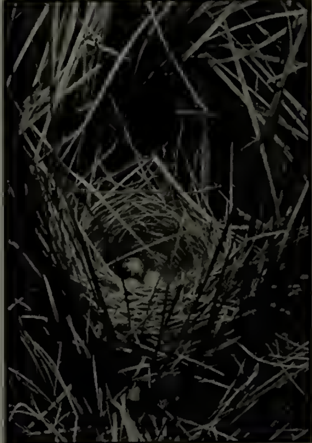
The chipping sparrows raise from two to four nestlings in one brood, and often three broods in a summer. Since they feed their young almost entirely on insects injurious to vegetation, one can form some idea of what useful work they accomplish.

CORDELIA J. STANWOOD.



A brooding wood thrush

Nest of the long-billed marsh wren



A song sparrow's ground-built nest

THE NEW BUSINESS OF FARMING

CONDUCTED BY F. D. COBURN

[Mr. Coburn will be glad to answer any questions relating to farming; for answers kindly address Readers' Service, COUNTRY LIFE IN AMERICA, Garden City, N. Y.]

HOW MUCH CAPITAL DOES A FARMER NEED?

THE capital account of a farm is a measure of the business. If all farms carried on the same type of farming and if all farm land were worth the same price per acre, we could use the acre as a measure of size. But the florist, with a few acres of high-priced land under glass, may have more money invested in his business than the cattle raiser with a thousand acres of range, or the truck grower may intensify until the cost of his crops from a single acre equal that of a whole cotton farm in the South.

Analyses of farm accounts have shown that the farmer's return is in proportion to the capital invested, up to the amount where the size becomes unmanageable because of physical factors. That is, the larger the business the bigger the return, and not only that, but the bigger the percentage of return, because of economies in management which can be introduced in the larger business.

Such a statement belongs in the primary department of finance. Yet how many men believe it to-day? How many deluded city people go to the farm expecting big returns from little capital? There will be less trouble in the world when people have elemental facts clearly before them.

If a man invests his money in bonds or stocks, or puts it away in a savings bank, he expects to receive interest for that money. If a man works in an office he expects to receive a pay envelope at the end of the week. If he invests money in the concern for which he works he will expect pay for his money and pay for his work. Capital is needed to provide an opportunity for the man to work, but man's work is required to give capital an opportunity to earn interest. Each must pay the other, and any system of accounting must take cognizance of this fact.

The city man who would go back to the land should remember that the average farmer does not make even day laborers' wages unless he has a capital investment of at least $4,000

The farm owner puts both capital and work into his business and he should be paid interest on his money and wages for his time. When we realize that farming is a conservative business and the rate of return therefore low, we begin to see why the small farm cannot pay.

Because of unusual ability the individual may be capable of earning a large wage, but that capability is very much more likely to bring rewards in a less conservative business than farming. There are opportunities for speculation in agriculture. If the farmer devotes his whole place to raising potatoes in a year when that crop brings a high price, he will receive the return of speculation.

Without sufficient capital the farmer cannot earn interest on that which he has, let alone earn a wage for himself. In the city a man may run a business on other people's capital and be, in reality, an employee. The lawyer is a clerk for his clients, the insurance agent is an employee, and the stock broker is working on commission, which is merely another name for wages, while the farmer is neither an employee nor a broker, but is working for himself and must supply all the capital needed in his business.

The charge for the farmer's labor takes precedence of every other. The money invested in a farm cannot hope to bring in a return except through a man's labor. It is illogical to expect a small capital to pay a man $300 a year and earn interest besides. Indeed it is asking the dollars to be unusually nimble even to provide a man with the opportunity to earn day wages unless they are present in sufficient numbers.

How does this theory work out in practice? In one section in New York State not a single man who had less than $4,000 invested in his farm made a labor income of $1,000, and only one made so much as $800. When we reach those with an investment of from $4,000 to $6,000 we find one in twelve making $3 a day for his time and work. But when we look among the farmers who have an investment of $15,000, we find that 46 per cent. of them made more than $1,000 a year, over and above interest on their investment. The mere use of that amount of money in the business allowed them to pay interest on it and to receive a good wage for their time.

The small farms were not big enough businesses to pay. When the total income of a man is $500, to make much that is net is out of the question. Even 50 per cent. profit will not pay him the wages of a hired man, to say nothing of interest.

The need for money is more pressing than is the need for its proper distribution. A man without capital is almost helpless, while the one who invests it with poor judgment is simply handicapped. The average cost for labor on the farms of the country is somewhere in the vicinity of 40 per cent. of all costs, but we have found that on the large farms a hundred dollars' worth of labor farms five times the ground that it will on the small farms. No wonder the big farmer makes the money!

The most important factor is the size of the business. The highest profits are made when size, diversity, and good production are combined in a well-balanced business.

Illinois, Indiana, and Iowa are wealthy farming communities. The land is productive and conditions propitious. Yet when all the farms in one county of each state were investigated it was found that one farmer out of every three was paying for the privilege of working on his own farm. He had to work with his money to make it pay interest. The family lived well because the capital invested paid enough to allow of good living, but the head of the household was working for nothing.

The farmer does not talk in terms of finance, but he knows more about the business of farming than people give him credit for. The Illinois owner of a farm does not exert himself to make a labor income because he has enough to live on without it, but the tenant farmer of that state exerts himself. His books are balanced for him each year. He must pay interest to the landlord and have enough left to live on. His own investment is usually too small to pay any considerable part of his living, and there is small chance for him to misunderstand his position. The tenant all over the country makes more money on his capital than does the owner.

The tenant occupies a strong strategic position to-day. He has the advantage of the use of the combined capital furnished by himself and his landlord, and he has the initiative furnished by the necessity for earning a labor income over and above the interest demanded by his landlord's investment.

The results found in Indiana, Illinois, and Iowa are only typical of those found elsewhere, for, wherever a community becomes so prosperous that the farmers can live on the returns from their farm investment, the labor income begins to flatten out. Necessity ceases to push. A hired manager rarely makes a farm pay. It is seemingly impossible for one man to run a farm for another and make it a business success. A good tenant will pay a fair rate of interest on the investment and make a good living for himself.

The city man who wishes to leave his present position to take up farming should remember that the average farmer, trained to the work from his youth, does not make day wages unless he has a capital investment of $4,000. And after a full day's toil the wages of a farm hand will not look very large to the man from the city, when he compares them with the weekly check to which he has been accustomed.

There are various ways to decrease the farm capital. A fancy barn that costs more than a barn has any right to is one way. A set of palatial chicken houses will cost more than the hens can hope to repay. Farming land that has been exploited to more than its value for agricultural purposes is another way; equipping a place with too many horses and keeping them sleek and well-groomed is still another. Too many men for the work is a road to the poor house. Few farmers make these mistakes, while most city men make some of them. There is a nicely balanced relationship between pride of ownership and economy of labor devoted to that end that needs a firm hand to maintain it.

There is a way to increase the capital, and that is to rent a place and so let the landlord provide the real estate. Then all of the farmer's capital can be put into producing-stock and equipment. This practicable method is being increasingly put into practice by young country bred farmers.

It is better to hire a good farm than to own a poor one.

The reader may be discouraged by this list of troubles in the way of the farmer. It is given because the knowledge may save him a lot of worry and tribulation if he decides to try farming.

IT SEEMS a simple matter to establish a tea house and to start business with a dozen cups and saucers, a basket of cakes, and a tea kettle. As a matter of fact, the problems of the keeper of the simple tea house are different from those of the management of a big hotel only in degree and not at all in kind.

As any tourist knows, the things most desirable in the place at which he stops to eat are cleanliness, a fine quality of food, and pleasant surroundings in good taste. After a hot and dusty ride a simple luncheon of sandwiches and tea, hot or cold, served under trees in cool shade, and with plenty of sparkling cold water from a spring, for instance, is infinitely preferable to a much more pretentious meal in some hotel—even a good one. At least, the touring public has generally so ruled, with the result that any man or woman of good taste, some commonsense, and a little capital, can set up and run a wayside tea house business, with the reasonable assurance of making a small profit at least and the prospect of a very good one.

A quaint little tea house on the old Lancaster Pike in Pennsylvania, remodeled from a small and very ancient building, and connected with the adjacent garage. Duhring, Okie & Ziegler, architects

ORGANIZING THE WAYSIDE TEA HOUSE

By C. H. Claudy

Hotel knowledge is not at all an essential. But it must not be assumed that the thing can be done without meeting some difficulties. One has only to ask the keepers of a few tea houses, and get their stories, to realize that the venture has two sides.

"I thought I had found just the thing to pay for my third year at college," writes a lady who has a little tea house on a main road between two large cities, "when I developed the idea of making my old stone spring house, which stands within fifty feet of the road, into a place where motorists could get a simple meal. We own the old farm and I thus had no rent to pay, and it seemed as if $100 capital ought to start me off. But I found that it was harder than it looked. I determined, in the first place, that I must have a choice of drinkables. So I ordered ginger ale, in bottles, grape juice, sarsaparilla, and lemon soda, and made iced tea, hot tea, lemonade, and orange juice. For my menu I had tea cake, bread, ham, tongue, potato salad, cheese in little jars, lettuce, olives, pickles, and some fruit.

"I know now that I had too many things to drink, and more to eat than I could manage in my 'plant,' For the only heat I could get in the old stone spring house was an alcohol stove for hot water, and I had five times the demand for hot and cold tea that I had for any other drink. Lemonade came next, with grape juice third, and the soft drinks went begging.

"I thought that I could do the whole thing myself, and when I was ready, hung up my little sign, put on a white apron and a cap, and waited. At noon the first car stopped. At fifteen minutes after I had seven cars backed up on the lawn and people sitting on the grass, on robes, on the little tables, and I was flying about as if crazy, trying to serve them all.

"Oh, no, I didn't succeed. But they saved me the trouble. I explained my difficulties, told them it was a new business, and one lady (may the Fates preserve her!) marshaled her party, turned into a waitress, and helped me serve every one! When they had gone I had $22 and an empty larder! I took my sign down and fled—to order more things to eat!

"It took me a month to get things running right. At the end of that time I had two school girls, farmers' daughters both, to serve. I paid them no wages, but they made a generous daily sum from tips (I know this is immoral and undesirable and all that, but I didn't create the tipping habit and I am going to finish college if I break a moral law a day). I cut out the soft drinks, bought a gasolene stove (of which I am mortally afraid), and spend my evenings cooking hams. Our old cook makes the tea cakes—by the hundreds now—and I was told a few days ago that if I would change my sign from "Rest-a-bit Inn" to the "Sally Tea Cake House" (the cook's name is Sally) I would double my business. But I don't want to double it. I couldn't handle it. I was worn to a frazzle when September arrived, but—and this is the important thing—I had my $100 capital back and I had $310.11 in profits. I had also 107 glasses, 82 plates, and a chest of plated silver, besides four dozen and some cups, and a complete equipment of bread boxes, cake containers, stone jars for lemonade and orange juice, and a gross or so of napkins and tablecloths of paper.

"To my mind the essential things are, first, what you serve to drink must be pure, it must be very cold or very hot, and it must be served *quickly*. What you serve must be so good to taste that they who buy forget that they can't get forty kinds. Your price must be decent — not low, but not extortionate. For instance, I charge a quarter for a cup of tea and bread and butter. Lemonade is 15 cents, but it's a big glass full. The 'Rest-a-bit spread' as I call it, is $1, and it seems extortionate when you read it, but few have objected, because I have it plainly written down on the little bill of fare. The 'spread' is tea or lemonade, ham, tongue, tea cakes, bread and butter, olives, potato salad, and home made preserves. And I let them eat all they want! But it's rarely that I get a call for a third helping. It is not uncommon for me to serve fifty or sixty 'spreads' between 11:30 and 2—much less in the evening, although I once had sixty-three people at six o'clock—and no girls to serve them either. I made Sally do it. She didn't want to go back to cooking—she collected more than seven dollars in tips!"

Not all proprietors of small tea houses are fortunate enough to be located on well traveled main roads. When located off the main line, some method must be found for attracting custom to the tea house.

"My problem," writes the owner of a tea house inn in the hill country of New England, "was to let people know that I was open and doing business. My little inn is an old and rather picturesque barn, so long unused for the purpose for which it was made that it has no other odor than that of the hay loft. I have a mother and four sisters, and when we decided to establish an inn, where we could serve simple country meals to automobile people, we realized at once that the trouble was to get them to go a quarter of a mile down the lane which leads from the main road.

"We solved this problem in three ways. First, we had a very large sign painted, which we nailed to trees near the turn-out from the main road. It read: 'The Barn Inn—Good Country Food. One Quarter Mile,' and it showed from both sides. Next, we asked every person who stopped with us, whether they bought a dinner or asked for water for the car, for the name or names of motoring friends. Every name was put on a postal card, bearing a map of the road and a half-tone picture of the interior of the barn, with a short schedule of prices. Third, we asked the secretaries of all the automobile clubs within twenty-five miles if they would see that their members knew of us if we would send them postals. In every case we got the list of club members. In this way we worked up a small but paying trade. We serve but one meal a day—that is, if we have a chicken dinner we don't have a meat dinner, too. We grow our own vegetables. Mother is a splendid cook, my sisters and I wait on the table, and we consider it a decided success, even though we get no salaries or wages, and put the profits into the family purse. Next year we plan to advertise on Fridays and Saturdays in the newspapers of five adjoining towns. If we find that it pays we will use more papers. I cannot answer your question as to what we have made, but I think for the two summers we have done this our profit in money is

Attractive surroundings are of first importance in the wayside tea house, for this is its first appeal to the wayfarer

about $1,500 and we have all—the whole six of us—lived well during the season on the dinners we cooked and couldn't sell—except for two dreadful days when we were beset by a convention and sold everything on the place which could be eaten, and actually had to borrow meals for ourselves from good neighbors!

The help problem is acute in some places—not all are able to press a numerous family into service or to employ fresh-faced country girls who are glad to work for the tips. But resource can conquer this difficulty as well as others.

"When I am healthy I am a school teacher. When I am an invalid I am a grouch!" writes a young man who has what he calls a "Rest Haven" exactly half way between two middle sized cities, surrounded by a wilderness of impossible hotels. "When I am a grouch I have to live out of doors. My wife has a small piece of property which is of no use to any one except some person who wants to sit under the trees. That is, it isn't salable. So we put up first a tent, then two tents, next three tents, and this year a log cabin—under the trees—and there we loaf and invite our souls and let the passing automobilist loaf and invite his—for a consideration, which is what he pays for the best beaten biscuits in the world (*she* makes them), a real cup of coffee, cold chicken (which *she* cooks), sliced ham, ice cream (which we buy), fancy cakes, icy spring water, and a few trimmings.

Limited facilities have been made the most of here. One advantage in having the tea room in close proximity to the house is that refreshments can be prepared in the kitchen and served with little extra trouble

"But I can't loaf and invite my soul *and* wait on table and she can't cook *and* wait on table. And female help (unless you are married to it) is an impossible thing to get here. Help we have to have. So I invited the boys of the school where I teach to come and be waiters. The bait was the tips, to be used in equipping their gymnasium, plus a small—very small—wage to be used as they pleased. A boy won't be a servant for money. But he'll let you walk on him if it buys him something for his school—if he likes his school. So we had from one to four competent if sometimes clumsy boy waiters all last summer at a cost of $3 a week per boy."

"You ask what was the hardest in establishing 'Break an Egg Inn,'" writes a young married woman who has succeeded in sending two boys to school and keeping a home together, by utilizing a large lawn and a farmhouse on a road which is much used by automobile tourists. "The hardest thing was the menu. I knew that what I could cook I could sell, but I couldn't cook many things because of the difficulty of getting ice and keeping supplies, and also because I believed that a hungry set of tourists wanted to be served quickly. My two boys have for several years run a chicken farm, and we sell eggs by the box. And it was eggs which we decided to use for our bill of fare—hence our name. We serve only eggs and bacon, home-made bread, tea, and soup. If any one wants more he can go elsewhere. We who do it are sick of the sight of an egg. To eat an omelette is a punishment. Bacon is medicine, and any one who offered one of my family soup would flee for his life. But as no one party takes two consecutive meals with us, our very simple menu doesn't pall on our guests. We keep soup constantly hot—both chicken and beef with rice; we have genuine, honest, freshly laid eggs—if any guest wants to, he can come to the hennery and see us pick them from the nests! And I can make a real omelette, and get it in front of my guests on the lawn—in bad weather we serve our guests in our own dining room, which is large—before it falls. We make no attempt to charge very low prices. Tourists, when they are hungry, don't mind paying a good price, so we get 50 cents for a three-egg omelette, and 30 more for tea, bread and butter, and two rashers of bacon. Soup is 15 cents a cup—good, large cup—and we sell a great deal. As we kill our own chickens for the chicken soup, 'grow' our own eggs, and have no extra rent to pay, our profits are large in proportion to our investment. My boys help serve, and we have a competent woman who helps me in the kitchen, to whom we give a home and $15 a month. She also waits on table. I try to make every meal look attractive, and I know that they are good to eat. Every car that stops gets a drink without any one asking for it, a little attention which most tourists seem to appreciate."

There is a suggestion in the simple, primitive charm of this tea room. Interior of the house shown at the top of the preceding page and again below

Another view of the Lancaster Pike tea house, showing its swinging "sign of the tea pot"

A peculiar problem confronted a middle-aged man who had a wayside inn, as he expressed it, "wished on to me."

"My place used to be called Huckleberry Inn" he writes, "presumably because huckleberries grow in the neighborhood. Not for years had anything but beer, whiskey, poor sandwiches, and bad cigars been served at Huckleberry. Then my uncle, who owned and leased the property, died. I was his heir.

"I got rid of my undesirable tenants at once, purposing to turn Huckleberry into a decent, attractive place. But although I refurnished it, eliminated the bar, bought good furniture and fittings, employed competent help, and advertised as much as I could afford to, I did not get business. The only kind which came to me was the kind I didn't want, and that stopped as soon as it found that I sold nothing stronger than tea.

"I knew there must be a way and the way I chose proved to be the right one. I personally went to call on every minister in seven adjacent towns and on a dozen in the near-by city. I told them just what I was trying to do, and made them believe me. I was removing a canker sore from the public highway, and what I wanted was to make the public believe it. I offered all of them the same thing—come and see what I have and what I do. If you believe it, arrange a Sunday school picnic at my place. It will cost you nothing, and I will supply water, all the milk your children can drink, and all the ice cream they can eat.

"It worked. I had eight picnics in June and the advertising I got dispelled forever the idea that Huckleberry was a bad place. Since then I have had all the tourist business and all the local business in luncheons and dinners that any man could want. I make daintiness of table and dining room and goodness of simple food my cardinal principles, and I cleared $1,800 last year, net, in five months! As I had my living besides and am a man of simple tastes, I am satisfied."

These little stories are but samples, and selected to show some of the problems and the solutions which concern the simple wayside tea house. Speaking generally, success seems to follow prompt service, simplicity of menu, reasonable but not low prices, quality of food, and pretty and cool surroundings. One or two reports of places which have not made a success give no particulars of character of surroundings and complain particularly of the difficulty of having a variety of food with a limited kitchen equipment. The attention of the touring public is invited to the fact that no simple country house, barn, spring house, tent, log cabin, or other primitive structure can be reasonably expected to provide the meals which can be prepared in a hotel kitchen, and that if cleanliness and good taste can be obtained at a reasonable price, a narrow limit of choice in the menu should not be objected to. The wayside tea house seems to offer an opportunity to make a modest living without great investment, and at the same time give the owner and operator a pleasant sense of having contributed something to the joy of life by means of real service to a traveling public.

BETTER STOCK

CONDUCTED BY E. L. D. SEYMOUR

[Mr. Seymour will be glad to answer any questions relating to live stock; for convenience, kindly address the Readers' Service, COUNTRY LIFE IN AMERICA, *Garden City, N. Y.*—THE EDITORS.]

THE AYRSHIRES O' STRATHGLASS

By A. G. MORRELL

THERE'S a little bit of Scotland up in Westchester County, New York—they call it Strathglass Farm—that is a concrete result of quiet, well directed determination on the part of one of those modern business men who are beautifying the countryside with sumptuous homes and up-to-date farm buildings on splendidly planned country estates, where herds and flocks of supreme excellence are raised, and thoroughly scientific agriculture is practised. The gentleman in question is Mr. Hugh J. Chisholm.

When he succeeded to the property, less than ten years ago, he had only a foundation—albeit a sound one—on which to outline the possible accomplishments of the future. His father had established the farm in 1909, with some 365 acres and 65 head of registered Jerseys. The present owner has stretched its boundaries to enclose 850 acres, has added to and improved the buildings, and quietly, gradually, making sure of each step, has replaced the original stock with a herd of 165 Ayrshires, the best to be had.

One way to "talk cow" with the owner of Strathglass is to seek out the offices of the Oxford Paper Company in New York City and make inquiry for the President thereof. If you can show "just cause", and if there is no impediment in the form of a board meeting or absence in Chicago or Maine or Cleveland or Canada, you will meet a ruddy, well set up, carefully groomed man who will greet you with a smile of such friendliness that you will feel welcome to stay a week.

On the walls of this office you will note, along with the photographs of the great mills and waterfalls at Rumford, Me., a striking picture of the famous Scottish bred show bull, Hobsland Perfect Piece, and one of a string of Ayrshire matrons that is a treat to the eye. Mr. Chisholm will favor you, if you are inclined that way—not otherwise, for he is no hard rider of hobbies—with a sight of an album full of Ayrshires' portraits, a goodly collection; also with an opportunity to glean a good bit of Ayrshire information, for in sooth he knows families, records, sales, and prizes, here, there, and everywhere in Ayrshiredom.

That he believes in the breed and its future was never more strongly emphasized than when, last October, he held at Strathglass a Field Day, invitations to which were sent out by hundreds, and which represented an expenditure of several thousand dollars. Its aim was to give an opportunity, to all who would, to see a thoroughly representative Ayrshire herd, that they might be able to bear testimony to the beauty and productivity of this splendid breed, and as a boost for the Ayrshire the event merits the gratitude of all who share Mr. Chisholm's feelings about her.

In the early days of the present herd's history, the leading sire was Hobsland Gipsy King, just as now another Hobsland, designated Perfect Piece, holds that proud position. Later, Imp. Netherhall True-to-Time 14976, a son of Netherhall Brownie 16th, who is closely related to Netherhall Brownie 9th (an erstwhile champion producer of the breed), was made stock bull; and a great breeder he has proved—and still remains. A majestic looking beast, of splendid dairy type, it is only because of his rather peculiarly distributed dark red markings that he is denied the title of "show bull." At this establishment they have not made the all too common error of discarding bulls before their worth has been proven, and old True-to-Time is held in deservedly high estimation on account of the uniform excellence of his get.

All Ayrshire people, and some others, know Imp. Hobsland Masterpiece 8795, "Bob" Ness's great Canadian show bull, bred in Scotland, and of world-wide fame. On one of his periodical trips to Scotland, Mr. Chisholm bought a young son of this bull, as well as a half-brother to True-To-Time, having seen nothing else in all his seeking that approached them in either type or breeding, or that would "nick" so well with the blood he already had.

The first of these was Imp. Hobsland Perfect Piece 16933, who, as a show bull, will very likely outclass his sire, since he is larger and longer, and more in accord with the tastes of American breeders who are keeping strictly away from the ultra fine type. He is of the popular nearly solid white, with just a touch of red, carries himself well, and has lots of quality.

The second was Imp. Netherhall Wide-Awake. I recall that on the occasion of one of my visits at his office, Mr. Chisholm said joyfully, "I have a string on a son of Netherhall Brownie 16th, a dandy calf. I have offered the highest price for him that has yet been paid for a bull calf in Scotland, and I think I'll get him. I wanted his dam, but if I don't get her I'll have the bull anyway." Wide-Awake in the last year and a half has added poise, depth, and girth to his make-up and has become a wonderfully handsome creature—to my mind the best bull in the barns. Added to the dairy type that he carries as a characteristic of the Brownies, he has quality, finish, style, and very evident constitutional vigor. He should certainly sire top-notch daughters; and in addition he has every right to show ring honors.

There have always been good cows in the Strathglass herd, judging by current Ayrshire standards; but just as no dairy breed in this country has made such progress in the last six years as these Scotch cattle, so the present Strathglass herd is so much better than its foundation that comparison is out of the question. There are sixty-five head now in milk, and after having a half dozen Ayrshire men select six different cows as "the best," I came to the conclusion that it would be a hard task to say which

Mr. Hugh J. Chisholm and some of the cattle which he loves, at his 1915 Field Day

"There is a little bit of Scotland up in Westchester County, New York—they call it Strathglass Farm"—and the sleek cattle seem just as contented as if it were their native county of Ayr

was really entitled to first place. On this point the owner himself, after sifting all the best herds on both sides of the water, says: "Here's a cow, Lochfergus Snow, that many of you people overlook just because she is young. She is, I think, going to be the best cow I own. She has not nearly reached full development, and just look at her!" Though six years old, she is young for an Ayrshire, since cows of this breed are generally at their best when about nine, but she turns out 56 pounds of milk a day for weeks at a time. Her beauty and style are an inheritance from her Canadian granddam, the illustrious Auchenbrain Fanny 9th, who was one of the handsomest Ayrshire matrons that ever captured championship honors at Toronto.

Another good judge preferred Imp. Langdyke Sally 31601, a year older than Snow, a blue ribbon winner in the ring, a big, level, capacious cow, with a tremendous udder quite capable of holding more than the 70 pounds of milk she gave the day we saw her this past winter, about six weeks after freshening. She has milked 78 pounds a day, and more than 2,000 pounds in a month, and is of additional interest in having been one of the "interned" Chicago herd at the time of the foot and mouth unpleasantness after the last National Dairy Show. Like all her stable companions, she came back in fine fettle, none the worse, apparently, for that trial.

Imp. Netherhall True to Time 14976, senior herd bull at Strathglass, and son of General Toward and Netherhall Brownie 16th

Another favorite with many, besides myself is the flashy, strong-loined, level-backed, big barrelled cow Imp. Shewalton Mains Queen 37965, a strikingly handsome cow, and a worker too, as is also Imp. Fairfield Mains Jean 32274.

Bob Gibson, the Strathglass herdsman, a Scotchman and a born cattleman, liked the four-year-old Holehouse White Pearl 6th pretty well, remarking that "She has the makings of a great cow, and will grow more, even though she is very large now. She's milking 50 pounds, too."

The young sire, Wide-Awake, has three two-year-old half sisters in the herd, Imp. Netherhall Brownie 24th and Imp. Strathglass Brownie — very much alike in type, size, and markings—and Imp. Netherhall Brownie 22nd, who, though not like them in coloring, shares their posession of splendid promise.

Then there is Burnside Pearl 5th 43060 with a record, in Canada, of 11,000 pounds of milk as a two-year-old; and Imp. Dalfibble Jean Drummond 3rd 47052, whose dam in Scotland made more than 1,100 gallons a year for four years, which in "United States" means 11,000 pounds; and Lady Likely of Avon, who is a replica of her very lovely dam, Imp. Howie's Ladylike, the pure white show cow which gave Croftjane Dinah 19th a close run for most of the first premiums a few years ago —and so on and so on, one splendid animal after another.

To house this aggregation of bovine pulchritude and efficiency, there are buildings of the latest and most approved type. The big new barn is finished, outside, with hand-split shingles and fireproof cement, and inside with a preparation that gives the effect of polished tile. Ventilation is provided by means of the improved King system, resulting in pure, clean, freely circulating air, with a temperature, even in very cold weather, of 50 degrees. The older barn, built for sixty-five head, is now used for young stock, dry cows, etc.

Imp. Hobsland Perfect Piece 16933, with imposing ancestry on both sides of his family, and beauty, type, and quality to correspond

Lochfergus Snow 37969. Mr. Chisholm's ideal of a real Ayrshire cow. All breeders may not share his opinion, but most of them would like to own her

The cattle are fastened by means of flexible chains which slip up and down on the bars of the stanchions, giving perfect security with maximum freedom; they are bedded generously; have all their hay cut; and have their water troughs filled at night, so as to allow the water to get warmed to the temperature of the barn by the time they want it. Every second week in summer, the cows which give the special babies' milk are taken into a big concrete room and thoroughly washed, apparently to their considerable enjoyment.

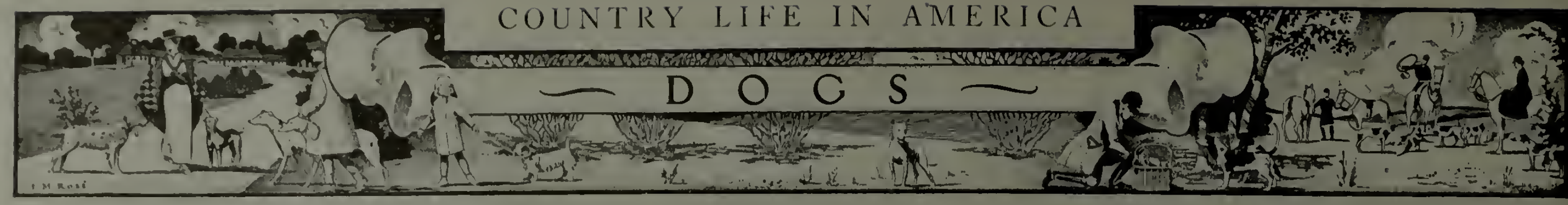
The "nursery" is a model of convenience and cleanliness, with calf pens built of hollow piping, lots of clean bedding, and plenty of light and air. Manager Livingstone's system of calf feeding is interesting: the calf is taken from the dam twenty-four hours after birth, having by then obtained all the colostral milk; it is fed whole milk for the first six months, though a little ground oats is always kept in the pen for it to take as it will. After that, skim milk right from the separator is fed, with linseed meal and ground oats, and of course some hay.

The cows, although dried off for three months, are given grain while dry; in consequence, they come in in good flesh, and easily milk their 50, 60, or 70 pounds a day when they get into their stride. Eleven were averaging 55 pounds a day when I made my visit. Test cows have their hay steamed, while the day's grain ration for each is kept in a drawer in a huge filing cabinet, with a label under the handle telling just how much she is to have—no guesswork as to the menu there! They and the old cows get mangels, of which fifteen acres produce, weather permitting, some thirty tons apiece. There are also twenty-five acres planted to alfalfa, and seventy-five to corn to fill the 680 tons of silo space. Two years ago, to help out the alfalfa hay, ten acres of soybeans were tried, but on account of the wet autumn weather it was cured with great difficulty; last fall the crop from four acres was put into the silos, and worked out very well. The first crop of alfalfa is fed as a soiling crop, the second is cut for hay, and the third fed green in the fall. To fill the paunches of so many big cows and maintain horses, calves, and bulls as well, requires a mighty big pile of hay; so there has been built a steel, double tracked hay barn which holds 350 tons. It is a monster, but Mr. Chisholm says "We are painting it green so you can't see it."

The cattle are the thing at Strathglass, but there are also several Clydesdale mares and a stallion, of the famous Baron's Pride strain, one of the mares, Rosie Bloom, having been champion over all breeds at Syracuse. Five hundred hens and a hundred ducks add to the live stock interests, and are housed and cared for as carefully as the cattle and horses. Wherever two or three Scotchmen are gathered together, you will be sure to find a collie; and at Strathglass there are several —faithful, handsome, intelligent, their honest eyes eloquent of affection for all and everything on the place.

For the lover of live stock, of *good* stock, Strathglass is really an inspiration, an actual evidence of what can be done by intelligent selection and mating; it is one of the many places in our country which keep a high standard before the eyes of all stock breeders and so are of untold educational value to those who will take advantage of them. As long as there are such herds, indeed, the breeding of better stock will progress steadily and wisely, to the ultimate betterment of the whole dairy industry.

The sort of show herd that Strathglass can produce. This one is headed by the late Red Hill Diamond Star, whose noble head is shown at the top of the preceeding page



CONDUCTED BY WALTER A. DYER

[*Mr. Dyer will be glad to answer any questions relating to dogs; for convenience, kindly address Readers' Service,* COUNTRY LIFE IN AMERICA, *Garden City, N. Y.*—THE EDITORS.]

ECHOES FROM THE BIG SHOW

NOT being a daily, or even a weekly, COUNTRY LIFE IN AMERICA cannot attempt to report dog shows. The best we can do is to review them. The following paragraphs, indeed, do not pretend to be even a review; they are rather a series of impressions which have remained from the last big show of the Westminster Kennel Club, held in Madison Square Garden, New York, during Washington's Birthday week. At the opening of the summer show season, these remarks will perhaps have a certain timeliness, after all.

It was a big show—the one last February—big in every sense. The papers said the attendance was the largest since 1908, which gives one a comfortable feeling that the interest of Americans in dogs is not dying out.

As far as canine representation went, there were record-breaking entries in some classes, which were offset by a falling off in others. I confess I was rather disappointed in this. There is something almost sad in the failure of some breed to appear at all, as though there were no longer any place for it among the great, vociferous throng of canine aristocrats. There were no boxers, no Chesapeake Bay dogs, no Newfoundlands. Mr. Graydon's Newfoundlands were shown in Newark the week before and in Philadelphia the week after, winning prizes and commendation; it was a pity we didn't have them to show to the thousands in New York.

Two mastiffs were entered in place of five entered and three benched in 1915, but these two were both marked absent and the competition void. So we saw no mastiffs, either, and it looks as though the effort to revive this breed were not meeting with much encouragement.

Only one retriever was shown—Mr. John Brett's Flirt; there were seven last year, and lovely dogs they were. Six wire-haired pointing griffons (why not call them Korthals griffons and save breath?) appeared where there were nine last year, three whippets where there were seven, and so on.

Outside of the purely sporting element—the foxhounds and beagles, the pointers and setters—the interest seems to be concentrated upon half a dozen extremely popular breeds. There appeared to be no end to the array of collies, bulldogs, Airedales, German shepherd dogs (how amazingly that breed has come up!), fox terriers, and a few others. Just think of this: one hundred and ten Boston terriers entered and just two pugs. Why, the pug was enjoying the luxury of ten thousand cushions before the Boston was ever heard of!

Well, there is certainly a tide in the affairs of dog which, if taken, etc., and there is undoubtedly more triumph in winning second or third place among the wire-haired fox terriers, at the present stage of the game, than by owning the whole bench of poodles.

Speaking of the wires, their continued ascendency is certainly the most remarkable phenomenon in recent dog history. One is tempted to ask just why a wire-haired fox terrier should be considered a better dog than a Great Dane or a bulldog, and yet at show after show, under different judges, the wire has been winning premier honors for two years. And it isn't one dog, either; or one breeder, though Mr. Quintard has had rather the best of it. There are half a dozen or more wires that are ready to step out and meet all comers any day.

Mr. George W. Quintard and Ch. Matford Vic, his wire-haired fox terrier bitch, which was adjudged the best of all breeds at the Westminster show

Roar Uproar, Miss Amy L. Bonham's winning bloodhound

Mrs. Roy A. Rainey's sensational $6,000 wire, Conejo Wycollar Boy, first winners, dogs

In the first place, this was the occasion for the coming back of Ch. Matford Vic, who won first honors for the second time at the Garden. She had been beaten during the past year, and she had against her not only fine dogs of other breeds, but the best wires in the country, all the Quintard and Rainey and Vickery blue bloods and a host of others, including Ch. Wireboy of Paignton, Ch. Guycroft Salex, Ch. Raby Dazzler, Conejo Parcel Post, Biddy of Holyport, Ch. Holmbury Reve, Ch. Vickery Gipsy Moth, Vickery Brockley Miss Circuit, and Mrs. Rainey's sensational $6,000 youngster, Wycollar Boy. Vic had been kept in reserve for this honor during the showing, and the result justified her owner's confidence in her.

Mr. Quintard also won the specials for the best brace, with Ch. Matford Vic and Ch. Wireboy of Paignton; and for the best team, with these two, Ch. Raby Dazzler, and Ch. Holmbury Reve. Other specials won by the wires were as follows: the Westchester Challenge Trophy for the greatest number of wins during the year, by Ch. Matford Vic; Vanderbilt Hotel Challenge Cup, for the best brace owned by a member, by Wycollar Boy and Ch. Guycroft Salex; two Ladies' Dog Club trophies by Wycollar Boy. In the variety classes, wires won the first two places among the terriers, champions barred, with Wycollar Boy first and Vickery Brockley Miss Circuit second; in the open class they came up in one, two, three order—Ch. Wireboy of Paignton, Conejo Wycollar Boy, and Ch. Raby Dazzler.

The winners in the regular wire-haired fox terrier classes were as follows: dogs, Conejo Wycollar Boy first, Ch. Raby Dazzler reserve; bitches, Vickery Brockley Miss Circuit first, Pride's Hill Folly reserve. But we have gossiped enough of this remarkable breed. There is every reason to expect the wires to go on winning this summer.

It is pleasant to record the fact that the runner-up to Ch. Matford Vic, and the best of the opposite sex, was a Scottish terrier, Miss Jean B. Crawford's Conqueror, which had been in this country only five months and which will be better known before the year is out.

But to me a dog show is something more than a competition for honors; it is a grand reception, like the inaugural ball. Here one may meet the finest dog flesh in the land on a truly democratic footing, and shake hands with those who are not too stuffy to be gracious. To stroke the hard little head of Matford Vic is something like shaking the hand of the President. And, being a dog lover rather than a fancier, I must confess that I find myself looking for something besides points as I stroll down the long lines of lively benches.

Speaking thus personally, I believe that the Irish wolfhounds appealed to me as strongly as any dogs in the show. There were four of them, great, strong, noble creatures, gentle as kittens and alert as terriers, with fine, honest eyes and faces that you can understand. The winner was Newry Asthore, a splendid specimen, but my special favorite was Mr. Hugh Murray's Wolfe Tone, which took third prize in the limit and open classes. Not such a fine dog, perhaps, judged by the Standard, but all dog, nevertheless. He has lived in a New York apartment house since he was nine months old, and he gets his exercise jumping park fences, but his urban life seems not to have hurt him. There are things that a dog, even a big dog, needs even more than space to run in, and something has given Wolfe Tone the disposition and bearing of a particularly intelligent saint. When Wolfe Tone put his great paws ever so gently

on my shoulders and talked to me, I must confess that I broke the tenth commandment.

The Scotch deerhounds were almost equally attractive, but there were only two of them, Mr. Kirkpatrick not showing this year.

The bloodhounds were very impressive, though only four were entered and two of these were absent. What a pity it is that this affectionate animal has gained such an undeserved reputation for ferocity. I suppose both its name and tradition are against it. Miss Amy L. Bonham's Roan Uproar took first honors, was adjudged the best dog of the sporting varieties, and figured in the best dog contest. What a head he has! But here again I was drawn rather toward a lesser light. It was Dalhousie's Mischief, owned by Mr. Wallace M. Sheehan, that kept me lingering at this bench. He took first novice and reserve winners, and a sweeter puppy you would not wish to meet. He was only nine months old, and he had not yet acquired the haws and wrinkles that come with bloodhound age and experience.

Among the toys, the Brussells Griffons showed a gratifying increase, twelve being entered, and there was this year a class for the little-known smooth-coated variety, represented by Mr. E. V. Keeping's Manike and Mrs. Maria Van Camp's Albert the First.

Miss Jean B. Cowhard's Scottish terrier Con[illegible] first winners, dogs

Mr. Freeman Ford's Arroyo Anarchist took first winners, dogs, in a huge showing of Boston terriers

Among the varied impressions of the show that have remained with me are these somewhat isolated facts:

That Mr. J. E. Horrax's Toll Bar Jack and the Rockcliffe Kennels' Ch. Oak Nana won deserved honors among a large entry of bulldogs.

That Mr. W. F. Livesey's charming little Firenzi Catcatcher again bravely upheld the honor of the Bedlington terrier breed.

That the Greentree Kennels' curious long-haired Dachshund, Dirk von der Dune, appeared again among his smooth-coated brethren.

That the big pack of German shepherd dogs shown by Mr. Benjamin H. Throop and the Russian wolfhounds shown by Mr. M. M. Palmer were worth going far to see.

That Charles Ludwig's superb Great Dane, Ch. Prince von Weisenau, was one of the noblest looking and most perfectly colored dogs in the show.

That Mr. Robert Goelet's Great Dane, Zenda of Sudbury, and two Manchester terriers were shown with uncropped ears. I wonder if we may hope that this custom will some day become the rule here as in England.

But after a consideration of all these splendid or curious dogs, I find my mind wandering back to a pink-nosed little maid among the white bull terriers. Her name was Fort Orange Diantha and she was just eight months old that day. She was one of these puppies that would rather be caressed than fed, and I gladly suffered her to cover the front of my coat with talcum powder. She trotted into third place, I believe, in the puppy and novice classes, but that neither pleased nor discouraged Diantha. If I had been the judge, I am quite sure I should have awarded her a special ham-bone trophy for being the lovingest dog in the show; she would have understood that better. W. A. D.

Wolfe Tone, Mr. Hugh Murray's Irish wolfhound, which has "the disposition and bearing of a particularly intelligent saint"

THE FELIXSTOWE WOLFHOUNDS

To the Editor:

I was naturally greatly interested in the article on the Irish wolfhound in the January number of Country Life in America. In reference to the crossing which the late Captain G. A. Graham did with Danes, deerhounds, and Borzoi, the first two breeds used were a distinct advantage, but the Borzoi cross turned out a very great mistake. Even up to the last few years it was noticeable. The Borzoi used was a dog called Horatai, and wherever stock can be traced to him, I have invariably noticed a narrow, snipy fore-face.

The Champion O'Leary referred to in your article was considered by his breeder, G. E. Crisp, Esq., of Playford Hall, Ipswich, and by the late Captain Graham to be the most perfect model of his day. Very strange it was that a large number of O'Leary's progeny died of heart trouble, as he did also. But as the family keeps broadening, there is less cause to inbreed, and so their constitutions are improved. During the last few years the size has increased somewhat, so that at our shows dogs are seldom shown under 33 inches, often up to 35 inches, and in a few instances 36 and even 37 inches at the shoulder. Many of the present-day bitches are 32 to 33 inches. The weight for dogs is 130 to 160 pounds. When I brought out Ch. Dromore Gweebara at Dublin he weighed a little more than 180 pounds. He once scaled with me 189 pounds and was then hard and fit and could gallop well.

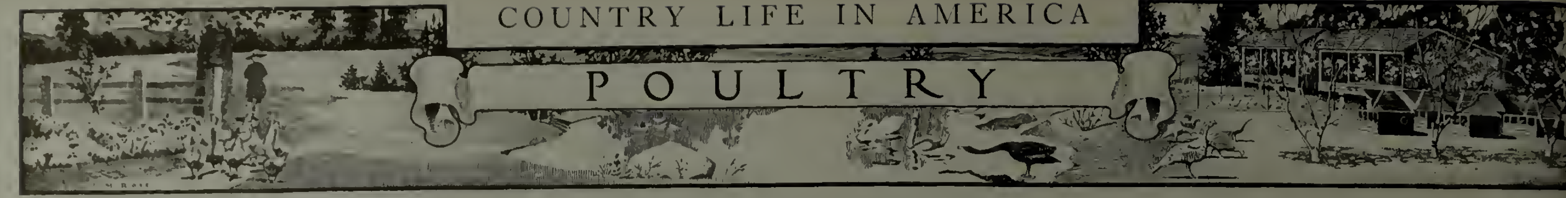
I have bred many breeds as companions, but have never found one to beat an Irish wolfhound—a bitch for preference. They are exceedingly clever and capable of being taught a great many tricks. I never knew one to start a row with a small dog, but when they get on the war path the other dog has to "sit tight." Whenever the Irish wolfhound has a chance of being tried as a companion he invariably stops there, and as a sportsman's hound I imagine, from letters I have received from your side, that he is "it." I have been breeding, showing, and judging this breed since 1890, so that I have had opportunities to watch the breed and its development. If I can at any time be of any use to Irish wolfhound fanciers on your side respecting anything relating to this really noble and grand breed, I shall be greatly delighted.

I. W. Everett.

Felixstowe, Suffolk, England.

Toll Bar Jack, Mr. J. E. Horrax's bulldog which captured first winners, dogs

Mr. Alden S. Condict's Norfolk spaniel, Jester



POULTRY

CONDUCTED BY F. H. VALENTINE

[*Mr. Valentine will be glad to answer any questions relating to poultry; for convenience kindly address Readers' Service,* COUNTRY LIFE IN AMERICA, *Garden City, N. Y.* — THE EDITORS.]

A NEW-OLD BREED—THE SUSSEX

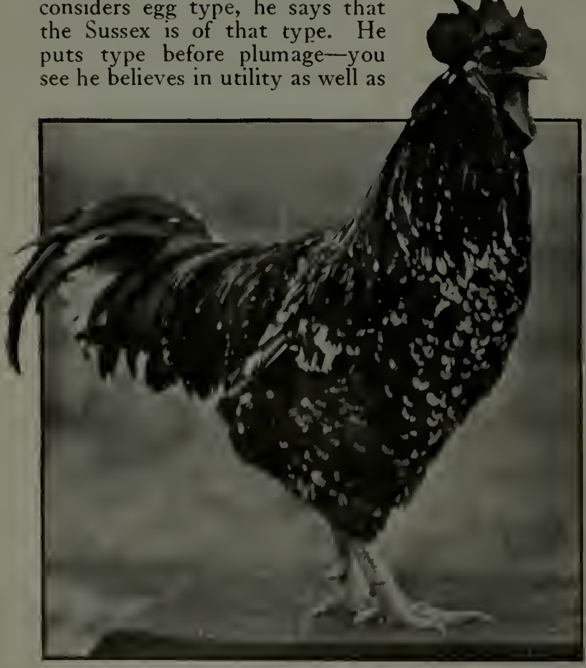
IN THIS country comparatively new, yet an old established breed in England where it has been bred for many years, the Sussex has found ardent admirers here. In England, for centuries, different breeds of fowls have formed an important part of the appurtenances of landed estates, and these have been classed under the general head of "The Farm or Homestead Fowl." Some of these had five toes and some had four on each foot. These fowls were used to pay land rents in the olden time, and the prices at which they were reckoned would make our modern poultrymen have a sick feeling in the pocketbook. I find the Kent-Sussex referred to in the earlier history. The old-time illustrations bear little resemblance to the modern Sussex. But there were no fanciers in those days, and the chief mission in life of poultry was to furnish toothsome eating—after they were dead. The different breeds took their names from the localities in which they were developed.

I asked a number of breeders why they raised Sussex in preference to other breeds. Some of their warmest admirers were either of English breeding or descent, which may explain their predilection. Two varieties are given in the American Standard of Perfection—the Speckled and the Red. Two others at least are bred in this country, the Light and the Partridge, while the Brown is bred in England. Some breed one variety only, others two or more. One breeder of Red and Speckled admitted that, for utility, he thought the Light excelled the others. He is a fancier, and the beautiful deep, glossy red of the one, and the attractive contrasting reddish brown and white of the other pleased him. Bear in mind that these opinions are from men who are primarily fanciers.

One breeder of Red Sussex said that he liked the handsome red color of the breed, and fell in love with it at first sight.

Another said: "Sussex type is egg type. The hen is kept because she lays eggs." He thinks that the hen which doesn't make good with lots of eggs should go to the butcher. After defining what he considers egg type, he says that the Sussex is of that type. He puts type before plumage—you see he believes in utility as well as fancy feathers. He sums up: "Sussex are beautiful—none more so; Sussex, every one admits, are perfect table fowls, and they are built to lay eggs—and do it."

The Light Sussex hen which captured the blue at Chicago in 1915, and at Madison Square, New York in 1916. Owned by Houstonia Poultry Farm



Speckled Sussex cockerel, Tommy Atkins, first prize winner at Madison Square, New York in 1916, at Chicago in 1915, and at the London, England Dairy Show in 1915

Another fancier says that, while he has developed a heavy laying strain, there has been no change of the natural and desired type. Hence he concludes that the Sussex possesses a shape natural to heavy layers. He says, also, that the Sussex is superior to other medium weight breeds in the quality of flesh produced and the part of the fowl on which it is produced, the breast. He thinks if the Dorking type is adhered to, the breed will be the best for table purposes that can be produced. His opinion is that the just up to weight, or slightly under weight, Sussex makes the most serviceable bird. "The best laying hen is always on the small side, and is of finer bone than the overweight hen, and I believe carries more meat in proportion to bone than the larger specimens." He also makes a plea for the Light Sussex, as birds of this variety become ready for the market slightly in advance of the others, with the added advantage of finer appearance when dressed, on account of the white pinfeathers.

Another says the Sussex must be acclimatized. They must not be overfed, and should have no corn, especially imported birds, as they are not fed corn in England, even for fattening. Possibly the change in methods of feeding is as important as change in climate.

Another says: "We have Red Sussex pens now mated up that will compare in every respect with our best pens of R. I. Reds. While the Red Sussex are of a different shade of red (dark mahogany), different type, have different colored legs, and are different in every way, still when it comes to saying which of the two breeds is the more beautiful and productive, we must call it a tie on this farm."

Another says the Sussex will thrive in any climate, and one slogan is "The colder the day, the better they lay." That may be, but I have seen frosted combs on them in northern New Jersey, and in fairly well protected houses at that. I think no breed can claim immunity in that respect, and a frozen combed hen isn't generally much of a layer.

One Sussex breeder, English born, says that, in the London market, there are more Sussex fowl than of any other three breeds combined. At the Dairy Show, London, in dressed poultry, Sussex has won the best prizes for a dozen years. One pair of cockerels shown weighed 25 pounds. Another breeds Sussex for several reasons—they are exceptionally hardy and vigorous, good egg producers, and ideal market birds.

While many of their admirers lay emphasis on the beauty of the Sussex, practically all come out strong on the general utility claim for recognition. One tells of 8-pound cockerels, and pullets of laying age at five months, which is certainly "going some." One describes the color of the eggs as tinted, neither brown nor white, and of good size, According to these claims, these comparatively new comers combine the qualities of hardiness, freedom from disease, ease of raising, early maturity, early and abundant laying, good mothers, and extra table quality at any age.

Space precludes a detailed description of the different varieties, but it may be said that, except in plumage, all are alike in size and general conformation. American Standard weights are: cock, 9 pounds; cockerel, 7½ pounds; hen, 7 pounds; pullet, 6 pounds. Many breeders say that these weights are easily exceeded. One of the foremost breeders gives this brief description of the plumage:

"The Speckled is the oldest of all the varieties. It is of a beautiful tricolored plumage of unique and very ancient color pattern. The ground color is lustrous, reddish brown, uniformly marked with the narrow black bar and stripe, and white tip. The Reds have a rich mahogany color. The Lights have the color pattern of the Light Brahmas. The plumage of the Browns is not especially pleasing to the eye, consequently few of them have been brought to this country."

The Speckled Sussex hen which took first prize at the last Madison Square show. Owned by the Rawnsley-Shields Poultry Farm, who also own Tommy Atkins

The Red Sussex pullet, hailing from the Houstonia Poultry Farm, which won first at Madison Square in 1916

The body of the Sussex is long, but I think not so long as that of the Dorking, legs longer, broad at the shoulders, and deep, presenting an oblong appearance. Color of legs and skin is white. White-skinned birds are not favorites in the markets of this country. Whether extra quality of flesh will overcome this prejudice is a question to be considered.

Our illustrations of the different varieties give a good idea of the general appearance of the breed.

F. H. V.

CAPONS AS MOTHERS

ONE who has used them to brood chicks and turkey poults, tells how it is done. A capon from a late hatch and not too heavy is best. He should be tame, and put by himself so as to get lonesome. Put two or three smart chicks under his wings at night, and in the morning he is likely to be clucking and fussing over his tiny companions. Then he may be given more—not to exceed fifteen. When the chicks are three or four weeks old, two broods may be united, and one capon given another brood of young chicks. When once broken in, the capon is said to be ready to adopt a brood of any age or kind. All that is necessary is to place him by himself over night.

F. H. V.

THE WATERING PROBLEM

THE real troubles in chick watering are mechanical rather than bacteriological. The chicks fall into the water dish, or they walk in it, or they scratch litter into the water, or the water runs over, or the vessel upsets, or the chicks soil the water by perching on the fountain.

A few years ago the writer happened upon a positive remedy for most of these water dish troubles. Although the acme of simplicity, the idea does not seem to be recognized by the makers of chick watering dishes. From the way dishes are made, and commonly used, it appears to be assumed that the chick must reach down for water. The typical saucer with the inverted can is placed on the ground or at most on a piece of board an inch high.

My panacea is to have the lip of the water dish on a level with the chick's head when he stands erect. In experimenting I placed water lips one, two, and three inches from the floor. To my surprise newly hatched babies drank from the higher in preference to the lower levels.

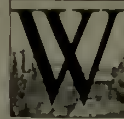
Not since that day have I ever watered chicks from a vessel less than three inches from the floor. Where chicks are fed in litter, as all indoor chicks should be, I raise the vessel as the chicks grow, and keep the water free from scratched litter. Chicks do not step in the water and track it about, and I never yet have seen them get a chick down in a water rush when a high drinking lip is used. To consider fine points, the chicks even throw less water with their beaks from this style of dish. The only unanswerable criticism of my plan is that it decreases the neck exercise which the chick takes in the usual course of watering.

The high-lip water vessel, because it keeps the water cleaner, may be made in larger capacities and filled less often. Punch one hole only in the rim of the inverted vessel and if it stands on an uneven base put the hole on the low side, otherwise a wet brooder will result.

Milo Hastings.

For two weeks old chicks the water dish can be raised fully five inches

SQUAB SETTERS



WE LIKE squab setters much better than nappies or nest bowls, and besides they cost nothing but a little spare time. Four pieces of wood, $1\frac{1}{2}$ to 2 inches square and 8 to 10 inches long, (in size to conform with the size of your birds) nailed together, form a square foundation on which a square of bagging or burlap is tacked so that it sags slightly in the centre. These squab setters are easily cleaned and disinfected, and renewed from year to year by tacking on new cloth. Since we have used them we have very few broken or chilled eggs. Little or no nesting material is needed, and the squabs always have a clean, dry bed, for if made the proper size for the birds, they seldom soil the squab setter.

Allow two squab setters for each pair of birds, and it is a good plan when placing the squab setters in the nest to put a few moth balls under each one, near the corners. Fresh moth balls are very strong and should not be put under the squab setters just when the little peepers are hatching. If placed before or at the time the eggs are laid, the fumes will not be too strong by the time the peepers hatch out. The moth balls will keep away lice from both youngsters and old birds. If the old birds are badly infested, each one should be dusted separately. Do the dusting over a large pan so that the powder may be used over again and not wasted.

P. B. Ruggles.

Another Houstonia winner, Red Sussex cockerel, first at London, 1915, Chicago, 1915, and Madison Square, 1916

MONEY IN GUINEAS?

QUESTIONS are frequent as to the profit in guineas. Though found on poultry farms, they are not poultry, strictly speaking, but belong to the pheasant family. They are great foragers, hence are cheaply raised on range, and the market demand for them is good. Moreover they are said to be useful in driving off hawks and other marauding birds. So they would seem to be desirable on poultry farms.

I have never tried keeping them, but in conjunction with several neighbors have raised quite a flock. It was this way: one pair owned in the neighborhood has increased to several dozens. They wander at will over neighboring places, eating where the fancy takes them. They ought to be an inexpensive proposition to the real owner. As to the other neighbors, it's a question upon which some of them have doubts. I have always been told that they did little or no damage to garden or farm crops, didn't scratch like hens, and were so destructive to insects that they were very desirable to have about. Possibly this may all be true with some. Here are some things I observed of this particular flock:

Not only did they scratch in the garden, but they were partial to nice mellow beds.

They ate the young pea shoots as fast as they appeared above ground.

They ate the young radishes, lettuce, and other tender vegetables.

One man declared that they pulled up corn as bad as any crows. I didn't see this.

But they did much damage both to the sweet and field corn by pecking into the ears on the stalks.

They also did much damage to the ripening tomatoes in the garden.

They seem unconfinable by any ordinary means. I have seen them sitting in state on the ridge-pole of my barn, and how any one could catch them is more than I can figure out. They might be confined in covered runs the same as other pheasants, but that would entail considerable trouble and expense.

Then the noise they make, which seems almost never ending, gets on some people's nerves. At night especially do they give a continuous performance. Possibly these I have observed are different. Doubtless guineas have their place, but I am firmly convinced that their place is not in my garden.

F. H. V.

HERE AND THERE

The Tag Bill H. R. 9411, a bill which at the time of writing seems in a fair way to become law in the 64th Congress, brings up a subject upon which boat owners and motor car owners have often speculated—the matter of numbering motor boats. On the face of it, the bill is not a bad one, and many plausible reasons may be advanced for extending the universal practice of registering and numbering automobiles to their water-borne sisters. But the bill is rather definitely worded in vague language, and there are many who think that it has been proposed in order to injure the thriving sport of motor boating. As things now stand, it is undeniable that offenders of the navigation laws may, and often do, evade responsibility by giving fictitious names, and should the bill go into effect a great reform may be exerted in this direction.

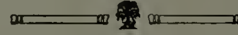
But the governmental department which would have this matter in hand is already overburdened with routine business, and it is thought that its machinery will be swamped when it faces the necessity of registering nearly a million motor boats, thereby creating a greater chaos than now exists. And why, as the bill proposes, should the numbers be painted on the beautiful bows of a boat, when they might more efficaciously be cut or branded in its interior, as is done with all documented steamers? A customs inspector must board a boat to discover any delinquencies, and it is undignified, to say the least, to have him hang over her bow, when once aboard, to see whether she is properly numbered.

At any rate, good or bad, the bill should not have been drafted without prior consultation with the boat owners themselves, as has been the case, for that is legislation without representation.

HENRY WALLACE
Feb. 22, 1916

Amid the surge and turmoil of American agricultural progress for the last quarter century, the person and spirit of Henry Wallace have stood like a lighthouse of guidance and a cross of inspiring faith. His knowledge of farming was as deep as his knowledge of life itself was broad, and as his understanding of human nature was penetrating and sympathetic. Staunch, upright, just in the highest sense, he had that charm and attraction of personality and that facility of thought and expression which made him inevitably a source of help, of confidence, and of mental and moral strength for thousands of readers and hearers of his words of conservative wisdom and upholding council. American agriculture, American farmers, American men and women and boys and girls in all walks of rural life—all have lost in his death a true friend and champion.

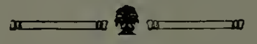
Motor Instruction For the Coming Generation In the great granger states of the Central West, where the population is largely rural, the latest statistics show that there is now an average of one motor car for each four families. This percentage would scarcely hold for the whole country, but even so it is evident that the motor car is becoming a tremendously important factor in country life in America. Granting this obvious fact, it follows that there is need for scientific instruction of rural youth in the operation and maintenance of self-propelled vehicles. Something more than chance gathered understanding of the internal economy of the motor car is going to be essential to the economic welfare of the coming generations. The first step toward meeting this situation has been taken by the board of education of the city of Quincy, Ill., which has instituted a course of instruction in motor car operation and repair, in its primary schools. Perhaps the present generation will see the day when the little red school house on the hill will include with the three R's, a course of instruction in automobile operation.



The Hidden Inn Recently the Park Commission of Colorado Springs built in the Garden of the Gods, which is owned by that city, a most unusual house for the convenience of the many tourists who visit this scenic attraction of the Pike's Peak region. The structure is a replica of one of the Indian pueblos of the Southwest. It is three stories in height, with the step or terrace effect that characterizes this style of building. Visitors find it just inside the famous gateway to the Garden, and it has been so cleverly located between two thin, upstanding ledges of sandstone, with which its color exactly matches, that one at first thinks he has come upon a relic of the days when this was the Indian's country.

The hidden inn in the Garden of the Gods, a replica of the Indian pueblo

The hidden inn affords a pleasant resting place and if one wishes to linger he may have tea or luncheon on the terraces, for a manager is in charge who caters to the requirements of visitors.



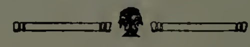
The Jujube Tree Among the promising horticultural discoveries made by our plant introduction scouts during their latest travels in central China, is the jujube tree—which is reported to be no less appetizing in reality than in name. Native to a semiarid, temperate region, hardy, productive, and easy of cultivation, the tree appears to possess especial adaptability for extensive areas in California, Texas, New Mexico, Arizona, Utah, and possibly other states of similar characteristics. Its ability to withstand cold, drought, and neglect will at once endear it to various types of farmers, as well as to enterprising land selling concerns. And its production of heavy crops of "brownish fruit which is delicious when fresh and which, when dried, offers a confection very similar in taste to the Persian date" will arouse the enthusiasm of a host of other persons, whose interests, though the anthithesis of those of the grower, are none the less acute and sincere.

A New Kind Of Community Centre In northern Iowa, as in many other sections of the country, a serious social problem is produced by the distance between homesteads and the unstable character of the tenant-farmer population. There, as elsewhere, the young people tend constantly toward the towns and villages where life is easier and companionship closer.

Mr. Jasper Thompson, one of the old-time pioneer settlers of Winnebago County, is engaged in an interesting effort to solve this social problem. His plan involves the establishment of social centres at various convenient points in the county—not in towns but in the open country.

About five miles out from Forest City, on a good road, Mr. Thompson recently completed a combined farmstead and social centre building which he has named "Farmer's Social Camp No. 1." It is an attractively designed building, 90 x 32 ft., constructed of brick and concrete, with red asbestos shingle roofing and outer walls finished in white pebble dash. It stands in a grove of evergreen and orchard trees, and commands a broad view of rolling farm lands. It is finished inside in Oregon fir and is steam heated and electric lighted. It contains a library and reading room, a hall that may be used for meetings and dances, a piano, substantial furniture, a swimming-pool, and baths. Tennis courts and a baseball diamond are to be laid out near-by.

It is Mr. Thompson's plan to offer this clubhouse free of charge to the farmers of the community for all honorable purposes, as far as possible without restrictions. If it is a success, he purposes to build others.



Good Taste And the Lincoln Highway The enthusiasm and determination that are so vigorously promoting the construction of the Lincoln Highway along its transcontinental route are also, apparently, stimulating the development of its esthetic features as well. Mr. B. F. Redman of Salt Lake City has volunteered to provide and erect a suitable arch over the Highway where it crosses the Utah-Wyoming state line, and the officials of the Highway Association have taken up with the American Institute of Architects the matter of a design for such a structure. The suggestions made in the news statement issued by the Association, to the effect that the arch will be built of native red granite and will cost in the neighborhood of $6,000, are satisfying and stimulating; but it is to be hoped, if the sketch reproduced in connection with the news note is submitted to the American Institute of Architects that that body will condemn, convict, and permanently and completely dispose of it. Patriotism and generosity are true virtues, but unless good taste is on hand to counsel and guide them, errors and even crimes can be committed in their name.

Good roads that *decrease* the taxpayer's bills—

THE driving wheels of every automobile do exactly the same thing every time they go around — *they pry and grind into the road surface.*

Every point, no bigger than a pin-head, on the circumference of these driving wheels is the end of a lever stretching from the axle to the ground, and that lever digs at the road to move the car along.

It is that incessant dig and pry of the driving-wheels that tear up the macadam roads, that grind out the dust, that loosen the stones. The front wheels are quite innocent. It's the fierce driving-wheels that ruin the macadam.

Horses' hoofs also tear up the road surface in the same way and throw it to the four winds.

Do you wonder that ordinary roads wear out with thousands of driving wheels and thousands of horses' hoofs digging at the surface?

And they dig deep into the citizen's pockets, for repairing those roads is a costly proposition.

The taxpayer is the "goat" for he foots the bill.

The way to avoid all this waste is to build roads suited to *modern traffic!*

That means, in most cases, Tarvia roads, for such roads are specially designed to meet these trying conditions — at a very low cost.

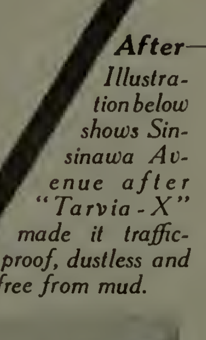
Tarvia roads resist the dig of the automobiles three times as long as the old macadam without any repairs.

Before—

Above illustration shows the dusty and worn out conditions of Sinsinawa Avenue, East Dubuque, Ill., before Tarvia was applied.

They resist horses' hoofs because they have a plastic surface instead of a brittle one.

The use of Tarvia insures a road that is smooth, dustless, waterproof and durable.



Tarvia

There are thousands of Tarvia roads in America. Many of the great Boulevard and Park Systems have been treated with this material.

Executive Avenue in front of the White House in Washington is a splendid example of Tarvia work.

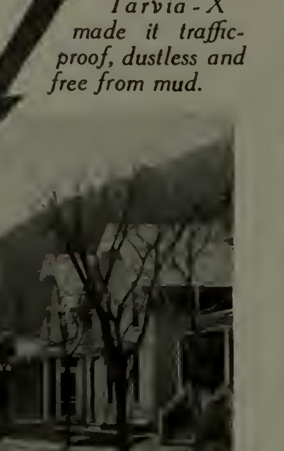
Wherever a road is treated with Tarvia the traffic instantly increases, because automobilists, teamsters and drivers of vehicles of every sort like this easy-traction, dustless, mudless surface.

And most important of all, the use of Tarvia in the end usually costs the taxpayer nothing, because its cost is more than paid for in the annual saving of maintenance cost.

How are your roads? Is your community using Tarvia? If not, for your comfort and from the standpoint of lower taxes, wouldn't it be a good idea to send for some of our booklets telling about this treatment and explaining its many advantages?

After—

Illustration below shows Sinsinawa Avenue after "Tarvia-X" made it traffic-proof, dustless and free from mud.



Special Service Department

In order to bring the facts before taxpayers as well as road authorities, The Barrett Company has organized a Special Service Department, which keeps up to the minute on all road problems. If you will write to nearest office regarding road conditions or problems in your vicinity, the matter will have the prompt attention of experienced engineers. This service is free for the asking.

If you want *better roads* and *lower taxes*, this Department can greatly assist you.

Booklets on request. Address our nearest office.

The Barrett Company

New York Chicago Philadelphia Boston St. Louis Cleveland Cincinnati Pittsburgh Detroit Birmingham Kansas City Minneapolis Salt Lake City Seattle Peoria

THE PATERSON MFG. CO., Limited: Montreal Toronto Winnipeg Vancouver St. John, N. B Halifax, N. S. Sydney, N. S.

TRADE B MARK

KNOW THE MOTHS

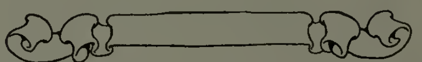
Male cecropia with cocoon below. Note relative size of moth and cocoon case, showing how the wings develop after moth emerges from cocoon. Look for these on willows, maples, and wild cherry during June. Eggs are laid during the summer, and cocoons made in the fall

Female polyphemus drying its wings and still clinging to the cocoon. Upon emerging the wings are wet, wrinkled, and weak; the moth flaps them vigorously to strengthen them, and they rapidly expand to the normal size of about a six inch spread

The male polyphemus is smaller than the female. Note the larger antennæ, organs of smell; the markings are brighter too, being red where those of the female are pink. These moths are the most common and the easiest of all to study

A promethea moth clinging to its cocoon. The promethea emerges without breaking the cocoon by means of a conical valve in the upper part of the cocoon. This moth is a male. The male and female differ greatly in their markings

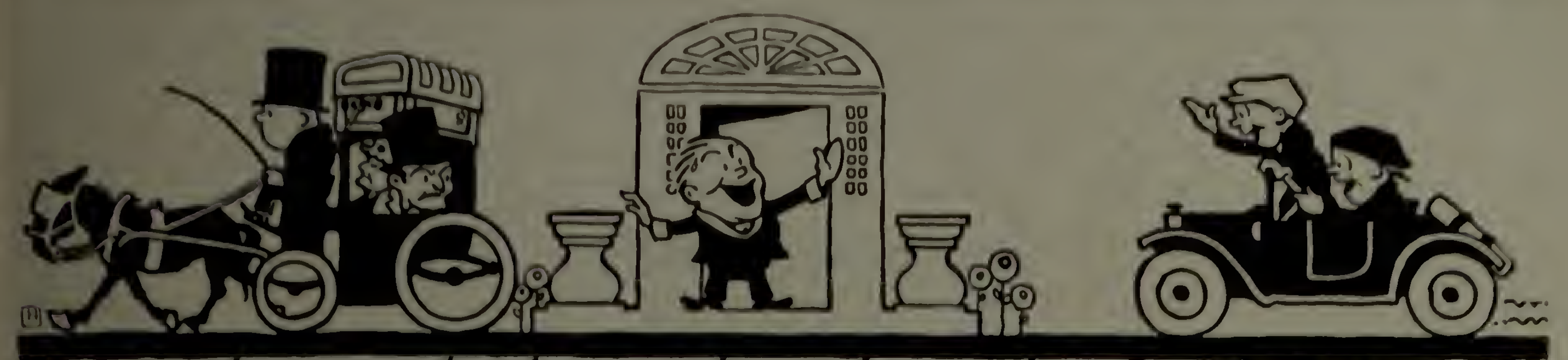
The beautiful pale green luna, loveliest of all. These moths emerge on the ground, then climb up tree trunks and clinging there, wait for their wings to harden. The cocoons are found under walnut, hickory, and other forest trees



Promethea cocoons hanging from a wild cherry branch. These are compact little homes, leaf wrapped, and hung by a woven string of attachment. Often the petiole of the leaf is cleverly bound to the branch

Photographs by Edwin A. Roberts

Captions by Ellen Eddy Shaw



A man is born with relations; he picks out his friends for himself.

So with tires — the tires that are on a new car the car manufacturer selects.

When a car owner buys tires he selects them himself.

Nearly every Kelly-Springfield tire used is selected by the car owner.

Kelly-Springfield
Automobile Tires - Hand Made

THERE is an important fundamental principle involved in this tire selection. You ought to understand it.

Few users buy Kelly-Springfield tires until after they have had experience with other tires. And fewer, having once used Kelly-Springfield tires, voluntarily discontinue their use. There is a reason for both conditions.

The reason few users try Kelly-Springfield tires first is that the initial selection of their tires is made by the manufacturer who equips the cars which they buy. And Kelly-Springfield tires cost more.

The manufacturer must put tires on the car he sells, but need not put on tires which give excess mileage. He is only obliged to equip with tires which yield the mileage most tire manufacturers guarantee. That is all the car buyer expects.

If the car manufacturer equips with a tire which gives a greater mileage than this, he has to pay the additional cost out of his own pocket—and why should he?

Considering proper manufacturing economies, he equips with tires which cost him least and yet give reasonable satisfaction. He equips his car with higher priced tires only when he buys advertising value for his car, as well as tires.

Now we cannot meet the manufacturer's price requirements. Hand-made tires cost more to make and yield excess mileage. We cannot compete on price when the excess mileage doesn't count. So we rarely sell tires to car manufacturers.

Kelly-Springfield tires are sold almost exclusively to car owners who pay higher initial prices because they know they receive excess value. At present the demand is far in excess of our production.

The demand has been so great that owners order tires before they need them to get them when they need them.

It is important to you to know these conditions and to know true tire economy.

Kelly-Springfield Tire Co.
Factories in Akron and Wooster, Ohio
Executive Offices:
Broadway and 57th Street, New York

Send 10 cents for the new game, "Going to Market"

IDEAS AND EXPERIENCES OF OUR READERS

PLANTING FOR WINDMILL TOWERS

FROM the photograph of the windmill tower and tank at my residence in the suburbs of Norfolk, would you recognize it for that ugly rectangular spectre of so many suburban homes? I could not stand the gaunt

The vine-covered windmill tower—an ugly necessity transformed

monster spoiling my otherwise lovely landscape—hence the vines. They are honeysuckle and the Japanese kudzu, mainly the latter, as it is a wonderful grower and every fall has to be cut away to below the tank. The tower is forty feet in height, and, as you may see, is utilized by my boys for the aërial of their wireless.

The birds, too, have taken advantage of this leafy apartment house and have moved in in

Bringing pigs up on the bottle—the foster mother

great numbers; mocking birds, brown Carolina wrens, cat birds, Kentucky cardinals, and crested fly-catchers are among the number of my "bird neighbors"; so that my tower of living green serves many purposes.

MRS. H. H. LITTLE.

PIG'S FOSTER MOTHER

THE five little pigs above belong to Professor Pupin, inventor of the long distance telephone transmitter. The mother of the pigs deserted them, and the Professor brought his inventive genius to bear on the subject and devised this feeding arrangement. The bottles are filled with milk, fitted with rubber nipples, and the neck of each stuck through a hole in the trough, thus providing a means for the little porkers to dine in a manner befitting their extreme youth.

THORNDIKE COLTON.

The deer and the dog dining together

THE DEER AND THE DOG

IT IS remarkable how soon creatures of the wild will yield to kindness and become tame. A case in point is shown by the above photograph. The deer, of the Arizona dwarf white tailed variety, probably the smallest species of deer found either in America or Europe, was brought from the borders of the desert to the California State Game Farm, a timid little creature hardly larger than a jack rabbit.

As he grew in size he acquired knowledge, the first thing learned being that the keeper was his friend. So thoroughly has this lesson been learned that now he will come and insist on being petted, his nose rubbed, his back scratched, the same as will a dog. He does not object to being picked up, and if this is done, cuddles down in the keeper's arms as would a cat. Next he made friends with Spot, a wise old pointer, himself knowing more than many a man.

Dog and deer eat from the same pan, the deer being the more greedy of the two, also the more insistent on his rights. If he happens to crowd over to the dog's side of the dish, Spot looks up as much as to say "Go easy Jack, old boy, plenty for both," but never a growl, never a snap is he guilty of. Should, however, the dog trespass on the deer's side, Jack gently shoves him away. Spot usually takes the hint and moves to his own place, but if a bit absent minded and neglectful about paying heed, a reminder comes in the shape of a sharp butt in the neck, and for the rest of that meal he is careful to keep his nose where it belongs.

The two are great friends, and the deer seems quite lonesome when the dog is not near.

EDWARD T. MARTIN.

The helpful ducks catching flies

DUCKS AS FLY CATCHERS

TORMENTED by the flies, the Jersey cow (at bottom of page) has sought to escape their attacks by wading out in the pond. Here the ducks came to her relief and demonstrated no small ability as fly catchers.

Every day about eleven o'clock during the summer months this performance was witnessed on the North Platte Nebraska irrigation project.

C. J. BLANCHARD.

The duck's stolen nest in the hollow tree

A WISE DUCK

WHEN left to their own devices feathered creatures often show amazing wisdom in their choice of nesting sites. The photograph above shows the curious place chosen by a duck for her stolen nest. In this hollow tree she secured for herself seclusion and shelter from the elements, and for her eggs contact with Mother Earth, which latter is popularly supposed to be conducive to a good hatch.

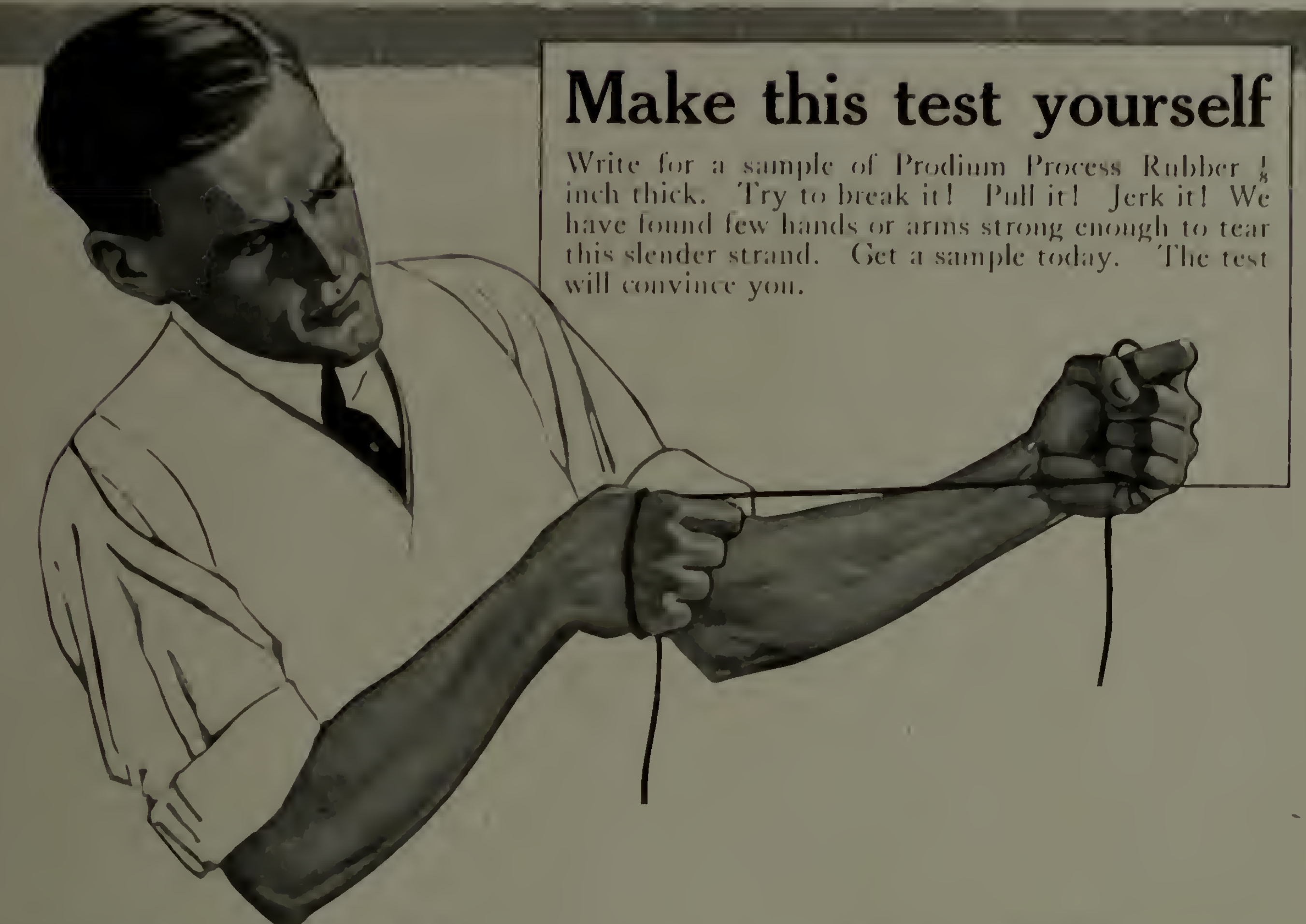
I. C. HORTON.

Courteously sharing their dinner with the unwelcome pig

STRANGE TRENCHER MATES

THE pet pig in the photograph above became much attached to our dogs, especially the one in the foreground. When she was lying down he would lie down beside her—usually on her bushy tail. The dogs did not reciprocate the pig's affection, however, for if anything displeased the pig, it would jump for their faces and bite.

LOU E. HURST.



Prōdium Process Rubber

A new discovery that adds wonderful toughness to tires

Rubber, when used in tire treads, is compounded with other substances, the character and formula of which determine largely the mileage that the tire will give.

Here is where Prodium comes in.

Prodium is an entirely new compound substance, discovered and controlled by The Republic Rubber Company.

When used in compound with high grade rubber and other regular ingredients used in tire tread manufacture, Prodium, or the Prodium Process as it is now called, produces a material which is unlike any rubber heretofore used on tires.

Actual tests, in the laboratory and on the road, have proved conclusively these wonderful qualities of Prodium Process Rubber.

(a) It has a wonderful tensile strength. (b) It is almost chip-proof and cut-proof on rough, stony roads. (c) It wears down evenly like a fine piece of steel. (d) It is remarkably resilient. (e) It has great heat-resisting qualities. (f) It weighs less than ordinary rubber.

Practically every drawback in tire construction has been minimized by Prodium Process Rubber. Mile after mile of service demonstrates that here, indeed, is the Tire Perfect.

Made in the Stylish Black Tread

Republic Prodium Process Tires can now be had in the Stylish Black Finish Tread, so much in vogue among motorists. Even in the plain tread, Prodium Process Rubber has great anti-skid properties; and in the famous Staggard Tread it makes the most efficient non-skid tire ever put on an automobile.

Don't be satisfied with anything less than Republic Prodium Process Tires. Your odometer record will justify any effort necessary to obtain them. Get the sample mentioned above, and prove to yourself the exceptional merits of this new tire material.

The Republic Rubber Company
Youngstown, Ohio
Branches and Agencies in the principal cities

REPUBLIC PRŌDIUM PROCESS TIRES

STAGGARD PLAIN, AND "WM" TREADS

TRADE MARK REGISTERED
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Republic Staggard Tread
Pat. Sept. 15-22, 1908

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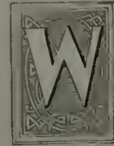


WHAT ARE the peculiar qualities and advantages of Goodyear Cord Tires, for which so many motorists gladly pay higher prices?

First is the flexible Goodyear cord construction. This makes the tires extremely resilient, speedy, and responsive.

Second is Goodyear oversize. This adds the buoyancy and easy-riding of a larger air-cushion to the buoyancy and easy-riding of our cord construction.

We get flexibility because the cords have no cross-weave to bind them.

The tires yield freely when they strike road obstructions. They are protected from stone-bruise, rupture and blow-out. Their life is prolonged. They give great mileage and complete satisfaction.

They save power and add fuel-mileage. The Franklin car which traveled 55 miles on one gallon of gasoline—the highest Franklin economy mark in 1915—was equipped with Goodyear Cords. So were ten of the 15 cars which exceeded 40 miles per gallon.

They run easily; they are "fast." At Hudson Hill, they out-coasted ordinary cord tires by 177 feet, with a maximum speed of 36 miles per hour.

In three sizes of the Goodyear Cord, No-Hook type, the air space is 23 to 35 per cent more than in regulation Q. D. Clinchers. That means lower inflation pressures, which turn riding-comfort into real riding-luxury.

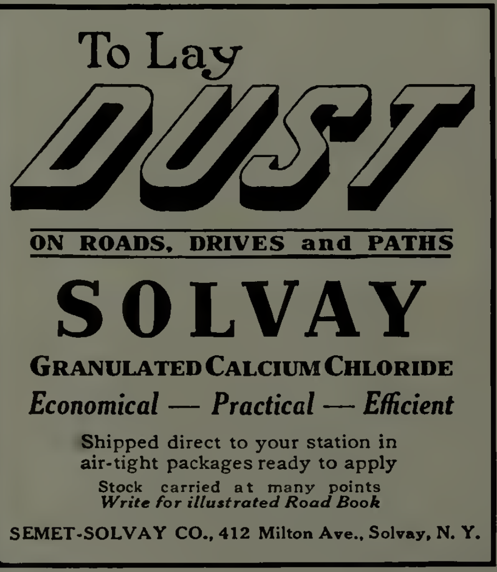
Goodyear Cord Tires are standard equipment on the Franklin, the Haynes Twelve, the Locomobile, the Packard, the Peerless, and the White.

The Goodyear Tire & Rubber Company
Akron, Ohio

Double-thick All-Weather and Ribbed Treads, for rear and front wheels. The deep, sharp All-Weather grips resist skidding and give great traction. The Ribbed Tread assists easy steering.

No-Hook and Q. D. Clincher types, for gasoline and electric cars.

Ask the nearest Goodyear Service Station Dealer for Goodyear Cord Tires.



SOME STORIES OF THE PARASITIC COWBIRD

(The interesting methods of one of Nature's malefactors as observed independently by four ornithologists.)

THE COWBIRD'S BAD HABITS

I DARE say that most of us have seen the cowbird at some time or other, but have not recognized it. The bird is dark in color, and as it associates with the grackles or "black birds," one might easily mistake it for one of them at a distance, although it is considerably smaller. The male bird has a brown head, neck, and breast and the rest of the body is lustrous black with blue and green metallic reflections. The female is plain grayish brown, lighter below. The bird is said to get its name from the habit of hovering about cattle, presumably attracted there by insects.

The cowbird shifts the burden of motherhood on another bird, and the worst of it is that the bird imposed upon is usually smaller than the cowbird, so that the legitimate occupants of the nest have little chance to survive. The young cowbird grows both in size and strength so much faster than the other young birds that he soon

The young cowbird sitting on top of the young warbler, the rightful occupant of the nest

gets more than his share of the food. In some cases he so nearly fills the nest that he smothers the other young birds. In fact he seems to feel it his duty to sit upon the other young birds.

Studer says of the cowbird: "As they build no nests, and farm out the raising of their young, their family relations are anything but tender, and they are arrant polygamists. When the female is ready to lay, she is greatly disquieted, ceases her search for food, separates herself from her companions, and commences a careful reconnoitre. Anxiously and in utter silence, she flits from thicket to thicket, peering here and there until a nest with the owner not at home is found, when she disappears for a few moments. When her labor is performed, she emerges jubilant, ruffling and adjusting her plumage, and with many a chuckle rejoins her companions.

The cowbird has been known to deposit her eggs in the nests of all the following birds, and probably many others: the wood thrush, yellow-breasted chat, kingbird, towhee, cardinal, ovenbird, scarlet tanager, song and chipping sparrows, Maryland yellowthroat, indigo bird, Baltimore oriole, Acadian flycatcher, red- and white-eyed vireos, worm-eating, black-and-white, and yellow warblers. I think perhaps the most often imposed upon are the yellow warbler and the red-eyed vireo, probably because as a rule their nests are conspicuous.

Of all these birds the yellow warbler seems to be the only one to outwit the cowbird, although sometimes deserted nests of other species are found containing an egg of the cowbird. The yellow warbler uses a novel plan, for she often builds a second and even a third floor over the eggs when a cowbird leaves an egg in her nest.

I have found three nests recently two of which each contained an egg of the cowbird and the third contained a young cowbird. The nest of the black-and-white warbler, containing one egg of the warbler, one young warbler, and one young cowbird, was situated on the ground near the base of a pine tree, and was made of grasses and pine needles. The young cowbird was found sitting on top of the young warbler, which was almost smothered. HOWARD E. BISHOP.

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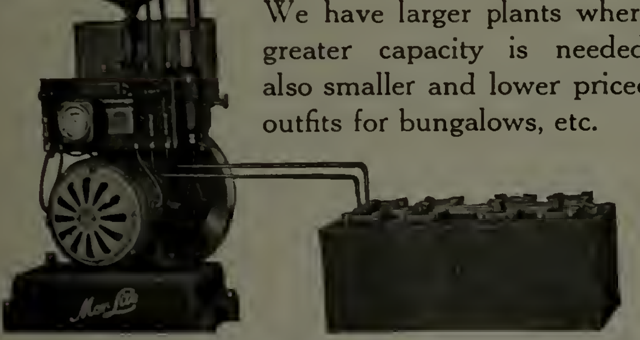
Write for Bulletin L4 which tells you all about Mor-Lite electric light plants.



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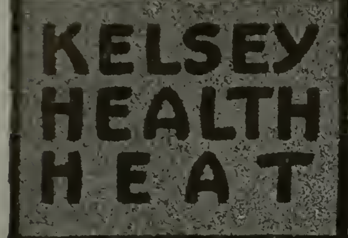

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One mixes air and gasoline. The other mixes dry heated air with just the right amount of healthful moisture. One is more or less of a worry (mostly more). The other is never a worry, always a comfort, never needs adjusting.

The Kelsey automatic Humidifier is just one of the Health features of the Kelsey Health Heat, the heat that both heats and ventilates at the same time.

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It burns less coal and delivers more heat than other heats.

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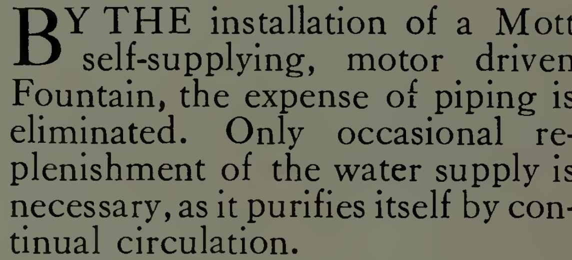

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A FEATHERED IMPOSTER

HOWEVER well-advertised the case of the cowbird may be, it always bears repetition; and any new observations which have the tendency to strengthen the case against this vandal should be recorded. The cowbird is not a permanent resident about New York, but he makes certain to arrive early in the spring, coming before the warblers, the sparrows, and other small summer residents have begun to be active about household affairs. Mrs. Cowbird is so shiftless that she constructs no home of her own, but goes nest hunting, and when she has discovered a suitable domicile of some bird smaller than herself, there she deposits an egg at the moment when the mistress of the house happens to be away.

The exasperating thing about the whole affair to an observer is that the foster parent very rarely resents the intrusion. Possibly this is because she is physically incapable of throwing the strange egg out, or it may be that she really gives the matter little thought. Mr. Dugmore has recorded by photographs in *Bird Homes* the case

Section of red-eyed vireo's nest, showing how she disposed of a cowbird's egg laid in her nest

of a red-eyed vireo which found a cowbird's egg in her new-built nest. She proceeded to wall up the interloper, by building a second story on the nest. In this new nest she deposited her own eggs. A cross section of the two compartments shows exactly what was done.

Everything goes well during the period of incubation, but when the eggs hatch the trouble begins, even though the rightful occupants may emerge from their shells a few hours ahead of the parasite. The young cowbird, by reason of his large size and more rugged constitution, succeeds from the start in getting the lion's share of the food. Thus his strength and bulk increase enormously, until at the end of a few days the other babies are frequently all dead or fearfully emaciated. Nevertheless the foolish old birds continue their ministrations, often casting aside the corpses of their own young to keep the nest in a clean condition. When the young cowbird leaves the nest and is in some instances fully twice the size of his foster parents, still the mother feverishly follows him about and deposits choice morsels in his cavernous maw, while his wings droop and quiver in a manner suggestive of fervent supplication.

Several examples of this cowbird imposition have come under my notice, and on each occasion I have been seized first by the impulse to destroy the cowbird's egg or young, as the case may have been, and second by the desire to keep hands off for a time at least, in order to watch developments under abnormal conditions. The result has invariably been that I have not in any case brought myself to the point of actually destroying the abominable imposter. On one occasion I saw a pair of northern yellowthroats making hurried journeys to and from a young cowbird twice their size. A few summers ago I was much interested in the nest of a red-eyed vireo which contained a young cowbird and three young vireos. For two days the vireos appeared to be holding their own, but when I next visited the place I was dismayed to find that some one had found the nest and removed it.

In Lenox, Mass., I found the nest of a redstart, a red-eyed vireo, a catbird, a wood thrush, and a

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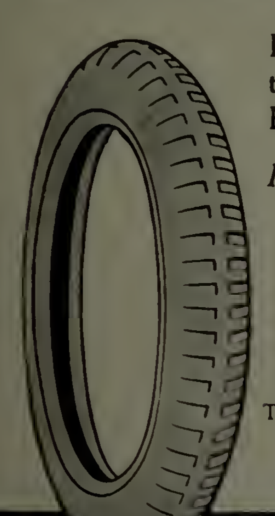

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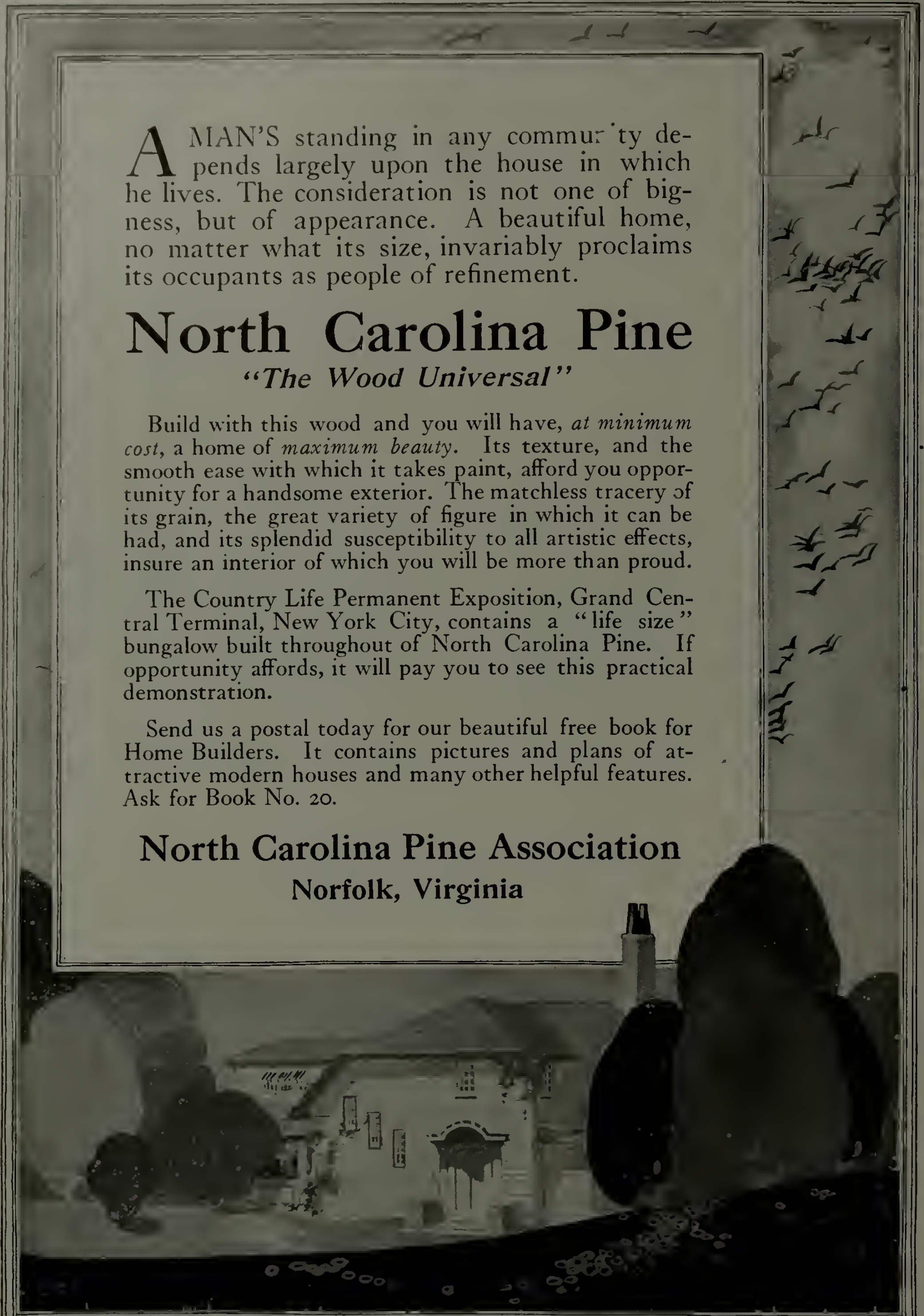

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Sworn to and subscribed before me this 1st day of April, 1916.
(*Signed*) Albert H. Jennings, Notary Public,
Nassau County, N. Y.
Commission Expires March 30, 1918

phœbe, all within twenty-five yards. In the last named I discovered a phœbe's egg and two young phœbes, the latter dead and covered with bird lice, and on the ground I found the egg of a cowbird. While attempting to solve this mystery, I was attracted to a bush by a considerable commotion, and out flew a phœbe. Then I looked carefully through the foliage and at last located a young cowbird, with his feathers closely drawn in and head held erect—an attitude indicating that he was aware of my presence and that he was likely to fly at any moment. I made a quick thrust for the little rescal, but he was ready and flew out through the opposite side of the bush before I could lay hands on him. A vigorous chase resulted in his capture, however, and straightway I brought forth from my pocket a thin metal band bearing the inscription, "Notify *The Awk*, New York, No. 6001," and placed it on his right leg, whereupon the phœbe's charge was given his liberty.

Two summers ago a chipping sparrow built her nest in our yellow rambler rose bush. The tiny structure was above my head, but I could reach it

The chipping sparrow deposited choice morsels in the young cowbird's cavernous maw

by stretching and I felt three small eggs in the bottom of the nest. Chipping sparrows' nests are so common that I did not trouble myself to examine this one again for many days, and might not have done so then had it not been that I noticed a movement among the leaves of the rose bush and saw a young cowbird clambering up a stem. The old chippy then flew in and delivered some food, and after her departure I learned that none of the young chipping sparrows had lived, for the nest was empty. When I caught the cowbird the chippy became much excited and remained on a grape trellis close at hand. My captive was placed on a twig in the open and a camera was trained on him. Then I retired to an outbuilding near-by and held the shutter-thread between my fingers. Soon the chipping sparrow appeared with food in her mouth and, after some hesitation, alighted on the twig with the cowbird, but so far to one side that she did not appear on the plate. The cowbird's mouth opened to its full extent as soon as the chippy's toes touched the twig, as if the two birds had been connected in some way by an automatic spring that worked the muscles of the cowbird's mandibles. The chippy was apparently suspicious of the camera and remained at one side until the cowbird came toward her. Then she flew a few feet to a fence, evidently trying to lead the adopted youngster away from the three-legged, one-eyed monster, and in this she was all too successful to suit my purposes. My "bait" (for as such I was using the cowbird) made a supreme effort to reach the fence and the chippy fluttered beside him as he fell to the ground. At this point I emerged from my place of concealment and reperched the fugitive. This programme had to be gone through several times, but at last patience won the day and from sheer exhaustion my clumsy, captive vagabond sat quietly on his perch as the chipping sparrow came time after time while I pulled the thread and secured bird portraits.

One of the most interesting features about cowbirds is that, although they are invariably reared by a parent belonging to some other species, when full grown, they do not associate with the foster parents or their kind but flock and migrate with other cowbirds. Howard H. Cleaves.

A COUNTERFEITER IN SPECKLED EGGS

THERE are those who think it is well to let nature strike her own balances, but man is a part of nature, and his knowledge and judgment may quite properly tip the scales to the right side. I should certainly shy a stone

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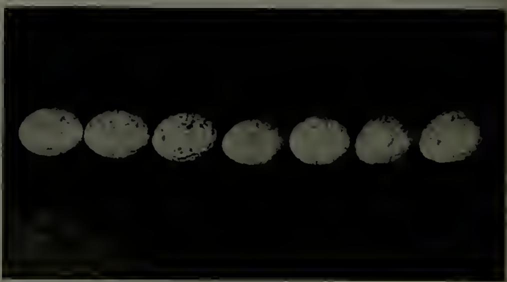
at a cat creeping toward a young bird, or help a robin drive a squirrel from a tree that held her treasures, or crush the head of a serpent found at a catbird's nest. But more destructive than any of these bird enemies, possibly more destructive of young birds than all of them, is the parasitic cowbird, a bird which builds no nest of its own, but lays its eggs in the nests of other birds. Every lover of birds should know the parasitic egg, and cast it out of every nest in which it is found.

One may have compunctions of conscience in destroying other bird enemies, but surely none are needed in dealing with this egg, for it usually means the destruction of the entire family where it is found. The egg is a little smaller than the red-winged blackbird's, but varies much in size, and more in color. Indeed, from twenty or thirty eggs it is not at all difficult to select three



Cowbirds' eggs, showing variations in marking, shape, and size

or four, each of which the novice might think belonged to a different species. I once found a yellow chat's nest with nine eggs, five of which were cowbirds', but so gradually did the colors grade into those of the chat's eggs that it was difficult to distinguish at least two of them.

These shrewd birds usually lay their eggs beside eggs which, like their own, are spotted. The greatest sufferers within my observation are the red-winged blackbird, the summer warbler, the yellow-breasted chat, and the chewink.

The reason this egg is so destructive is that its time of incubation is shorter than most other eggs. The young, which are thus given the start of the mother's own, are rapid growing, pot-bellied

A cowbird's egg (on left) in chipping sparrow's nest

strong creatures, and they secure for themselves nearly all the food brought for the family, while they crowd and starve the rightful young to death. To destroy this egg is to save the family.

It is strange, indeed, that the mother bird herself does not cast out this detestable egg, or at least refuse to give the young interloper all the food; but there are stranger things in nature, and one is that mothers which have reared these foster children at the expense of their own, will continue to feed them as they would their own after they have left the nest. Craig S. Thomas.

INGENIOUS DISPOSAL OF COWBIRDS' EGGS

Late in November, I found the nest of a red-eyed vireo suspended from a low-hanging branch of a sugar maple which grew at the edge of a wood upon a hillside. The nest was secured and taken home, and upon examination, revealed something which makes this nest, one of apparently ordinary construction—if the vireo's lovely pensile home can ever be considered that—most interesting.

We know that birds sometimes do recognize the egg of the cowbird, and that they often rid themselves of the encumbrance, perhaps after a sad experience of rearing the strange nestling thrust upon them, at the cost of their own young. But for cleverness in outwitting the cowbird these

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birds were original. The vireos, who had hung their nest in the crotch of the maple branch, returned to the nest one morning after a brief absence, to find that while the nest was left unguarded, the number of eggs had been added to. That they recognized this was shown by their solution of this appalling problem. We can follow their mental processes. The question of the disposal of the parasitic egg had to be decided, for this promised to become a great, hungry fledgling to be raised at the sacrifice of their own little ones. The birds could not remove an egg so much larger than their own from the deeply cup-shaped nest, so they set to work scratching out some of the pine needles used as lining, a little to one side of the bottom of the nest; into the cavity thus made the egg was pushed, and to insure its not hatching, it was punctured, so that its contents ran out. Other needles were then woven over the imprisoned egg, restoring the smooth inner lining so dear to the heart of this tidy little bird. For this reason, in the half light of the late November day, the egg was not at once discovered the smooth lining giving no hint of the ingenious way in which this pair of vireos had disposed of the intruding egg.

Another day, also late in the fall, a nest was discovered, presumably a second-brood nest of a song sparrow, for it was in a low shrub, and was very badly weathered. The builders of this nest had, in the very centre of the nest, scratched aside the substance of the nest, making a depression into which a cowbird's egg had been thrust, which then not receiving enough warmth for incubation, did not hatch. It remained in its depression during the occupancy of the nest, and was still unbroken when found.

Nest of red-eyed vireo with the punctured cowbird's egg embedded in the wall

When such instances as these are found in which it is clearly evident that the individual birds had to cope with circumstances of an extraordinary nature, it looks as though instinct played a small part in the decision of these birdminds as to how to meet the situation. They had to decide for themselves what to do to avoid hatching the strange egg. How they recognized it as an intruder we can not know; it may have been merely its size—nearly twice that of their own; its difference in coloring also may have warned them; or was it the sense of numbers—supposing that all of theirs had already been laid? At any rate we do know that they understood that the egg was not their own. Perhaps they had once before been subjected to the sad experience of raising the unwelcome foster nestling, so many vireos and song sparrows have to bring up this uncouth youngster. It is a tale of cleverness that these little birds wove into the fabrics of their nests for us to interpret; and, looking deeper into the matter, from a psychologic standpoint, I believe it to be a good instance of individual decision in meeting a new and difficult problem.

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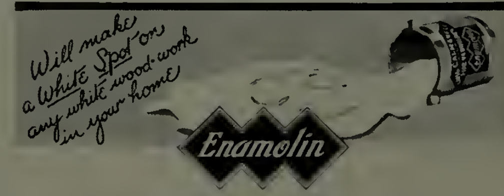

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The fall of the year was selected as a good time to take my trip to Long Island Sound from northern New Hampshire. At this time of the year the fall rains have invariably laid the dust of summer. It is harvest time in the country and the whole of New England is in its autumnal glory; the harvest scenes in the cornfields, vineyards, and orchards in connection with the autumnal color on the hills and mountains add to the enjoyment of such a

A surreptitious luncheon by the way

trip; and the horse can make longer trips per day without fatigue than in summer's heat. I could make eight miles per hour, but as this would be tiresome to the horse, I tried to hold him to about five miles per hour, and he soon kept this gait after the second day's journey.

The person traveling by motor car can carry most of the luxuries of life, but the man on horseback must be content with a few necessary articles. The outfit I chose to take had to be as light as possible, so the saddle was the first consideration. An army saddle was the one selected, which had eyelets and straps to tie blankets and saddle-bags; it was open centred to allow ventilation, and did not bruise the back of the horse. Strapped to the pommel, a rain coat, sweater, and canvas blanket were carried, while across the cantle was the saddle-bag containing a few toilet articles, a camera, and drinking-cup. A tent was not needed, because there were plenty of towns along the route where sleeping accommodations could be secured at a reasonable figure.

The route I desired to take was from Centre Harbor, N. H., up around the White Mountains, back *via* Lake Winnepesaukee to Concord, thence to Brattleboro, Vt., following the Connecticut River through Massachusetts to Suffield, Conn; to the Litchfield hills across that state, down into the Housatonic Valley, and south to Long Island Sound. All along the route were sign posts to guide me.

I left Centre Harbor on a bright fall morning following the shore of Asquam Lake to Holderness, and from there to Plymouth and North Woodstock. The mountain scenery of the Franconia Mountains commences here and I was soon looking up the important places. The Flume, Profile Mountain, Echo Lake, and the Profile Notch were the famous features of this range, the most important one being the view as one passes out of the Franconia Notch going

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Send to name and address below Atlas-White Home Portfolio / Garage Portfolio (check the one you want) 1-G-6-16 I expect to build $__________Home $__________Garage

F. P. A.'S Conversion

1914

"Conrad fans have urged us to read this or that; we did, or tried to, and had to confess, somewhat abashed, that it didn't 'get us.' . . What depresses us is that we know we are wrong. . . . It worries us like a recurrent painful symptom. Are our literary arteries hardening? Tell us the worst, O ye Conrad fans!"

1916

"Well we have just finished 'Victory' and it converted us. We are now a Conrad fan, and like most new converts to any cause, we can think of little else. For a week or two we are likely to be as much of a nuisance to Conrad-blind readers as others have been to us in the days of our imperviousness."

FRANKLIN P. ADAMS (F. P. A.) IN THE CONNING TOWER, N. Y. *Tribune*

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JOSEPH CONRAD

"Within the Tides"

A New Collection of Short Stories. In Cloth, net, $1.35. In limp leather, net, $1.50.

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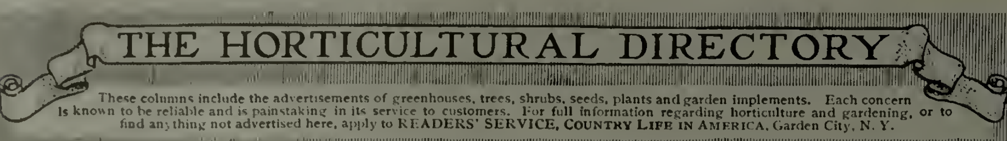
Bound in Deep Sea Blue Limp Leather. Size 4¾ x 7¼; net $1.50 each

An interesting booklet about Joseph Conrad will be sent free on request.

DOUBLEDAY, PAGE & COMPANY, GARDEN CITY, NEW YORK



This Automatic Oscillating Sprinkler Will Water Quarter Acre at One Setting

It will water a space 50 to 60 feet wide and 100 to 200 feet long.

The connected pipes are turned from side to side by a powerful little water motor that automatically reverses the movement from side to side. A complete oscillation can be secured in twenty minutes or once an hour. The speed is under your control.

The water is delivered in a fine, beneficent, gentle shower, warmed by passing through the air, and falling so gently that it neither packs the soil nor injures the plants. No overlapping or underwatering as is unavoidable in other methods of watering. Every plant is watered *thoroughly* and watered *uniformly.*

Sprinkling line easily taken apart, mounted on truck and wheeled away. Solves once for all the watering problem of lawns and formal gardens.

Used on such estates as C. Oliver Iselin, Long Island; F. S. Moseley, Boston; J. L. Severance, Cleveland; C. L. Post, Battle Creek.

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The Skinner Irrigation Company

218 Water Street Troy, Ohio

BEAR IN MIND that Moons' have some Hardy Tree or Plant for Every Place and Purpose.

Write for information and catalog

The Wm. H. Moon Co.
Morris Heights Morrisville, Pa.

Horsford's Cold Weather Plants and Flower Seeds that Grow

My list comprises the hardiest kinds, that have stood Vermont winters. You should see my catalog before buying elsewhere. Write for catalog M.

F. H. HORSFORD Charlotte, Vermont

About this Greenhouse and Five Others

In our new catalog, there is particular attention given to houses 18 feet wide and 50 feet long, like this one. In all, there are six shown, each in differing locations and with varying workrooms.

In looking at them, you can come pretty close to forming an idea of how such a house would appear on your grounds; and whether or no it is large enough to fill your needs.

Of course, there are also shown a good many other houses, large and small; but we believe this one to be the best all around medium sized one.

Besides giving you an idea of the plan of the various houses, the catalog brings to your attention the kind of construction we construct them with, and to a large degree reflects the character of concern Hitchings is. Both of which are decidedly important to you in considering a greenhouse expenditure.

Catalog sent only on request. Interviews gladly arranged at your suggestion.

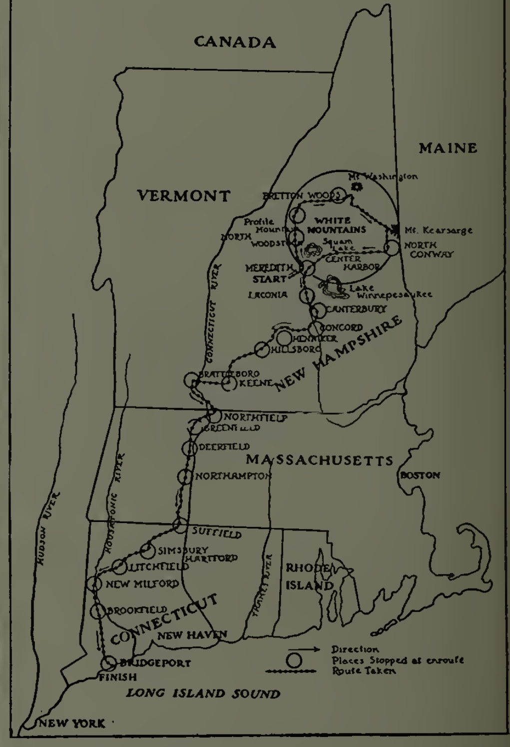
General Offices and Factory, Elizabeth, N. J.
NEW YORK: 1170 Broadway BOSTON: 49 Federal Street PHILADELPHIA: 40 S. 15th Street

toward Mount Washington. The towering peaks with a placid lake at their base make this scene one never to be forgotten. After passing this there is a desolate stretch of country devastated by forest fires nearly up to North Twin Mountain.

The first view of Mount Washington is secured while nearing the Twin Mountains, and it is readily distinguished by the smoke from the cog railroad train climbing to the summit. This is the loftiest mountain in New England, but it is not as picturesque as the Franconia Mountains.

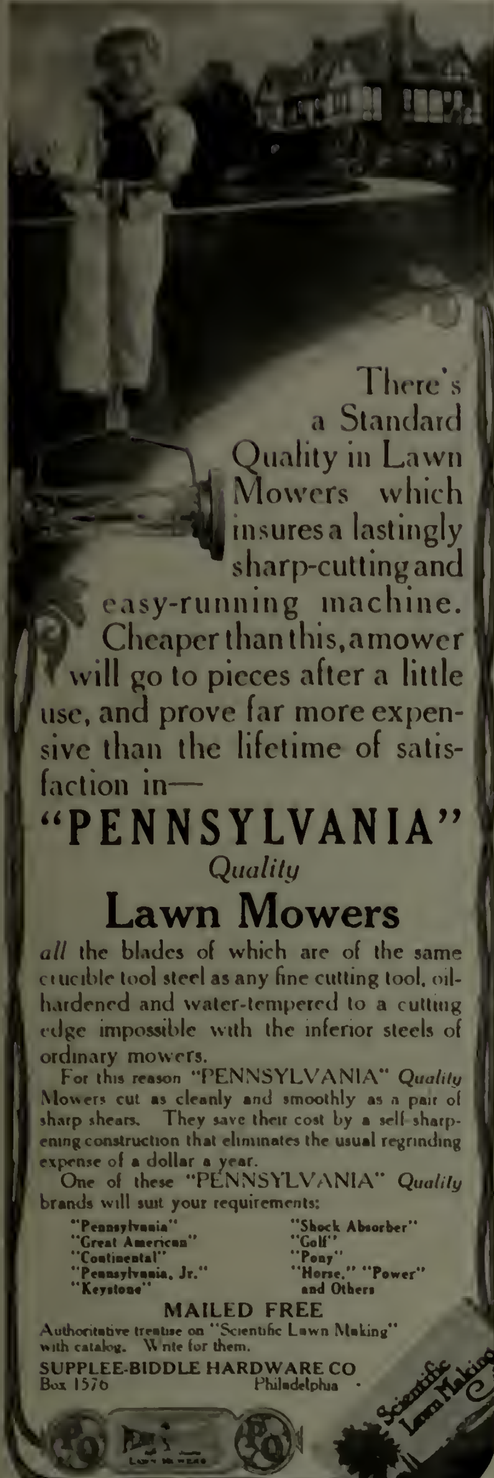
The trip from Mount Washington down through the Crawford Notch was another decided Alpine bit of country, with the Silver Cascades and the Bretton Woods as features worthy of attention. The plains of the Intervale and North Conway were reached that evening, and Moat Mountain and Kearsarge marked the last of the White Mountains. All of the mountain scenery is of a minor character after these two mountains are passed until Chocorua is reached. This mountain is above the timber line and has a jagged peak and a lake at its base. Chocorua can be readily seen from both the lakes Asquam and Winnepesaukee, being well marked by its jagged peak. After passing this mountain I was soon back to the lakes again and had passed around the Switzerland of New England.

The lakes of New Hampshire are worth seeing separately. Winnepesaukee and Asquam are the largest lakes in the state and are separated by only a couple of miles. Winnepesaukee is the larger, and has 365 islands, while Asquam has 52. The scenery on and around both is very picturesque, as the shores indenting the lakes with long coves and bays are covered with evergreen trees. The water is of sufficient depth to allow large steamers to ply between the summer resorts and shore towns. From Red Hill, a mountain located between the lakes, a view is secured the whole length of Winnepesaukee in one direction and many miles past Asquam in the other direction.



Map showing the horseback route taken from Centre Harbor, N. H. to Long Island Sound

I left Centre Harbor again for the down country trip, following the west shore of Winnepesaukee, and passing Meredith and Wiers to Laconia. A stop was made at the Shaker colony at Canterbury to look over their well-bred cattle, from whence I proceeded to Concord, making fifty-six miles of travel in one day. The next day I left Concord, passed through Henniker and Hillsboro (the home of ex-President Pierce), arriving at Keene, N. H., that evening. The next day's journey took me out of the Granite State into Vermont, across the Connecticut River to Brattleboro, and down to Greenfield, Mass. I passed from Deerfield to South Deerfield where the famous Bloody Brook Massacre took place in Colonial times. The longest single day's journey was made the next day, when I passed from South Deerfield to Suffield, Conn., about sixty miles by the route taken. I followed the Connecticut



If You Have One Of Our Gardens Under Glass It's Summer Time All The Time

JUST one long bloom laden, joy giving Summer time; any time and all the time.

Winter's snows and blows you can scoff at. The warmth and the flowers of Palm Beach are always at your door step.

As lovely as are the flowers you buy; you will agree, none are quite so enjoyable as those grown in your own glass garden.

To pick roses yourself — mayhap for an old friend, who is to be a mid-winter bride; or a sick relative, who is a bit of a shut-in; such, indeed, are the deeper joys of our glass garden possession.

And besides, the completeness of a country place these days demands a greenhouse. Our friends seem quite to expect it of us.

In greenhouses, however, as in all other things, there is a distinct advantage in buying it of a firm having a long established prestige. The fact that we have been building greenhouses for considerably over half a century, gives us a distinctive position in the field.

You are welcome to our literature. Personal interview at your suggestion.

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LORD & BURNHAM CO.

Fungi-the deadly destroyer of tree life

If you have any trees which appear in any measure like the one shown here, they need immediate attention. For fungus lives by disintegrating the interior cell structure of the tree, producing what is commonly called decay. This decay is merely the result of the disease and is not, in itself, an active force. The disease on the inside must be thoroughly eradicated by highly skilled men who know how. Merely to remove these outside growths is *not* enough—only the skill of a real tree surgeon can remedy the dangerous condition permanently, and save the tree from premature destruction. *Real* tree surgeons are—

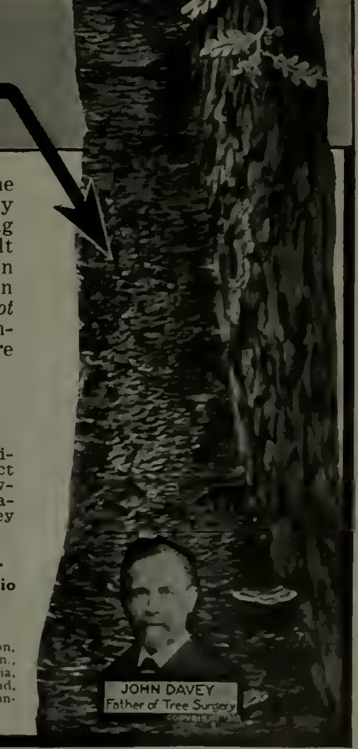
Davey Tree Surgeons

Tree surgery as they practice it, is scientifically accurate and mechanically perfect. It is *safe* because it eliminates experiment. It endures. Jos. Pulitzer, Jr., owner of the New York World and St. Louis Post Dispatch, writes:
"Your work on my trees was done in a most thorough and painstaking manner. They have been greatly benefited and their lives lengthened." The U. S. Government, after exhaustive investigation, officially chose Davey experts only as good enough for work on the Capitol trees. Every year of neglect adds 10% to 25% to the cost of saving trees. Write for free examination and booklet illustrating Davey Tree Surgery.

The Davey Tree Expert Co.
150 Elm Street Kent, Ohio

(Operating the Davey Institute of Tree Surgery.) Accredited representatives between Kansas City and Boston.

Permanent representatives located at Boston, Albany, White Plains, N. Y., Stamford, Conn., Jamaica, L. I., Newark, N. J., Philadelphia, Washington, Buffalo, Pittsburgh, Cleveland, Detroit, Cincinnati, Chicago, Milwaukee, Minneapolis, St. Louis, Kansas City.



Bull Dog Garden Hose Lasts Longest

GARDEN HOSE seldom wears out—it usually dies and falls to pieces. "Bull Dog" hose lasts longest because there is plenty of live rubber in it.

Here is an actual experience: Read this letter

Chicago, Ill., April 29, 1915.

Gentlemen:—

"I believe you will be interested in my experience with a piece of your Bull Dog hose which I purchased in Scranton, Pa., about fifteen years ago. When I moved to Chicago in January, 1905, I brought the hose with me, and it has been rolled up and tied with a rope for ten years, as I have been living in an apartment. This Spring we have moved into a house, and were about to discard the hose but thought I would test it and see if by any possibility it would hold water. There is not a crack in it anywhere, and it is apparently as good as new.

"I find I need about 50 feet more, and will appreciate it if you will tell me what dealers in Chicago or Evanston, Ill., handle your goods."

(Name on Request)

"Bull Dog" 7-Ply Garden Hose

Made 5/8 in. with 3/4 in. connections—18c a foot—in 25 and 50 ft. lengths

If a popular price hose is desired, our Good Luck brand at 10c a ft. is your best selection. It is the popular priced expression of the "Bull Dog" standard. There is no better hose at the price.

Your hose will serve you best when equipped with a "Boston" Spray Nozzle. It is easy to use, cannot get out of order and gives you a shower, spray or mist. 50c at your dealer's.

Our practical booklet "How to Make Your Garden Grow" is full of helpful suggestions. Send 4c to Dept. L.

Boston Woven Hose & Rubber Company
The World's Largest Manufacturers of Garden Hose
Cambridge, Mass.

Order from us direct if your dealer does not sell our hose.

B1

River toward Northampton to Springfield, passing fields of corn in the shock in the level valley land, which was a decided change from the previous country passed.

From Suffield I crossed through the tobacco raising section where this crop is grown in tents. These, as viewed from the distant hills, look like a large lake, and when riding through the tent avenues a stranger would be easily confused in trying to find the proper direction out of them.

I reached the Litchfield Hills at Harwington, and succeeded in making Litchfield that evening. Litchfield is one of the best planned towns in Connecticut, having but two long streets at right angles, with monster elms set at regular distances, which show the forethought of people a couple of centuries ago. From the Litchfield Hills I journeyed toward the Housatonic River Valley, passing Washington, and reaching the Housatonic River at New Milford. One of the most interesting views of this river is secured below that town at the Great Falls of the Housatonic and the Gorge.

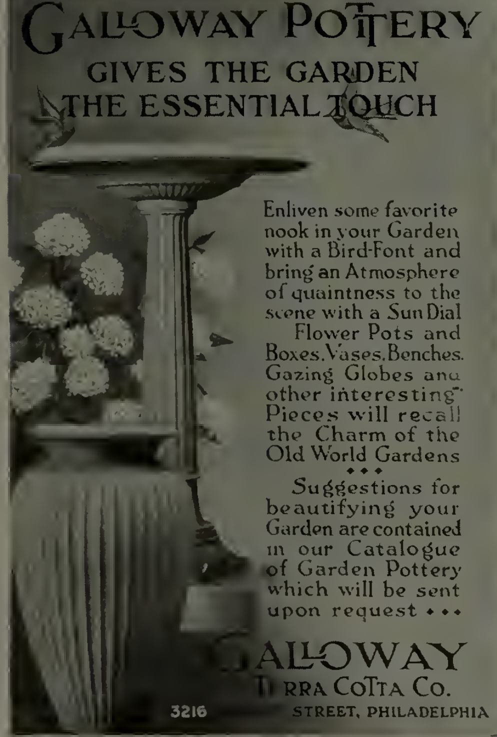
A picturesque bit of roadway en route

The trip the next day took me to the sea coast, and I had traversed New England from Mount Washington to the sea. During the entire trip I had not experienced a single day of rain, and was neither tired nor saddle sore.

In taking the trip as outlined I traveled about 500 miles, spending 110 hours in the saddle. This trip was taken several years ago and the cost then was as given below; it would doubtless be somewhat higher now.

Horse-feed and stable	$12.50
Hotel	20.00
Miscellaneous expenses	5.00
Total	$37.50

GARRETT M. STACK



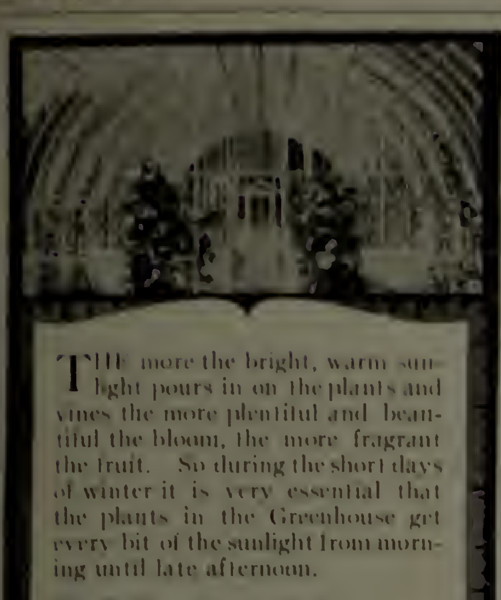
The Renaissance of The Breeder Tulips

is the outcome of my efforts to find new colors to make your garden "the garden of personality." The rich browns, bronzes and purples, or the superb combinations of these shades in one flower, have rapidly made the Breeders the most desired of all Tulips.

THE BLUE BOOK OF BULBS

contains the most complete list of Breeder Tulips in the world. Some of them are so scarce that it will not be possible to furnish them unless you tell me before June 24 to reserve bulbs for you. Write me for a copy of my Blue Book.

CHESTER JAY HUNT
Dept. D Little Falls, New Jersey



THE more the bright, warm sunlight pours in on the plants and vines the more plentiful and beautiful the bloom, the more fragrant the fruit. So during the short days of winter it is very essential that the plants in the Greenhouse get every bit of the sunlight from morning until late afternoon.

King GREENHOUSES

Have a special type of construction, which permits of great strength without the need of heavy shadow casting supports. This gives the plants all the sunlight all day long. Note the amount of light and shadow in the upper picture.

In addition to its great strength the King type of construction lends itself to the graceful sweeping lines which harmonize with any style of architecture. That is why a practical, productive King house is in itself a thing of beauty.

We can build you any kind of a greenhouse you desire, when you send for bulletin 47 why not describe that house you have always wanted, that ideal greenhouse of your dreams. Our experts will gladly and without any obligation work your ideas into a practical sketch. Since the days of fairy tales a King has been able to make dreams come true.

KING CONSTRUCTION CO.

305 King Road, North Tonawanda, N.Y.

All the Sunlight All Day Houses

Sophie 19th of Hood Farm
A Jersey Cow, the leader in her breed, who produced in one year 845 pounds of butter. Owned by a De Laval user

Lady Pontiac Johanna
A Holstein world's record maker, who produced in one week 41.81 pounds of butter. Owned by a De Laval user.

Murne Cowan
Famous Guernsey Cow, who produced in one year 1098.18 pounds of butter-fat. Owned by a De Laval user.

Three Great Cows and One Great Cream Separator

Men prominent in the dairy business may have strong differences of opinion as to the best breed of dairy cattle, and the various breeds may closely rival each other in production, but these men are unanimous when it comes to selecting a cream separator. They choose the

DE LAVAL

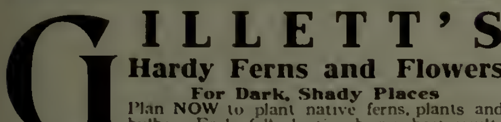
The owners of the three great cows shown above, each a champion in her breed and world famous, are De Laval users. Our list of more than one and three-quarters million De Laval users proves that men prominent in every walk of life, who are in a position to know and select the cream separator that will give most efficient service and most value for the money invested, choose the De Laval.

More than thirty-five years of thoroughly satisfactory service have proved to the world that the De Laval is the most desirable cream separator, whether considered from the standpoint of close skimming, ability to skim under difficult conditions, durability or economy.

If you have a large or a small country place and keep cows, you will find the De Laval Cream Separator Catalog a book well worth reading. We will be glad to send you a copy on request, and the local De Laval dealer will be glad to quote you prices and give you any further information you may desire.

THE DE LAVAL SEPARATOR CO.

165 Broadway, New York **29 E. Madison Street, Chicago**



GILLETT'S
Hardy Ferns and Flowers
For Dark, Shady Places

Plan NOW to plant native ferns, plants and bulbs. Early fall planting brings best results for early spring flowers.
Send for descriptive catalogue of over 80 pages. **It's FREE.**

EDWARD GILLETT, 5 Main Street, Southwick, Mass.

Meehan's Mallow Marvels

These wonderful creations are among the latest flowering Plants to start spring growth and may be planted safely any time in early June. They bloom from July to late September. Write for descriptive circular in colors.

THOMAS MEEHAN & SONS

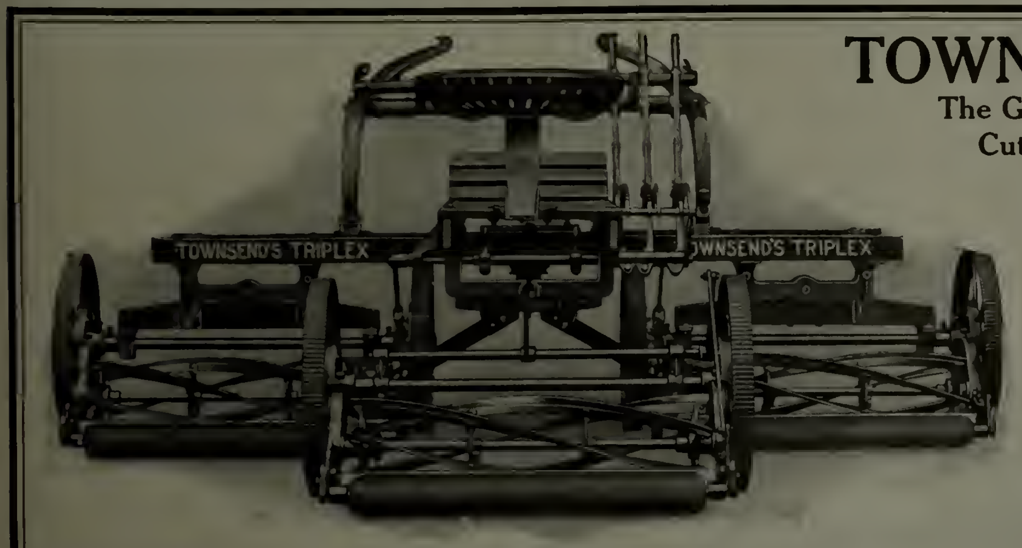
6716 Chew St. Germantown, Philadelphia, Pa.

EVERYTHING for the HOME GROUNDS

Ornamental, deciduous, Shade and weeping trees, Flowering Shrubs, Barberry, Privet, Evergreens, Conifers, Hardy trailing vines, Climbers, Fruit trees, Berry bushes, Hardy garden plants, etc.
The finest selection for lawn and garden planting in America. More than 600 acres of choicest nursery produce.
We will make a planting plan of your place, selecting trees, shrubs, etc., suitable to soil and situation, and give you the exact cost of planting and proper time to plant. *Send for Catalog C.*

The Stephen Hoyt's Sons Company

Established 1848 **New Canaan, Conn.** Incorporated 1903



TOWNSEND'S TRIPLEX

The Greatest Grass-Cutter on Earth

Cuts a Swath 86 Inches Wide

Drawn by one horse and operated by one man, the TRIPLEX MOWER will mow more lawn in a day than the best motor mower ever made, cut it better and at a fraction of the cost.

Drawn by one horse and operated by one man, it will mow more lawn in a day than any three ordinary horse-drawn mowers with three horses and three men. (We guarantee this.)

Floats over the uneven ground as a ship rides the waves. One mower may be climbing a knoll, the second skimming the level, and the third paring a hollow. Does not smash the grass to earth and plaster it in the mud in springtime, nor crush out its life between hot rollers and hard, hot ground in summer, as does the motor mower.

Send for catalog illustrating all types of Townsend Lawn Mowers

S. P. TOWNSEND & CO., 16 CENTRAL AVENUE ORANGE, N. J.

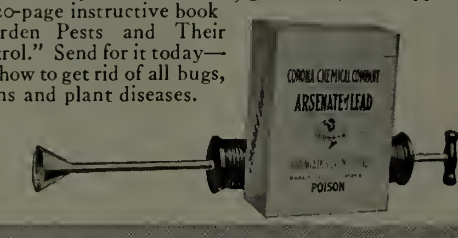
The Bugs Are There—But You Don't Know It
"CORONA DRY"
The Universal Insecticide

will rid *your* place of bugs and worms just as it does for the commercial grower. Formerly there was nothing which the small grower could use conveniently to kill insect pests. But now "Corona Dry" is sold in *small packages to meet the urgent need of the man with a small garden or a few fruit trees.*

No elaborate equipment necessary — no messing about with a sloppy spraying mixture. "Corona Dry" is applied in dust form and kills everything that eats leaves.

Use "Corona Dry" *first*—before the bugs start to eat your growing things. Get it where you buy your seeds. If your garden is small dust on "Corona Dry" through a cheese-cloth bag or small bellows. For larger plots we advise using the Corona Hand Duster.

Ask to see it when you buy "Corona Dry." Your address on a post card will bring, at once, free copy of our 20-page instructive book "Garden Pests and Their Control." Send for it today—tells how to get rid of all bugs, worms and plant diseases.



Corona Chemical Co.
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Free Bulb Book
Gives all details of our plan to supply you with choice bulbs, direct from Holland—at the price of ordinary stock. Tells all about our list of
Spring Flowering Bulbs
Tulips—Hyacinths—Narcissi
Only large, sound bulbs—every one guaranteed. Full of vitality, sure to bloom early. True to name. Orders for fall delivery must reach us by July 1st. So write to-day for description of our Import Plan and Catalogue of our many varieties. Both free.
QUALITY BULB COMPANY
828 Chamber of Commerce Bldg.
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Everything for Yard and Orchard
HAVE you arranged to make your yard individual and attractive this season? We will design it free, if desired, or you can order from our catalog for immediate attention.
Our 800 acres of fruit and flowering trees, flowers, vines and shrubs, etc., offer a varied list that will please everyone. 60 years of satisfied customers have proven their quality. Write for catalog at once.
HOOPES, BRO. & THOMAS CO.
Dept. L, West Chester, Pa.

DREER'S WATER LILIES

THE largest and finest collection in America, embracing the best Hardy and Tender varieties of Nymphaeas, including Day and Night-blooming kinds, also Victoria Regia, the Royal Water Lily in several sizes. Nelumbiums, in strong pot plants (or dormant until June 15th).

These are fully described in **Dreer's Garden Book for 1916**, together with cultural instructions on the growing of Water Lilies. The best Catalogue published, containing 288 pages, five color and five duotone plates, hundreds of photographic reproductions and offers the best of everything in Seeds, Plants, Bulbs, etc.

Mailed free if you mention this publication.

We offer free to our patrons, the advice of our experts in devising plans for ponds and selecting varieties.

HENRY A. DREER, 714-716 Chestnut St., Philadelphia

FARM ACCOUNTS AS THEY SHOULD BE KEPT

BOOK-KEEPING is a necessity on every farm: there can be no really good agriculture without it. But there are several potent objections to the specially designed "farm systems." In the first place, they are a departure from the commonly used system which has the approval of the whole business world, and this, in itself, justifies their very critical examination. Also they leave a good deal to estimated costs and values; than which there is no more serious weakness, because such a record, to be of any value, must be exact. Another and a strong objection is that in all but the simplest systems there is considerable danger of entering the same item of expense or receipt in more than one place.

There is really nothing complicated or hard to understand about keeping farm accounts. I have owned and managed farm land practically all my life and with no more elaborate equipment than a knowledge of arithmetic and a little common-sense I have never had the slightest difficulty in knowing what my farm was doing financially. And, as far as beginners are concerned, the less familiar a man is with practical farming, the more necessary that his system be simple.

To cover all the ground in which figures are needed, the farmer should keep two distinct sets of accounts, the first for the farm as a whole, its purpose being to show the profit or loss of the entire business without regard to the individual details. This should be accurate, definite, and always kept up to date. The second set concerns the different farm departments, that he may know their comparative profitableness and thus be able to develop the best paying ones and to reduce or eliminate those that pay the least. Being solely for his own information and guidance, this may be much more elastic in the regularity with which it is kept. For instance, if a year's record shows how much milk a certain cow gives, there is no need to pursue it further, unless the conditions change. For the sole object of the milk record is to show which cows are paying a satisfactory profit and which are not, and this having been learned and the unprofitable ones weeded out, any further record is needless. It may, it is true, be interesting to continue it, but if the farmer is a busy man he will not be likely to trouble himself with needless figuring merely for pleasure or out of curiosity.

Let us now see how the regular farm books should be kept. On the debit side should first come the interest on the capital invested. Then should follow a record of all moneys expended, which must embrace items for everything that is bought for the farm, including labor—except that of the farmer himself. Note the fact that when we say money we mean money—actual cash and nothing else; these figures deal solely in money and must not be used to express any supposed or estimated equivalent. On the credit side should be a record of all actual moneys received. There must be no estimated values, either of unsold crops or of produce used by the farmer's family, unless the latter is sold to the family and every item credited to the farm at regular market prices. The difference between the totals of expenses and proceeds will show how matters stand. And that is all there is to the regular farm account.

Does this look altogether too simple, even inadequate? Probably it does to many who have come to regard the peculiar features of agriculture as a permanent trouble in book-keeping, and who have worried as to how and where to enter values that are still in the soil or the granary or the hay-mow. Yet it is the right way, and objections made to it, if carefully examined, soon disappear.

For instance, it is asserted that this cash basis system does not take into consideration the value of unsold crops. But it does. Suppose that, besides the money that the books show has been taken in, there is $500 worth of hay in the barn. This hay is not money and cannot therefor be credited, but in the course of the ensuing year, when it is fed to the cows and when their milk and butter are sold, it is converted into money—and *then* it appears in the books. To enter it the same season it is cut, as an estimated value, would simply involve counting it twice; and the farmer's books would then show a profit

Conservatories erected for Louis F. Swift, Lake Forest, Ill.

Your Favourite Flowers

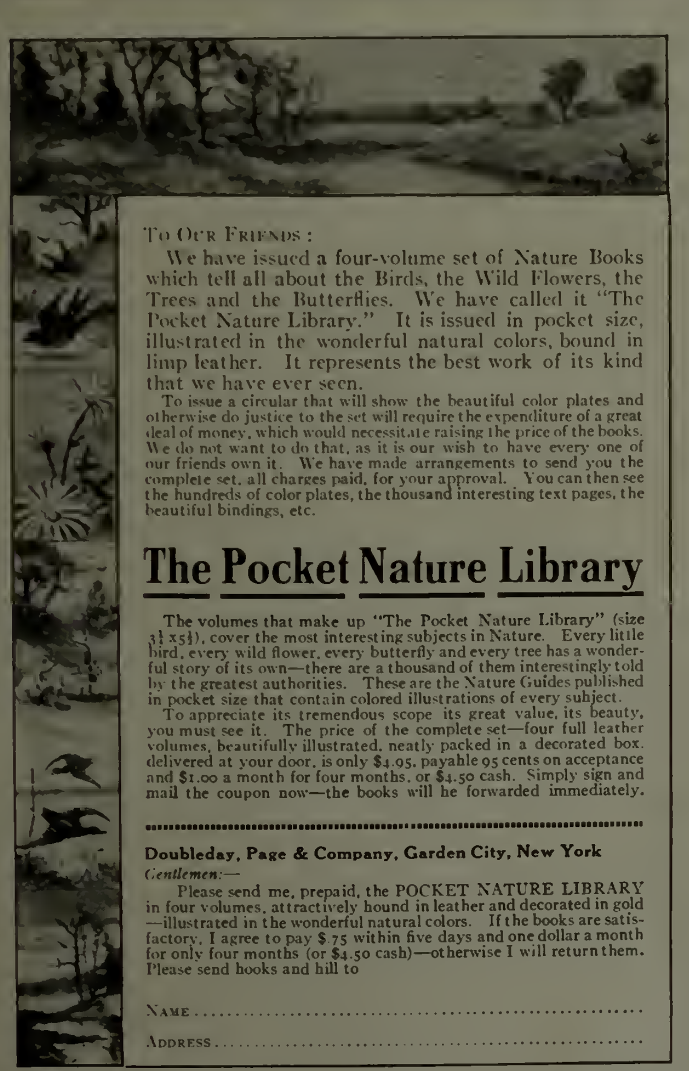
can be grown the year 'round in one of our greenhouses. In the middle of winter you can have roses, gardenias, carnations right out of your indoor garden. Or, if growing vegetables is your hobby you can have tomatoes, lettuce, beans, or strawberries and melons. Think of the joy of having fresh fruit and vegetables out of your own garden every day of the year.

You should be starting next year's garden right now. Before it is too late, write us so we can help you have your greenhouse ready in time. We will be glad to advise you as to the house best suited to your requirements and will prepare sketches and estimates free of charge.

You will find MONINGER GREENHOUSES satisfactory in every detail. Their superior construction is the result of our fifty years' experience in building greenhouses for both commercial and private use.

JOHN C. MONINGER COMPANY

CHICAGO 920 Blackhawk St. **CINCINNATI** 2312 Union Central Bldg. **NEW YORK** 810 Marbridge Bldg.



Keep Your Lawn Green and Fresh In the Dry Spells

Your lawn and garden must have careful attention during the hot, dry spells, else they will parch and wither. But they should not be quickly flooded with a stream from a hose which loosens and washes out the roots, exposing them to the sun. The way most like nature's and which gives the least trouble is with a

YOUNG Fountain

This valuable sprinkler, attached to a regular garden hose, can be regulated to give a fine, mist-like spray which gently and evenly saturates the ground within an area 30 feet in diameter. It may be safely used on young, tender turf, or in gardens of soft earth without danger of washing out roots. The round bottom permits dragging without injury to turf. It is well made and serviceable—will last a lifetime.

Price $5.00. We ship on receipt of check or money order. Send for free booklet, "Moisture in Cultivation." 74-30

SPRAY ENGINEERING CO.,
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equaling the blissful, if impossible, condition of having one's cake and eating it too!

Another objection made frequently is that this system does not charge the farm with the farmer's own labor and that of his family. But there is no justification for charging expenses that are not actually incurred, and if the farmer's sons or anybody else's sons work for him without wages, their labor costs him nothing. And if—as is certainly true in many cases—they ought to receive pay, this fact has no bearing as far as his books are concerned. His own labor he surely cannot charge for, for he is not on salary; he is doing business for himself and he must look to his profits to pay him for his time and labor. He is not entitled to a salary and his profits too.

Still another objection to the cash entry plan is that it makes no allowance for the depreciation in live stock and equipment on account of age and wear and tear. A very little thought will show the weakness of this claim; for if a new mowing machine is needed, it is purchased and the cost entered in the account of cash expenses for that year, and this of course, covers, to an exact cent, all the depreciation that has taken place in the old machine from the time it was bought till the time it was replaced by the new one. The same thing holds good in the replacing of an old horse or a worn-out cow or any part of the regular stock and equipment.

These books, as they deal only with money, do not, of course, cover the added values resulting from the increase of flocks and herds or from other sources, and which really represent a part of the farmer's gain. Of course if a farmer starts out with 100 sheep and at the end of the second year has 100 more of his own raising, he has doubled both the size and value of his flock. Such increment is accounted for by taking, every year, an inventory of the live stock and equipment. This is usually a very simple matter, rarely requiring more than one day out of the whole year, and compared with the previous year's figures it will show at a glance the gain or loss in this connection. But as the inventory shows only what property is owned, and not the farm income, it must be kept as a thing by itself and in no case mixed up with the regular farm accounts.

An excellent illustration of farm bookkeeping as it is very often done and as it usually works out, came under my notice a few years ago when a wealthy young man started farming, with model barns, fancy cattle, and costly equipment. He did not intend his farm to be a plaything, but aimed to practise the best methods, and enthused over the possibilities of good farming. He manured his land heavily, kept books (according to his own ideas), and expressed the intention, like so many young amateurs before him, of "showing the farmers how to farm."

He succeeded in raising some very heavy crops and in the autumn, when everything was harvested, he invited a number of his friends to come and look things over. The barn was fairly bursting with hay, the corncrib was full to overflowing, and the root cellar contained hundreds of bushels of turnips and mangels. Among his visitors was one farmer who had long since been through the soul-chilling but brain-clearing mill of disillusionment as regards farm products that have not yet been reduced to tangible dollars and cents, and he had the audacity to ask if it all paid. "Pay!" exclaimed the enthusiast, "I should say it did! Farming rightly managed pays as nothing else does. Just look at my books. Here I have, according to conservative estimate, 110 tons of hay, worth $25 per ton; 2,200 bushels of corn worth 80 cents a bushel, and more than 2,000 bushels of roots in my cellar, worth, say, $1,000. Then I have 35 heifer calves, six months old now, and worth surely $100 apiece. And here, at the bottom of this page, you see all I've paid out for labor, manure, grain, etc., which leaves me, as I figure it, a clear profit of about 30 per cent." The man who had had the brain-clearing experience asked if it was intended to sell all this produce, cruelly pointing out that in its present form, although property, it was not money.

"Sell it? Of course not!" answered the enthusiast. "That would only rob the soil. It's all to be used on the farm. But it makes no difference whether it's money or not, as long as it has a money value."

Some six months later the skeptic called again. The haymows were empty, as were also the corn-

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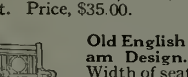

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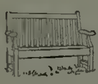

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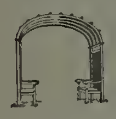

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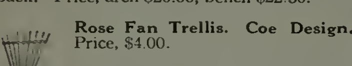

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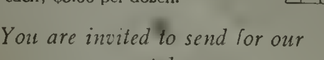

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THE NEIGHBORHOOD CRAFT
Locust Valley Long Island, N. Y.

crib and the root cellar. The herd of cows and the thirty-four heifers were eating meal and hay purchased in the city.

"What's become of all your crops?" asked the visitor, "Sell them?"

"No; all fed out to the cattle."

"Has your herd turned you much income during the winter?"

"Well—er—no. You see, we make most of our butter during the summer months and most of our cows are dry, or nearly so, in winter."

"I see. Well, where's all the profit you figured on those crops last fall?"

"Well," came the answer, rather ruefully, "I've got an awful great pile of manure."

Now this is what happens on hundreds of farms; and from the grand display in haymow and granary to the humble manure pit seems like something of a drop. And yet the slump was not real, but was made to appear so by a false system of bookkeeping. Every experienced farmer knows that stock must be wintered and that crops are necessary for the purpose; and the crops thus used are not in themselves items of profit, but a means to an end. The profit comes later on.

The other set of books, for determining the profit of different farm departments, is fully as important as the regular farm accounts, and like them must be exact. Labor of both horse and man, for example, should be charged at its actual cost and no more. I recently saw a farmer's record of the cost of his corn crop in which the plowing and harrowing, which required one man and a pair of horses were put at $5 a day! His reason was that that was what he would have had to pay if he had hired the work done; but the charge was manifestly wrong, because the cost, to him, was much less. His man was being paid $1.50 a day; and the maintenance cost of his two horses could not possibly have exceeded 50 cents a day apiece, thus making the cost of the work $2.50 a day—just half of what he had reckoned it. He also charged for his own supervision the salary that he formerly received when holding a responsible, well paid position in the city; whereas any one of his boys could and would have done all the looking on that was necessary and made a reliable report to him for one tenth the amount. It is no wonder that his record showed that there was no money in raising corn.

Unfortunately, many of the figures on "crops that don't pay" and, what is worse, most of those that show phenomenal profits, have been worked out on some such fanciful basis. Their reliability is always to be doubted, for, except under extraordinary circumstances, there are no phenomenal profits in farming—though there may be very good ones. It would, perhaps, be unfair to say that the intentions of those who compute these exaggerated profits are not good, but the hell that is paved with this kind of good intentions is a particularly hot one. To hundreds it has meant broken resources as well as bitter disappointment—the disappointment that comes from striving for the unattainable. And it means, too, a loss of faith in what is really a good calling, a vocation, for the young man who has a taste for it, as worthy of brain application, enterprise, and labor as any he can choose.

The purpose of bookkeeping is to bring out the exact truth concerning the financial status of a business; to show its proprietor in cold, uncompromising figures, just how much he is making or losing. To do this it must deal in facts, not fancies, and the simpler it can be and serve its purpose the better. The farmer who has these facts clearly in his mind and brings to the matter a little good, hard, horse-sense, need not fear going very far wrong in his cost accounting.

David Buffum

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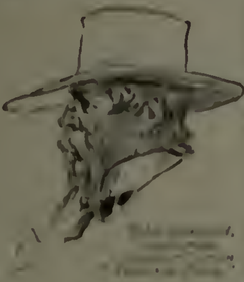

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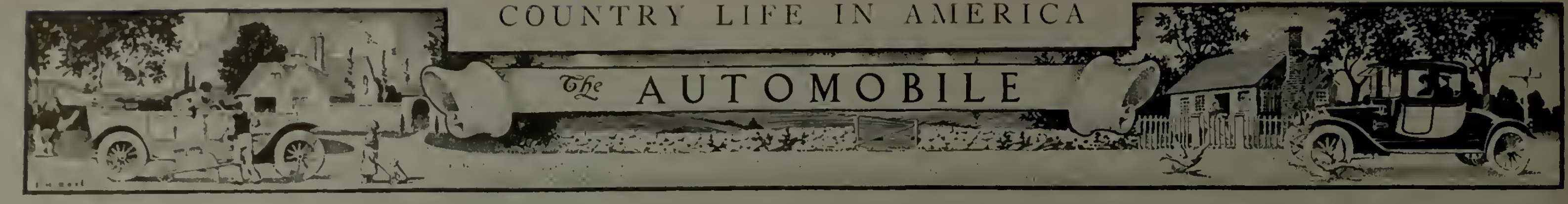
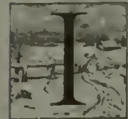


The AUTOMOBILE

STEERING GEAR AND BEARINGS

THE OLD MOTORIST HAS SOME IMPERTINENT REMARKS TO MAKE TO THE UNMECHANICAL MAN, THE VERY YOUNG MAN WITH HIS FIRST CAR, AND THE IGNORANT DRIVER

By C. H. CLAUDY



IT WAS bright and sunny and the air held a promise of warmth. Ther were an unusual number of cars in the yard of the Motor Club, and their drivers showed a disposition to linger on the porch, to sit on the rail and talk in the pleasant sunshine, rather than to go into the familiar club room.

As usual, the talk was on cars and car troubles. There were several groups, from each of which came different lines of talk, of gears and wheels, of springs and bearings, of overhauling and costs, of new models and of old ones, of the increasing price of gas and oil, and of makes of tires and mileage adjustments.

One group was especially interested in the wear and tear on certain cars, and the Unmechanical Man was holding forth.

"You can't tell *me* anything about the Galloping car," he snorted, in answer to some low-voiced praise. "Haven't I one of them out there and don't I know it like a book? Why, she's made of cheese, not steel. Everything about her wears, wears, wears! Don't talk to *me* about a Galloping—*I'm* going to get a Canterness next week."

"What's worn now?" asked the President, to be obliging.

"Oh, something in the steering gear! She wobbles and jumps when I drive and I find myself steering all over the place. I'm not much of a mechanic, but I can unscrew a nut, and I thought I had found the trouble when I discovered that the steering wheels pointed toward each other. I straightened them out—they are exactly parallel now—but she jumps worse than ever. So I suppose it's wear in the worm. It clicks and knocks down underneath somewhere."

"Maybe you have a bent distance rod," suggested the Very Young Man With His First Car. "I noticed mine is bent. I am going to have it straightened as soon as I can get around to it."

"I have that clicking noise, too," said the Ignorant Driver, joining in. "But it's not in my steering gear. It's in my front wheels. I asked the garage boy what it was and he said something like 'being guarded,' but I was in a hurry and didn't ask him to explain. Any one know what 'being guarded' means to a front wheel?"

"I do." It was a growl. It came from beneath a pair of bushy eyebrows that worked up and down over a fierce face that had struck terror to more than one inexpert driver.

"Just the man I'm looking for!" announced the Very Young Man With His First Car. "I found out something new about a car yesterday and I thought I'd tell you. I complained about my front wheels being wrong—not straight, you know—and they tell me all front wheels are not straight. I thought you'd like to know."

"Ah! And did you also learn why they are not straight?"

"N—no."

"Humph! Terribly dry work, standing around here." The Ignorant Motorist crooked a finger. The Old Motorist nodded his thanks. "Oh yes," he said. "I'll tell you what 'being guarded' means. I'll also tell you a few things you don't know about your steering wheels and gear. For it seems to me you need it."

The waiter thrust something under the Old Motorist's nose and he stopped long enough to bury that useful member, and set down a much lighter glass.

"Well, as I was saying. When the garage boy said what you took to be 'being guarded,' he really said 'bearing galded.' 'Galded' is a very inelegant word not found in dictionaries, but a very useful word, just the same. The garage man calls any bearing surface 'galded' when it is scarred, gouged, or abraded from seizing. Don't know what *that* means either, do you? A bearing seizes when it grips too tightly.

"But there is a great difference between wear and 'galding.' Wear comes to all bearings even when properly lubricated. 'Galds' come to bearings not lubricated, or but slightly lubricated. A non-lubricated bearing wears off small particles of metal. These get mashed into the bearing, where they promote still further wear. 'Galding' is a dry wear. And in front wheels, with ball bearings, such as you have—it's a shame to put a ball bearing in the front wheels of so heavy a car—the result is a badly worn ball and probably a 'galded' cone, which cause the clicking noise. What you need to do is to have those bearings taken down at once, and new balls, cones, and cups put in. If you don't have it done and your balls and cones seize some [day on the road because of a 'gald', you'll come home behind an ox cart."

"Well, is that what's the matter with *my* steering gear? I knew it was worn but——"

"I doubt it. The trouble with your steering gear sounds very much to me as if you had a broken shock absorber."

"What? Oh, that's a joke. I don't use shock absorbers."

"Oh, don't you? Well, that's the joke, really. For you have one shock absorber on your car, anyway, and it's probably got a broken spring. Lucky for you that you haven't a broken steering rod or knuckle."

The Unmechanical Man looked helplessly around. The Young Man With His First Car snickered behind his hand. He knew the Unmechanical Man's car and was positive there wasn't a shock absorber on it. Very much overrated chap, this Old Motorist that every one said knew so much about cars.

"Please explain," at last ventured the Unmechanical Man. "I know you never say anything that isn't so, but honest, I never bought a shock absorber in my life!"

"Paid for your car yet?" inquired the Old Motorist.

"Of course! What do you mean?"

"Then you bought a shock absorber," relentlessly went on the Old Motorist. "And if you will have your repair man take the steering rod from your gear crank and the right hand steering knuckle—your car is a right hand drive, I believe—and watch him, you will certainly find one, and probably two, shock absorbers in it!

"You see," he explained, a somewhat grim smile on his face at sight of the open mouth of the Very Young Man With His First Car, who had thought to tell him that all front wheels were crooked, "you see, it is essential that all parts of a steering gear should be amply strong enough to sustain even extraordinary shocks. But it is also essential that they be light, easily moved, responsive, and not add too much to the weight of the front of the car. It's plenty heavy enough as it is. It is also essential that they do not wear more than is necessary. To that end, the steering rod, which reaches to one front wheel from the worm and segment box, *via* a crank, is attached thereto and to the steering knuckle by means of a ball joint. The ball joint allows play in any direction.

"Partly to take up wear on this ball joint, and partly to eliminate that wear, and partly to cushion these slender steel balls and their necks from the enormous road shocks which they get, the sockets of these ball joints are usually fitted with very powerful steel springs. There is, perhaps, something less than an inch of play in these springs. But that inch is the difference between a light steering arm and crank and a very large and heavy one. These shock absorbers are vital to the satisfactory wear and reliability of the steering gear. When a spring breaks—it isn't common but it does happen—of course there is an inch of play, less the size of the broken spring, in those joints. This is enough to cause that knocking and clicking you were complaining of, and is certainly enough to cause erratic steering. It is also a dangerous condition. Finally, those shock absorbers ought to be taken out of their leather covers and packed with stiff grease at least once a season. I'll bet yours never have, although your car is three years old. And that's probably why she has busted on you!"

"Great Scott!" ejaculated the Unmechanical Man. "Think of the bother and the mess I made of myself straightening my front wheels when it wasn't the trouble at all. Well, anyway, I won't have that to do over again."

"No?" The Old Motorist was broadly grinning this time. "If I demonstrate the need of your doing it again will you do it yourself or will you have it done?"

"I'll do it—that is, I'll have it done!" The Unmechanical Man weakened. "But why have I got to do—to have it done again? My two wheels are absolutely parallel now."

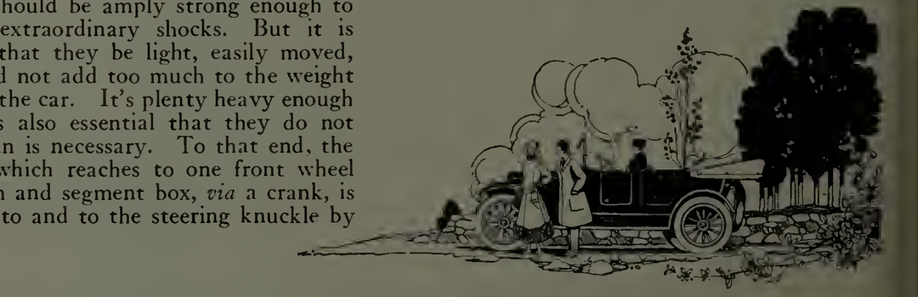
"That's the reason," was the cryptic answer. "Listen, you motor innocent. All front wheels toe in, or should toe in, from a quarter to a half inch off the parallel, according to the size of the wheels. If they don't, your car steers hard and your tires wear."

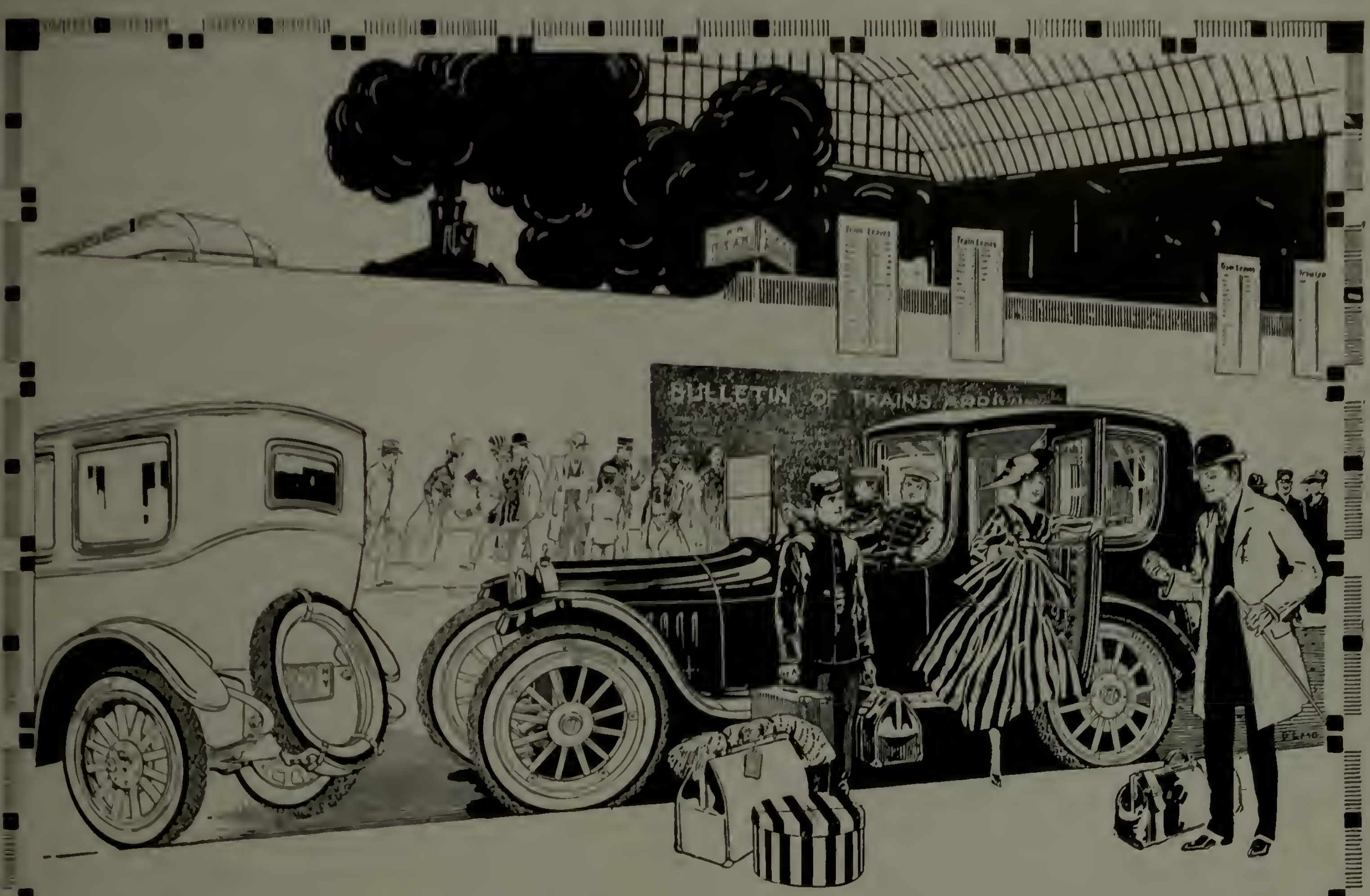
"But I thought having the front wheels *not* parallel meant wear on the tires," cut in the Very Young Man With His First Car. "That's why I want to straighten my distance rod."

The Old Motorist looked at him witheringly. "Let's see," he mused. "You were the informative chap who told me that all front wheels were crooked, weren't you? But you didn't know why they were dished, and you don't know why they are mounted on a slant and you don't know why they toe in. Well, well! If you would kindly see that that glass is filled, I'll tell you."

The Very Young Man With His First Car had the glass filled.

"Now listen," began the Old Motorist. "Artillery wheels, as you know, are made of wood. They are dished—that is, the spokes don't come straight out from the hubs to a rim, as they do on a carriage wheel—because of the enormous side thrust which the front wheels of an automobile have to take. Going around a corner at speed, an automobile puts most of its weight and much of its forward force against the slender spokes of the front wheel. If they depended only on their native resistance to side strain, they'd break the first time. But being dished, they have spring, resiliency. Before they can break on a strain applied from the inner side of the bearing to the outer side, they must either push through the rim or crush themselves longitudinally.





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"But front wheels, like rear ones, also stand tremendous up and down stresses. So it is necessary to have the spokes practically upright under the weight of the car. For this reason, the front wheels of a car are leaned outward from each other, which makes the lower spokes, where the weight comes, practically upright. If you will look at your front wheel steering bearings, you will see that they are not perpendicular, but lean.

"Very well. Now when you were a boy and rolled a hoop with a stick, it rolled straight ahead as long as it was upright. But if you leaned it to the left with your stick, it went on a curve to the left, didn't it? Of course. Well, the front wheels, leaning outward, both tend to curve to the outward direction—the right wheel tries to go to the right, the left wheel to the left. This results in the wheels always running with all play taken up in the bearings—both the wheel bearings and the steering knuckles. If, now, there is a half inch of play in those bearings all told, the wheels will, supposing they are normally parallel, point out from each other that half inch in running. Result is hard steering and wear on tires. To correct this—for it is impossible to eliminate *all* play or the slight give or springiness of steel and wood—the wheels are toed *in* an amount equal to the toe *out* under stress of driving. Then at average speeds the wheels are actually straight and in line and in the position for the easiest steering and the least wear on tires.

"Unmechanical, here, supposed his wheels must be absolutely in line. So they should, at twenty miles an hour. But he straightened and measured them at rest. That's why he has to go and take his coat off and get under his car and mess himself all up putting them back just as they were before!"

"Oh——!" The Unmechanical Man bit off a hearty cuss word in the middle. "And I thought I was doing so much when I straightened them. How much must I have them toe in?"

"How do I know?" snapped the Old Motorist. "Your car manufacturer decided that. Put 'em back the way they were. Big wheels and loose bearings and worn knuckles want more play than small wheels and tight bearings. You'll soon know if they are right or not," he added, grimly. "Get them wrong and one tire or the other, or maybe both, will show wear *across* the treads, not lengthwise with them. When you find a lot of marks on your tire, scratches and cuts which seem to slant, look out for wheels improperly aligned."

"Maybe I don't need to straighten my distance rod, then," ventured the Very Young Man With His First Car, very subdued at having tried to tell the Old Motorist something which he evidently had known for years.

"Maybe you don't. It depends on whether it has been bent accidentally or on purpose," answered the Old Motorist. "Many makers bend their distance rods to avoid conflict with springs, pan, or other under car obstructions. Others design a straight distance rod. If you have a normally straight one and it's bent, my advice would be to get a new one and have the old one straightened at the factory. I wouldn't take chances with a distance rod that had been bent much since it came from the factory."

"What is the distance rod?" the Unmechanical Man wanted to know.

"The rod that connects the two front wheels to move them when you steer," was the short answer. "If it ever breaks when you're running, it's 'good night.' For then you have control only of one wheel. The other will turn, dish, break, and you will slew around and bring up with a bang. The distance rod is pretty well protected from being bent, but sometimes it gets struck, and when it does, it ought to be attended to right away, and you ought to *know* that its bending has not injured its strength."

"Say, there are a lot of things to know about steering gears, aren't there?" put in the Ignorant Driver. "You said something awhile back about it being a shame to put ball bearings in the front wheels of a heavy car. Would you mind explaining?"

"You see," explained the Old Motorist, "there are ball bearings of several kinds, and roller bearings. The ball bearing is a mechanical substitute for nature's model of anti-friction devices. Oil is a mother-liquid holding minute balls of fat which slip and roll, thus making movement of bearings easy. The engineer substitutes a ball race—usually a cup and a cone—with steel balls either close together or separated by a ball holder which

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keeps the balls from coming together and clicking as they drop.

"For mechanical reasons, it is customary to put two ball bearings in a wheel, one at either end of the hub. This puts all the strain of the weight, shocks, and side and end thrust on two sets of balls, and of course two or three balls in each bearing carry all the weight and get all the road shocks. That's why I said it was a crime to put them in the wheels of a heavy car—it's asking too much of small steel balls."

"Why do they do it then?" asked the Very Young Man With His First Car.

"Because the cup and cone ball bearing easily solves the problem of end thrust," was the quick answer. "Roller bearings, in which rollers, the length of the bearing surface, surround the axle and roll on it, while the hub of the wheel rolls on them, distribute weight better and are much stronger than ball bearings. But a plain roller bearing takes no end thrust. Thus, in going around a corner or when inequalities of road push the wheels in or out from their central position, some provision must be made to take that force. It is either a friction surface, which wears, or a combination of ball bearing for end thrust with roller bearing for weight and road shocks—and that combination is expensive. It's the best, however.

"But no matter what kind of a bearing you have, it's little use to you if you don't take care of it. Even the best of roller bearings need lubrication. Generally speaking, as light a grease as can be retained in the bearing is advisable for roller bearings—that is, a semi-fluid grease which won't run out like a liquid, but which isn't so stiff that it interferes with the free play of the rollers. For ball bearings a lighter grease is best to allow it to be retained, most cup and cone ball bearings have grease retaining rings, often felt washers which become soaked with the heavy oil and give sufficient lubrication. Even so, 'galding' of a ball bearing in overloaded wheels is common, and the 'gald' is the forerunner of a broken ball or cone or cup, a seizing of the bearing, then its total disintegration, and a possible accident and certain trouble and expense.

"Hence it is that modern practice is going more and more to roller bearings for all heavy duty, although the ball bearing for end thrusts and sometimes the annular ball bearing, in which the too slender cone and cups are replaced by grooved races, have their parts to play. And right here I'd like to tell you a clever little trick that the makers of vertical generators have played on the imp of wear that infests rapidly moving parts. A vertical generator is one in which the armature which revolves turns in a vertical plane. At the lower end is a ball bearing to support the weight and take the friction. But the electrical engineer has utilized a principle of physics to relieve the ball bearing of weight and friction. He supports the field or magnets a little *above* the central position of the armature, which at rest is thus off-centre. As soon as it gets going, the magnetic currents set up in the generator tend to draw the off-centre armature true to the centre of the field. The result is that it is lifted up from its bearing, which thus has less work to do, and wears longer, as it is less likely to cause trouble."

"Humph!" The Unmechanical Man unconsciously copied the Old Motorist's favorite exclamation. "That's interesting. But what's more so is the fact that maybe I've been doing my car an injustice. Maybe what I take to be cheese instead of steel is 'galded' bearings and broken shock absorbers in the steering gear—maybe it's lack of grease on roller bearings."

"And maybe it's lack of attention to the adjustment of your bearings," added the Old Motorist, sharply. "People who don't oil their steering rod balls in three years certainly don't pack bearings with grease and adjust cones to take up wear."

"Maybe it is," was the thoughtful answer.

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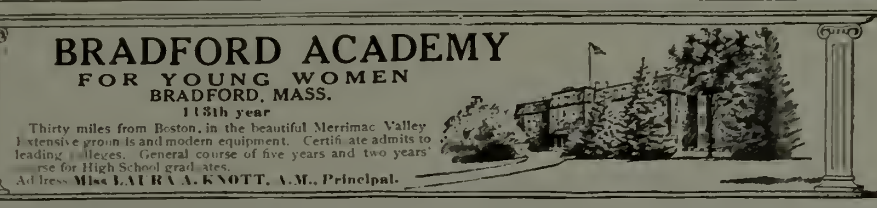

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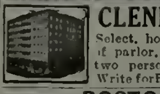

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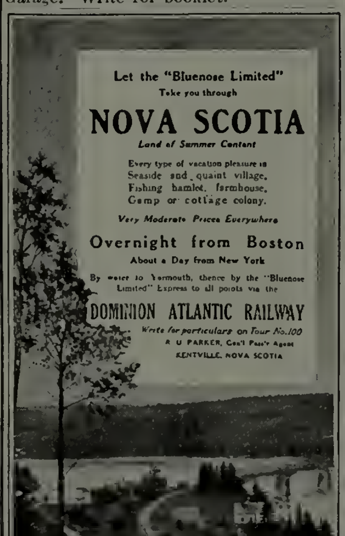

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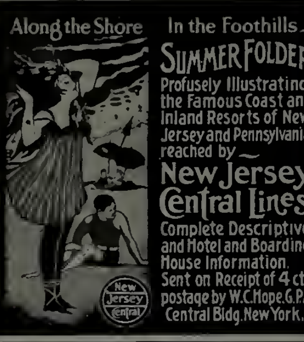

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LONG NEEDED COÖPERATION IN THE DAIRY INDUSTRY

IF THERE is any one problem in which all the people of this nation—or of any nation—should be interested, it is the problem of their food supply. And yet in this country at least, this vital subject, like others of tremendous human and national significance, has not until very recently received its deserved attention in the form of systematic analysis and study in the light of modern scientific knowledge.

We cannot have grasped and taken to heart, for instance, the truth that whole and skim milk and their manufactured products are among the most economical and nutritious of foods for adults, as well as nature's own sustenance for the young, and a valuable source of protein for stock feeding. For the per capita consumption of dairy products in this country is surprisingly small—less than half a glass of milk, one twelfth of a pound of butter, nine hundredths of a pound of cheese, and two teaspoonfuls of ice cream a day. A comparison of the annual per capita expenditures for milk and other beverages involves even more astonishing—not to say disappointing—data. The amount spent for milk, at the conservative price of 8 cents a quart, is $5.92; that spent for soft drinks and candy, which can hardly be classed as essentials, is $4.50; while the cost of the average year's supply of liquor for one person reaches, it is estimated, the relatively appalling figure of $32!

The conclusion is inevitable that, in the first place, the public has not been sufficiently advised and educated toward a full appreciation of dairy foods; and in the second, the agencies that might be expected to supply such information and insure its dissemination have not been in a position to obtain such results.

Both are true—or rather it should be said both have been true—for the organization of the National Dairy Council in 1913, and the gradual but steady development of its plans and its potential influence have sounded the note of a new era for the dairy industry—an era of coöperative effort, intensive development, and extensive publicity, of which the effects will reach every producer, every consumer, and every agency, organization, and industry directly or indirectly interested in the dairy cow.

The dairy industry, measured solely by its products, represents a business of more than $600,000,000 a year; but until very recently its contributing factors have worked, if not at cross purposes, at least in different directions, independently, often with unnecessary repetition of effort in attaining a single result, and almost invariably with lessened efficiency. Now there exists an active, progressive body including individual dairymen, representatives of breed associations, milk producers, cheese makers, butter makers, dairy machine manufacturers, etc., headed by Mr. M. D. Munn of the Jersey Cattle Club as President, and Col. W. E. Skinner as Secretary, and with all its members working harmoniously and whole heartedly for the permanent good of the industry and the improvement, standardization, and increased consumption of its products.

Here is a movement that affects practically, if not absolutely, the entire ninety millions of our inhabitants; if it involves any disadvantages or threats against the welfare of any person or any business, it requires a thoroughly experienced and bigoted pessimist to find them. On the contrary, the National Dairy Council is worthy of enthusiastic support on the part of every individual whose interests touch any phase of the production or utilization of milk. And the rest of the world can well look on and heartily applaud its efforts—which are destined very soon to stand not as efforts but as results.

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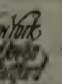

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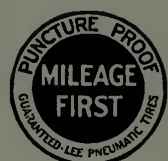

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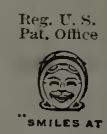

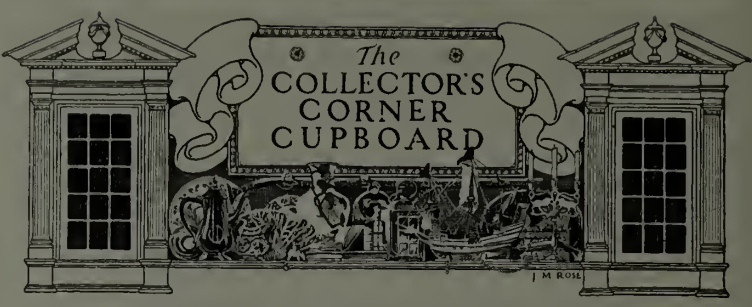

CONDUCTED BY WALTER A. DYER

[*Mr. Dyer will be glad to answer any questions relating to antiques and collecting; for convenience kindly address Readers' Service,* Country Life in America, *Garden City, N. Y.*]

THE BAND-BOX GAY

AMONG the less common but very intimate possessions of our grandmothers which have of late been attracting the attention of a moderate number of collectors, the band-box takes its not inconspicuous place. The interest in band-boxes lies largely in the wide variety of their shapes, sizes, and decorations, and in the fact that they represent a not unimportant part of the family life of a past generation. They were often huge affairs in which women of the eighteenth and early nineteenth centuries kept and carried their poke bonnets, calashes, quilted pumpkin hoods, muskmelon hoods, leghorns, Gainsboroughs, caps, wigs, and muffs. Gay hat boxes, too, were a not uncommon part of the equipment of the dandy.

For grandfather's beaver. Metropolitan Museum Collection

The starched ruffs and bands of the seventeenth and early eighteenth centuries in England required large boxes to hold them, whence the name band-box. Gradually these boxes were found useful for other purposes, and what had once been a collar box became a hat box.

Used chiefly by the very fashionable ladies of the eighteenth century the band-box attained a wide vogue during the early nineteenth for traveling. Journeys were taken then on horseback, or by stage or canal boat, and under these conditions many boxes were easier to manage than the large trunks of the present day. The belle of 1830 often used a small deerskin trunk, but she needed also piles of band-boxes whenever she set out upon a journey, not only for head-gear, but also for her kerchiefs, gowns, and stays. One woman, dressed in hoop skirts, with her pile of gay impedimenta, must have made a fairly good load for an ordinary coach.

Band-boxes were usually cylindrical or oval in shape, but varied greatly in proportions. In size they ranged from that of a two-quart measure to more than a bushel. They were not made of pasteboard until about 1850, but were usually of thin wood, and were generally remarkably strong as well as light.

They were sometimes covered with old-fashioned wall paper, but more often the covering was specially made for this purpose—a paper thinner than wall paper, hand printed, from wood blocks, in pleasing earth and vegetable colors. Most of the patterns required four or five impressions.

All sorts of patterns were used for ornamentation—floral, conventional, and pictorial. Pastoral, military, classical, and allegorical scenes were all popular. Among the subjects that were largely used were the first Capitol at Washington, the Capitol at Albany, Castle Garden when it was still an island, the New York Post Office, the New York Deaf and Dumb Asylum, and portraits of Washington, Napoleon, Gen. Zachary Taylor, and others. The livelier ones were used by the belles and fashionable young matrons, while there were soberer ones in lavender, gray, and ashes-of-roses for the caps of middle-aged and elderly ladies. The more elaborate and expensive band-boxes were often protected, when in use, by bag-like coverings of chintz or calico that were hardly less gay.

A group of band-boxes of various designs, in the Metropolitan Museum collection

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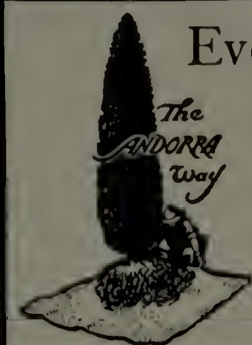

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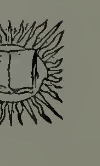

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Band-boxes were made in this country by various manufacturers in various places, but most of them, not being signed, give us no clue as to their origin. A few American makers whose names have been recorded were Thomas Day, Jr., 369 Pearl Street, New York; Putnam's Band-Box Factory, Hartford, Conn.; Hannah Davis, East Jaffrey, N. H., and H. Barnes, Jones Alley, Philadelphia. Hannah Davis sold hers at 12½ to 50 cents apiece.

One of the most enthusiastic collectors of band-boxes was the late Alexander W. Drake, art editor for many years of the *Century Magazine*. He gathered some 300 of them, all told. Thirty-five of the best ones were placed on exhibition seven years ago at the National Arts Club, New York, at the time of the Hudson-Fulton celebration, and the interest of collectors in this subject dates from then. The Drake collection was sold three or four years ago and was scattered among various museums and private collections.

Mr. Drake's band-boxes covered almost the entire range of patterns. There were a few plain colors; plaids and Oriental patterns; floral and diaper designs; birds and beasts; coaching scenes; tropical scenes; pastoral landscapes; domestic and farm scenes; public buildings and

An old box for a three-cornered hat

views of New York and other cities; Italian gardens; classical and allegorical subjects; coats of arms; General Taylor, and the Erie Canal. One box showed mountebanks performing at a fair; another, a populous road to market; a third, a village hose company fighting a fire. One box, bearing a spread eagle, was signed by Putnam & Hoff, paper hangings and band-box manufacturers, Hartford, Conn. These band-boxes represented a period extending from about 1800 to the presidential campaign of 1840, when the political emblems of the log cabin, the cider barrel, and the beehive were most popular as design motifs on all sorts of objects.

Collecting band-boxes has this obvious disadvantage: they take up a tremendous amount of space. But they are interesting and are still to be found in country garrets. Those offered in the shops or at auctions seldom belong to a period earlier than 1830, and those of the first quarter of the century are worth hunting for. The prices that are asked and obtained for them vary greatly, but are never very high. The collecting of band-boxes may be made a poor man's hobby, if he has a place to put them in.

LIVERPOOL PITCHERS

OLD pitchers are always interesting, and some collectors find it worth while to make a specialty of them. The field is a large one, but there is nothing in it more interesting, I believe, than the so-called Anglo-American pitchers made at Liverpool at the beginning of the nineteenth century.

Liverpool was famous for its pottery as early as the beginning of the eighteenth century, but most of the Liverpool ware was not marked, and so there is a good deal of uncertainty as to its identification.

Liverpool punch bowls were popular during the first half of the eighteenth century. Many of these were intended for use on board ship, and were appropriately decorated with marine views and convivial mottoes.

Printing on china, if not an original invention at Liverpool, was applied there as early as anywhere. About 1752 John Sadler perfected a method of transferring designs to china from engraved copper plates, and the process was patented in 1756.

Richard Chaffers was the most famous of the Liverpool potters. He established a pottery in

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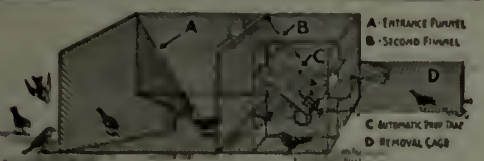

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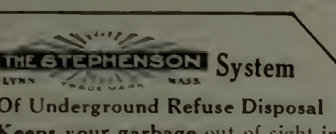

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Keeps your garbage out of sight in the ground, away from the cat, dog, and typhoid fly.

Opens with foot. **Hands** never touch.

THE STEPHENSON Underground Garbage and Refuse Receivers

A Fireproof Receiver for ashes, sweepings and oily waste in house or GARAGE.

Our Underground Earth Closet means freedom from polluted water.

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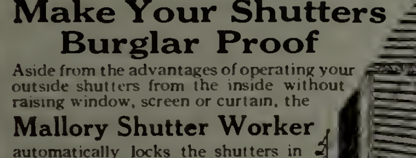

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Aside from the advantages of operating your outside shutters from the inside without raising window, screen or curtain, the

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Catalog of Dutch Bulbs at war time prices

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Don't plan your garden—don't buy a single thing until you have seen this catalog!

Mail the coupon below or send a postal. Look over the catalog page after page of imported bulbs—the very flowers you want, at prices lower than you have ever before been able to obtain. Learn how you can have, this season, the very garden you have always wanted!

Hyacinths, Tulips, Narcissi, Crocus, give, for a small outlay of time and money, an abundance of flowers in the house from December until Easter, and in the garden, from earliest spring until the middle of May. Bulbs are grown almost exclusively in Holland, in enormous quantities, and sold at very low prices. Usually they cost double before reaching you.

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Special prices good only until July 1—Order now—pay when delivered

To take advantage of the very low prices offered in this catalog, we must have your order **not later than July 1st**, as we import bulbs to order only. They need not be paid for until after delivery, nor taken if not of a satisfactory quality. References required from new customers.

Send for our Special Order catalog. Make your plans now. See how little it will cost to have just the garden you have always wanted.

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Elliott Nursery Co.
362 Fourth Ave. Pittsburg, Pa.

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Fine Named Darwin Tulips	2.[illegible]5	[illegible].00
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Double Daffodils	1.90	8.75
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Finest he ever saw! "I have received my order of gladiolus, and they are the finest I ever saw. The tulips and peonies that I bought last fall have grown splendidly."—*H. T. F., Bangor, Me.*

Always perfect! "Your splendid bulbs arrived. Enclosed find twenty-five dollars. As always, the stock you sent is perfect."—*A. G. W., Galesburg, Ill.*

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Admiration of the town! "I want to tell you how magnificent my daffodils are. They are the admiration of the town, and have given us untold pleasure. Each daffodil is the size of a tea cup. Many bulbs have four flowers, and not one has failed to produce [illegible]."—*G. D. S., [illegible]*

Surpasses tulip beds in city parks. "I have a bed of tulips from bulbs purchased from you. It surpasses anything I have seen in the city parks."—*J. A. D., Cordell, Okla.*

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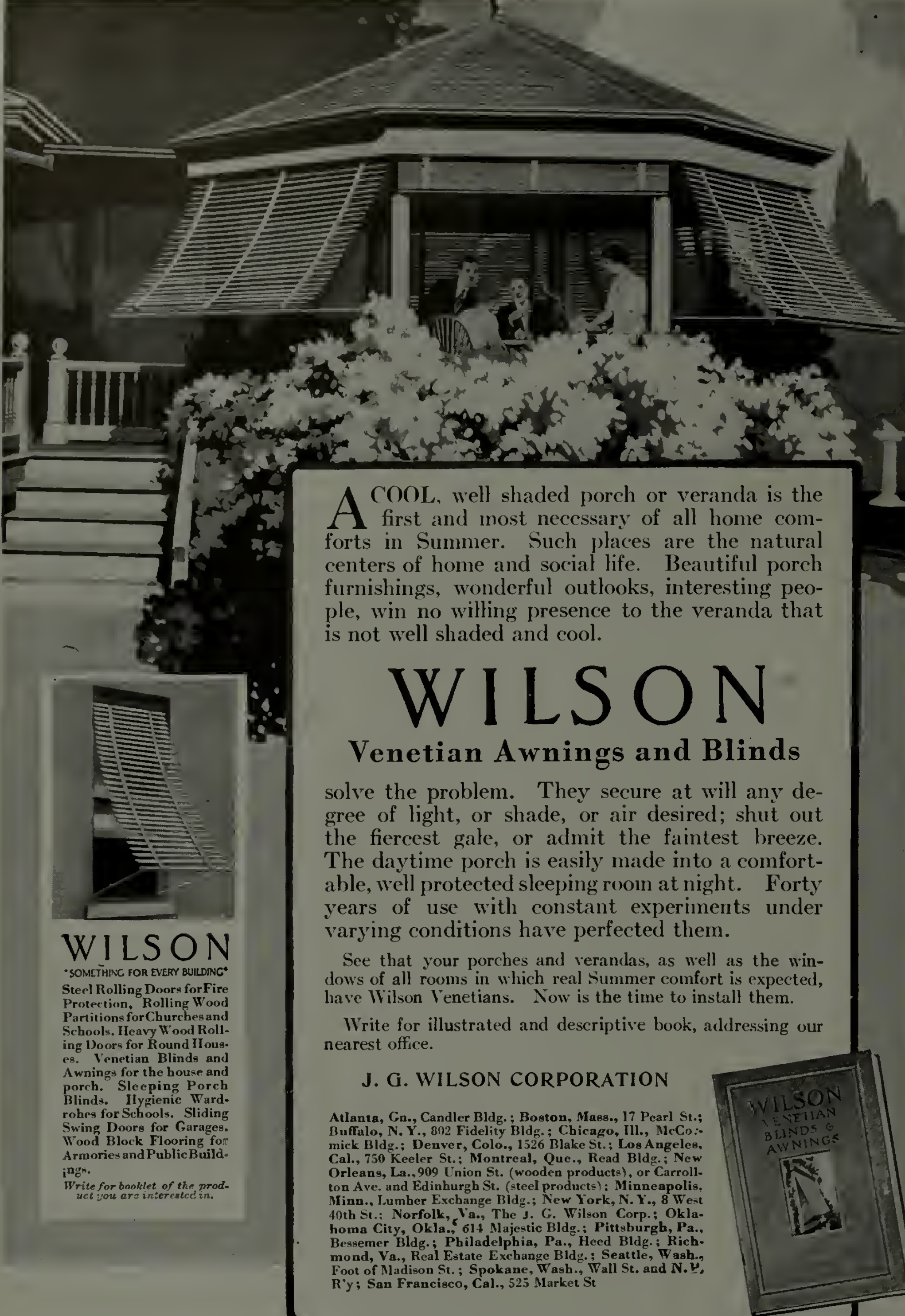

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are as strong and substantial as if built by a local carpenter and *cost far less*. Amazingly simple construction. All sections interlocking securely. Withstand fiercest storms. Hundreds live in their *Gold Bond* homes all the year round. Can be taken down — moved — put up again or enlarged.

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MF — 32 POUNDS COATING — KEYSTONE COPPER STEEL

The most satisfactory roofing material obtainable for high class city residences, country homes and city or suburban properties. Fireproof, clean, durable; these are highest quality plates manufactured.

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1752 for the manufacture of blue and white earthenware and fine porcelain, which was largely exported to the American Colonies. A number of other successful potters followed in his footsteps. Soft-paste porcelain was made at Liverpool as early as 1760.

Of the later potteries the best known was the Herculaneum Works, established in 1796 on the other side of the Mersey. This pottery changed hands several times, and about 1830 was accustomed to mark its ware with a bird—the "liver"—holding a branch in its beak, which was the official crest of the town. A large quantity of this ware, quaint and interesting, even if of moderate artistic merit, was turned out, and not a little of it found its way to this country.

A cream-colored ware decorated with black prints preceded the American views on Staffordshire. This was generally called Liverpool ware though some of it was undoubtedly made elsewhere. Of this ware the most interesting to Americans is that made about 1800 to 1810

Four Liverpool pitchers of the early nineteenth century, printed with political emblems and portraits of Washington for the American market

bearing pictures and cartoons of political significance, not always complimentary to the United States. Jugs, pitchers, bowls, and other pieces were made especially for the American trade. The portraits of Washington and Franklin were favorite subjects on bowls, and other popular decorations included the head of Commodore Preble, United States flags, American frigates, and more or less elaborate American emblems.

Many Washington jugs and pitchers of various designs were made, as well as those bearing portraits of other American heroes. Pitchers were made, also, bearing the coats of arms of the various states. Washington pitchers in Liverpool ware are fairly rare to-day, and are worth from $25 to $35 if in good condition.

Perhaps the most familiar of the Liverpool pitchers bears the portraits of John Hancock and Samuel Adams, a Washington monument, and a highly patriotic inscription.

ANSWERS TO QUERIES

I have an ancient beaker cup in my collection which I would like a little information about. It is plain but graceful, and on the bottom is stamped a large letter X and the initials T. B. & Co. I should like to know who the makers were, and the age and date of the beaker.

MRS. D. M. P.

Your beaker is undoubtedly American pewter, as it does not bear the English pewterers' marks. It was probably made early in the nineteenth century by Timothy Boardman & Co., pewterers, at 173 Water Street, New York. Their name appears in the New York City Directory of 1824. The X mark was commonly used in England to indicate the better grade of metal; in this country it was used occasionally.

I am sending you a rough drawing of a very beautiful dressing glass something like the one shown on page 171 of "The Lure of the Antique." The wood is perfect and the grain beautiful. It has six small drawers with glass knobs. What is its value? F. H. J.

This dressing glass belongs to the American Empire period, so-called. The retail price for one in good condition, with the original knobs, would be around $40.

IF you appreciate modern economy, attractiveness, convenience and the advantage of wonderful durability, CRITTALL Metal Casement Windows should be specified in the plans of your new home. They are absolutely weathertight and will positively open and close, easily, at all times. You will find them in the modest as well as the palatial homes, in office and banking buildings, in universities, in fact wherever economy, permanency and attractiveness were considered.

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Manufacturers of Solid Steel and Bronze Windows
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Write for interesting brochure "Velvet Water—Velvet Skin"

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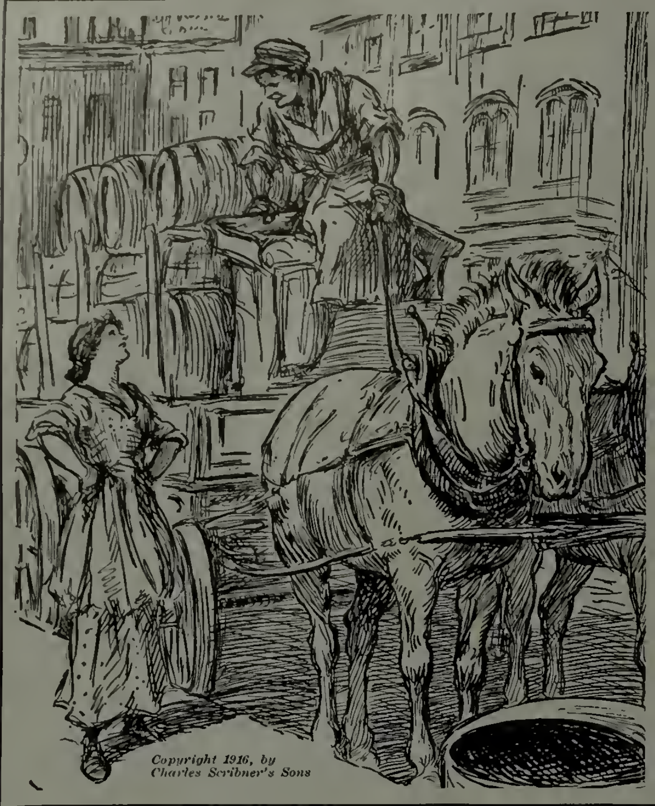

YOU can begin the story of "Bonnie May" just where it is now, for what has already happened is explained in Magazine Notes, the interesting department which tells what you want to know about the unusual men and women who write for Scribner's Magazine.

If you will send us your visiting-card with your address upon it, the current number of Scribner's will be forwarded at once. A statement for $3, for twelve numbers, will be rendered upon the first of the month.

Just a Beer-Driver and His Girl

THAT'S the way this couple looked to the world, but to Bonnie May they were beautiful, because they were quite happy. Are you seeing things through the eyes of this little girl, who is "forever surprising you by taking some familiar old idea and making you really see it for the first time?" Imagine a lovable child, brought up on the stage, suddenly placed in the stately home of a conservative family. Imagine the change wrought in her—and in those about her. Then you know something of the charm of "Bonnie May." But to get *all* its charm you must read the story itself.

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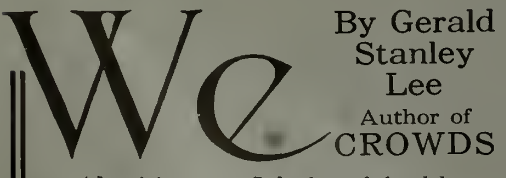
—*Extract from* "We"



By Gerald Stanley Lee
Author of CROWDS

Advertising war off the face of the globe.

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Stories of the East

¶ Of a ship that came within sight of home. Of Sultan Hamid's idea that a Circassian prince be taken in chains to Yemen. Of Egypt, Beïrout, Jiddeh! The bottom of that ship was overgrown like a garden. Much of her was burned as fuel on her voyage, and even her windows were sold for food. Of 600 ragged soldiers from Arabia come aboard, that had not been paid in seven years, then £9000 in wages among them at once. Who was saved? The Turk alone who told this Odyssey to the American?

¶ Of such things is "The Leopard of the Sea," opening tale of "Stamboul Nights," and listed as one of the twenty-one best short stories published in a year. There are twelve other tales full of the color and romance of the East.

Stamboul Nights

By H. G. Dwight

Author of "Constantinople, Old and New"

Frontispiece Net $1.35

Doubleday, Page & Co., Garden City, N. Y.

THE COÖPERATIVE FAMILY COW

IN THESE times of high prices, the cost of milk to consumers has risen to 9 cents per quart in the thriving city where Neighbor and I live. In consequence we were tempted, like many other families, to go without enough of this most useful of all the household necessities. I say "most useful" advisedly, for undoubtedly the food value of a quart of milk is much higher than 9 cents per quart in families containing children and aged persons, like ours. Neighbor and I, as the providers, have done not a little figuring, and consider the milk problem an important one. We came to the conclusion a year ago that a cow was about the right thing for us. We are both hard-working men, and with our families require, (absolutely require) if the price were reasonable, two to four quarts of milk per day. If we indulged in but two quarts daily, the cost would be more than $62 a piece for our families in a year. (The price is only 8 cents in summer.) This amount would limit us however, and we do not wish to be limited much further than conditions demand at present. Meats are high, and milk we must have.

Well, we agreed that we would buy a cow together, and that we should call her "Coöperation;" that she should be a real cow, not a goat, and that we should care for her in the following manner: Neighbor should do the milking and take care of and sell all of the milk above six quarts per day. We agreed that each family should have three quarts. My boy should feed,

The coöperatively owned family cow

water, or drive the cow to pasture, clean the stable, and also milk when circumstances kept Neighbor away from home over night, as sometimes happens unavoidably. We were to divide the expense of pasturage (we live on the outskirts of the city), and the winter's hay, grain, and straw, as well as the income from any sales that might be made.

We followed our determination to get a really good cow, and after much looking and comparing, taking several short trips together, decided on a large Holstein grade that was guaranteed to give milk testing 4 per cent. fats or a little better, and to give milk the year round. She cost us an even $100, and we have admitted frequently that we wronged her previous owner when we took her out of his herd, even at this price. The first year of this copartnership has closed and let us see what has been accomplished. In the first place our families are rosy and well nourished, which is better than money, though we have decided that we shall use four quarts each during the coming year, instead of three. Next we have had cream in our coffee, and often a nice pat of cream cheese. Such cream as we get costs 60 cents per quart in half pint bottles in our market, and too often is sour then before it is used.

Next the old jug. This is the receptacle into which was put all of the dimes and nickles paid by neighboring families who came for milk. Neighbor rigged a little flag that was kept flying while any milk remained in his house for sale, and was lowered when the supply ran short, and the neighborhood kept strict watch of that flag. We made the price one cent under prevailing prices as we did not deliver the milk. We rarely had a quart left over, but when this occurred we had extra cream and our hens a treat to skim milk. Everybody far and near was glad to get some of our milk, because of its richness. On the anniversary of buying the cow we had a little party

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The Armory of the 7th Infantry is a national institution—built for permanance and protection. A few years ago it was reconstructed and modernized The old wiring was removed and

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Insulated Wire

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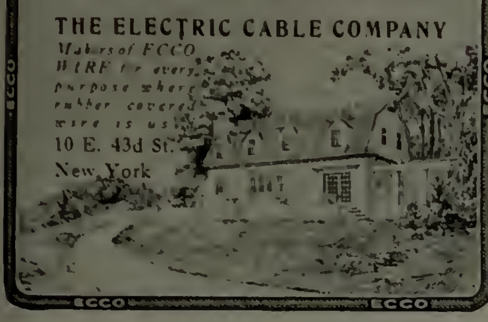

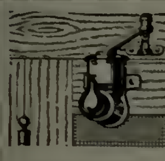

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The Flag Can't Foul whether the wind blows a gale or a zephyr

Walworth Non-Fouling Steel Poles
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They not only cost less to install, but practically nothing to maintain, and are *lightning proof.*

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Set either in the ground or in appropriate ornamental bases, these poles are effective as patriotic memorials and fit harmoniously into any scheme of landscape treatment. Send for booklet to the

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Is it giving you entirely satisfactory service? If it isn't, don't bother with it. Select a range that can be depended upon. Deane's Patent French Ranges are designed to do just what you have a right to expect of a good range. That accounts for their growing popularity among those who select only the best. Follow their example. Place in your kitchen one of

DEANE'S PATENT FRENCH RANGES

No. 209
Patent French Range in combination with Gas Range and Broiler

The combination coal and gas range shown above, designed especially for the family of average size embodies all the best features of big hotel ranges. Constructed of "Armco" Iron with polished steel trimmings, the surfaces can be kept bright and clean with the least amount of work. The ovens are provided with platform drop doors; the fire control guarantees uniform heating; elimination of the exposed smoke pipe gives free use of the entire top; ease of access to all parts simplifies cleaning. Deane's Patent French Ranges will give years of satisfaction under the hardest usage.
We also manufacture an extensive line of Plate Warmers, Broilers, Steel Cooks' Tables, Laundry Ranges, etc., which have been adopted extensively in efficiently planned kitchens. Send for catalogue, illustrating DEANE'S PATENT FRENCH RANGES and KITCHEN APPLIANCES.

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Hot-weather embarrassment is easy to prevent. A touch of "Mum" here and there, keeps the body fresh and sweet from bath to bath.

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Harmless to skin and clothing.

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of our exclusive set, consisting of Mr. and Mrs. Neighbor and Mr. and Mrs. I. It was purely a jug-smashing-and-counting-up-the-spoils affair and was an astonishment to all of us. After a neat speech by our banker, the jug was placed on the table, covered with a cloth and struck several times with a hammer. On removing the cloth such a pile of silver was shown as made our wives dizzy. Among them was a small roll of bills, which represented the sale of the calf. Not having any land we sold our calf, which was a heifer, and she brought $8 at eight days old, from the previous owner of the cow, who consented also as part payment for the calf to have the cow properly bred. The record—for one was kept by hanging the pail of milk each time on scales and penciling on a big calendar the number of pounds registered—showed 10,247 pounds of milk total, or an average of a little more than thirteen quarts per day. This meant seven quarts a day for sale, and had it all been sold would have amounted to $191. As it was we counted out $187.19 in change and the $8 for the calf made a total of $195. The cost of pasturage for six and one half months amounted to $14, we bought three tons of hay, (part still on hand), $54, and $34 worth of grains and straw, a total of $102. During our summer vacation we cut a half-acre piece of hay that was going to waste and did not cost us anything, and put it in my barn. This helped out on hay and bedding. Also we each had a garden and carefully put all of the sweet-corn stalks in the loft as soon as they were cut. They dried a beautiful green and were eagerly eaten by Coöperation. This year we have plowed the hay ground of one half acre and are selling quantities of sweet corn from three separate plantings, each two weeks apart. A little later we shall have a "snag" of good fodder that will help out our hay bill. This was made possible by another profit from the cow, of which I have not spoken—a pile of the choicest manure that is obtainable, and for which we should have had to pay for our gardens at least $2 per load. We usually buy two loads apiece, and find difficulty in getting cow stable manure, which we prefer. This year, besides having all we can use, we have sold eight loads worth $16 which will appear on the next settlement, and raised this sweet corn, which promises to net not less than $25 at present indications, for the corn, besides the resulting fodder. Here was a net profit of considerably more than 100 per cent. besides the comforts and the fun we had out of the affair. Still further, I consider that the education which my son has received in the useful art of stock keeping is worth as much to him as so much time spent in the study of Greek and Latin. Who can prove to the contrary?

E. GREGORY ELLIS.

THE OPPORTUNITY IN SAWDUST

THE New York College of Forestry says that 11 per cent. of the lumber cut of the country—or about 11,000,000,000 feet—is wasted every year as sawdust; and that New York State alone is accountable for nearly 135,000,000 feet of this unnecessary extravagance! "Unnecessary" is used advisedly, since the College finds that there are numerous ways in which the sawdust can be utilized and rendered, as a by-product, a part supporter of the cost of lumbering, instead of being absolute refuse to be disposed of at some expense and more trouble. It can, of course, be used in its natural state as a non-conducting packing material for ice houses, etc.; it can be used as an ingredient, either ground as "wood flour" or entire, in the making of artificial flooring material; and the flour by itself is already much used in making stucco, molding, dynamite, floor polishing materials, etc.

But more significant at this time than these suggestions is the information that the ashes of sawdust and other waste, such as bark and twigs, from hardwood trees, contain from 1 to 3 per cent. of potash, which can easily be leached out, either on a small scale by the individual farmer, or commercially by lumbering and wood working concerns. In view of the present absolutely prohibitive prices of potash for fertilizer and other purposes, this means of solving two problems at once and of realizing a profit at the same time, should make a tremendous appeal to every man who has or is able to get his hands on a woodlot or its products, or even an interest in either.

E. L. D. S.

IF "walls have ears" they also have tongues. Stately iron fence, of the classical dignity Stewart alone can build, speaks eloquently of your good taste and wisdom. For it is a wise man who protects as well as beautifies his property with artistic and permanent Stewart fences.

Send us brief description of your property and our experts will give you personal attention. Or ask for our catalog.

THE STEWART IRON WORKS CO., Dept. M, Cincinnati, Ohio

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BURROWES RUSTLESS SCREENS

For Good Houses

Every screen on door, window or porch is plainly to be seen from both outside and in. If properly made, screens can add materially to the attractiveness of your house.

Burrowes Rustless Screens look right because they conform to the house plan in design, and harmonize with the house trim in color, finish and hardware. Every order receives individual treatment.

The famous Burrowes Rustless Copbronze Netting is held tight as a drumhead in frames of cabinet workmanship and finest selected stock. Each screen made to exact measurements, guaranteed to agree with specifications, and backed by 43 years' experience.

Cheaply made screens must be replaced every two or three seasons because the netting rusts out and the frames fall apart. These are the most expensive. Burrowes Rustless Screens have a slightly higher first cost because they are built to withstand exposure and hard service for years and years.

Burrowes Rustless Screens are *made to order only*. They are designed by a screen expert to meet *your* requirements. Our salesman in your territory will show samples of netting, styles of finish, door designs and hardware, and estimate exact cost to you, freight allowed.

Write for Catalog No. D—full of practical suggestions for screening good houses. We make all kinds of good screens, either wood or metal frame.

THE E. T. BURROWES CO., 92 Brown St., Portland, Me.

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Burrowes Home Billiard and Pool Tables . . . . } $1 DOWN
Burrowes Moth-Proof Aromatic Red Cedar Chests . . . .
Burrowes "Kiddie-Villa"—Portable—for Lawn or Seashore } *Write for Catalogs*
Burrowes Light-Weight Folding Card Tables—Standard of the world—all dealers

Save this List of Twelve

Here Are Twelve New books of Charm and Value and Real Distinction. Ask Your Bookseller or Write to the Publishers for More Information.

—Doubleday, Page & Company.
Garden City, N. Y.

1 Georgiana wanted "to see things—and do things—and live things!" She wanted "life." This from a young lady who had three rival suitors! Ah! that was afterward. Remember "Red Pepper Burns" and "The Twenty-fourth of June?" Same sort of delightful people in "UNDER THE COUNTRY SKY" by Grace S. Richmond. Clean and wholesome—the kind of story that has earned for the author the title "Novelist of the Home." (*Illustrations in color, Net $1.25.*)

2 Did you read "Crowds?" Then don't miss this. A new book of what someone has aptly called "the wildest wisdom." A 20th Century Philosophy that is a mental alarm clock—"WE" by the same Gerald Stanley Lee. "It never snores," says the New York *Sun*. A witty, honest, wise man's gospel of war and peace. (*Net $1.50.*)

3 Babette was the jailer's daughter, Monsieur Pivot's 'Little Rabbit," and the prettiest girl in La Fourche. Subtle master in the fine art of theft was Raveau, but he was not proof against a simple heart. "BABETTE," you know, is by the author of "A Village of Vagabonds." (*Frontispiece, Net $1.25.*)

4 A captivating comedy of manners, gay, scintillating, fragrant, keen. How a spirited, high bred Southern girl came to "take on" an exceedingly thrifty millionaire Pennsylvania Dutchman, and his amazing relations, and what she made of it, is the story told in Helen R. Martin's latest book, "HER HUSBAND'S PURSE." (*Illustrated, Net $1.35.*)

5 Are mediocrities running the war? General Alexieff, the Russian Chief-of-Staff, is portrayed as a remarkable man—in fact the most remarkable military genius of Russia since Peter the Great—in "VICTORY IN DEFEAT," an authoritative, first-hand account of the Eastern campaign by an American acting as correspondent for the London *Times*, Stanley Washburn. (*Maps, etc., Net $1.00.*)

6 There is much good in the worst of us; yes, no matter how deeply it may be buried. This was the theory of a man whose heart beat with a large gesture, in the new story of the North Woods by Harriet T. Comstock, "THE VINDICATION." Seldom does an author have as interesting a situation as that which develops in this shut-in country of the North Woods. (*Illustrated, Net $1.35.*)

7 This story of Ellen Glasgow's is a fine piece of literary workmanship and, we are glad to say, the best selling novel in the country according to latest reports. Gabriella refused to be one of the "victims of life." She put courage first among the virtues. This gentle Southern girl faced in New York the fight before countless American women to-day. This is the theme of Miss Glasgow's recent great novel, "LIFE AND GABRIELLA." (*Frontispiece, Net $1.35.*)

8 "Thirteen years ago on the indoor tennis courts in Christiania, I took a racquet and hit the ball. I think it went through a skylight." An unpromising beginning for the "first lady in the land" of the tennis world. Molla Bjurstedt, National Woman Champion, combines sound advice and entertaining talk of the court in her new book "TENNIS FOR WOMEN." (*Illustrated, Net $1.25.*)

9 Which are the gayest, Roberta's smiles or Michael's roses? Two gardens are in these pages—one of fragrance and bloom, and another one of human sweetness and character. A love story of rare charm, full of the humorous wisdom of two old gardeners, is "ROBERTA OF ROSEBERRY GARDENS," by Frances Duncan, author of "My Garden Doctor." (*Decorated, Net $1.25.*)

10 Every man and woman will thrill to the message of optimism and courage in the "Autobiography" of Dr. Edward L. Trudeau. For forty years he did a hero's work for open air life, founded Saranac, and at last died of the disease from which he had saved countless thousands. It is the book of a generation—an inspiration for everybody. "AN AUTOBIOGRAPHY," by Edward Livingston Trudeau. (*Many illustrations, Net $2.50.*)

11 Adventure—Climax—Excitement—Romance! About a rough, lawless band, the "Horde." About great pines and roaring waters. About a man's man and a very alluring heroine. Such is James Oliver Curwood's latest story, "THE HUNTED WOMAN," a tale of the Canadian Northwest. (*Illustrated, Net $1.25.*)

12 "A young man wandering about in a strange city and picking up curious stories." This the New York *Times* says is the sense one has in reading "STAMBOUL NIGHTS" a volume of fourteen notable stories of the near East, by H. G. Dwight, of New York, Constantinople, and New England. A book of real distinction and literary value. (*Frontispiece, Net $1.35.*)

GIFTS FOR THE JUNE BRIDE'S HOME

Who would not have this charming lamp whose grace adapts it to any setting

THE selection of gifts for the June bride, always the subject of serious consideration, is this year assuming solemn proportions, rather on account of the bewildering array of lovely things to be found than because of any scarcity in the market of interesting subjects for satisfactory gift making.

It is doubtful if ever before such a profusion of beautiful designs in all branches of art work has been shown, and the remarkable part of it all is that in most instances both the designs and the workmanship are domestic, a condition that is most encouraging. It may be interesting to the reader to know that four of the six articles illustrated on this page are purely American, the exceptions being the Repoussé silver bouillon cup and the china, which our manufacturers could turn out would they but take the trouble to do so tho we have much to learn about china.

Silverware seems our especial forte, if one is to judge by the superb conceits and artisanship so frequently seen. What more charming or perfectly balanced design could one hope for than the service for iced tea shown on this page? This splendid set of clear glass is overlaid with a beautifully wrought floral pattern of heavy silver which is so excellently balanced that there is no feeling of heaviness or overdecoration. Considering the beauty, the price of $124.25 for the nineteen pieces pictured here is very low.

There may also be had an ice bowl at $6, and as many extra glasses and long spoons as may be desired.

Aside from its decorative value, its sheer utility makes it most desirable. The idea of serving hot tea from the tray in summer weather is made agreeable through the use of attractive glass.

Not less interesting is the bouillon set, one piece of which is shown. Here, fragile china adds to the attractiveness of the splendid silver repoussé, and whether the bouillon is piping hot or in cool jelly form, it seems better from such service. These cost $350.00 the dozen, finger bowls of the same pattern coming the same price, and either service would be a present that any bride might be proud to possess and use.

Mr. James Collier Marshall

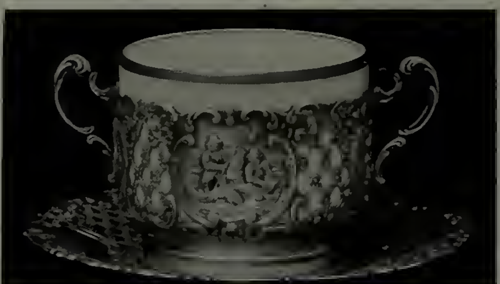
Director of the Decorating Service of Country Life in America's Advertising Department

will solve your problems of home decoration

—color schemes, hangings, floor coverings, art objects and interior arrangements. Mr. Marshall's long acquaintance with the sources of supply enables him to make, if desired, judicious selections and to obtain most favorable prices. This service is free to our readers.

Address inquiries to Decorating Service Department

Country Life in America
11 West 32nd Street New York



Silver repoussé bouillon cups are always acceptable to a bride. This pattern is unusually good and with saucers sells at $350.00 the dozen. Finger bowls come at the same price

The return of crystal and cut glass to popular favor was first mentioned in this Department two years ago this month, but it must be confessed that at that time no one could have guessed that these materials would have the tremendous vogue that is now theirs. Indeed, there seems no limit to the uses to which they may be put, and it must be said that there is really nothing better to be found for the table than glass and crystal, as all will agree who have seen the superb punch bowls and other such articles for special service.

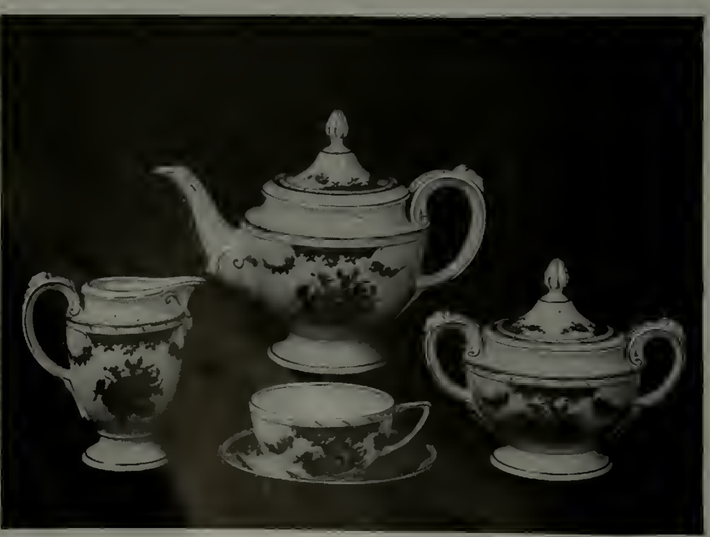
The bowl pictured here is one of the simpler and less expensive ones; the set sells at $35, but it is not surpassed by the more costly ones in point of richness, grace of contour, and delicacy of its cut design. It has also the further advantage over the old fashioned bowls of saving space on the buffet or serving table.

Equally adaptable to any scene is this sumptuous lamp with pottery base

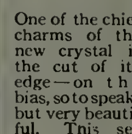
Iced tea is far more refreshing when served from such dishes as these glass ones overlaid with graceful floral patterns in solid silver

Particularly good from the art point of view are the lamps to be found this season, of which the two shown here are perhaps the best of the kind that are generally adaptable. The one at the right is especially remarkable for the color warmth in the tall pottery bowl, which is matched in the graceful silk shade that is so agreeable in shape and size. This kind of lamp is not only adaptable to many settings, but looks as well by day as by night because of its solid dignity.

The lamp at the left, while Italian in feeling, is almost classic in its chaste simplicity, having its urn-shaped walnut base richly hand carved, while the shade furthers the dignity of the whole. This shade is worthy especial



Modern though it be, this quaint china has all the charm of the antique patterns from which it is adapted, and is very inexpensive besides



One of the chief charms of the new crystal is the cut of its edge—on the bias, so to speak, but very beautiful. This set costs $35

Organ Console in a residence at Wellesley Hills, Mass.

THERE is a place in nearly every residence for an Estey Pipe Organ. No other instrument but a pipe organ has the power of satisfying so completely that innate, but little understood craving for music that will reach the very soul.

An Estey in your home does not require the services of an organist, for any one can render with feeling and expression the music of the masters by the use of the Estey Annotated Roll. Think of being able to fill the house with the full tones of the Grand March from Tannhäuser, or of listening while the soft strains of Beethoven's Moonlight Sonata steal through the room. There are times when you will want to slip into place a roll of Annie Laurie, or Love's Old Sweet Song, — and under all circumstances you will realize how much an Estey Pipe Organ will add to the pleasure of your home life.

We shall be glad to co-operate with your architect in submitting plans for an Estey Pipe Organ that will harmonize in every way with your home.

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An Estey Pipe Organ may be heard at any of our studios.

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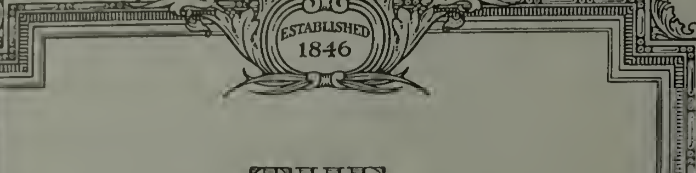


THE HAYDEN COMPANY

PARK AVENUE AT 57TH STREET

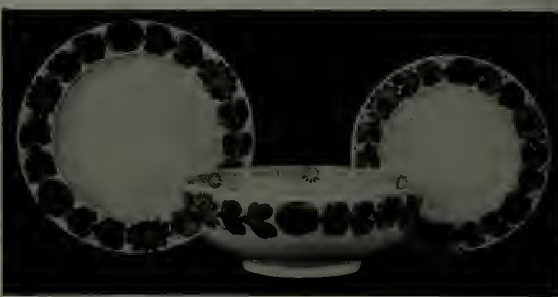
New York

HAYDEN REPRODUCTION OF A QUEEN ANNE CABINET, 7 FEET IN HEIGHT—A PIECE ESPECIALLY APPROPRIATE FOR COUNTRY HOUSES

ANNOUNCEMENT

THE Hayden Company are now occupying their new building, Park Avenue at 57th Street. The company specializes in making extraordinary reproductions from rare specimens of Furniture and Works of Art—Interior Woodwork, from selected woods including genuine old English oak. In the Galleries may be found large collections of important Antique Furniture of the Early English periods; Antique Tapestries and Reproductions of Old Velvets and Brocades.

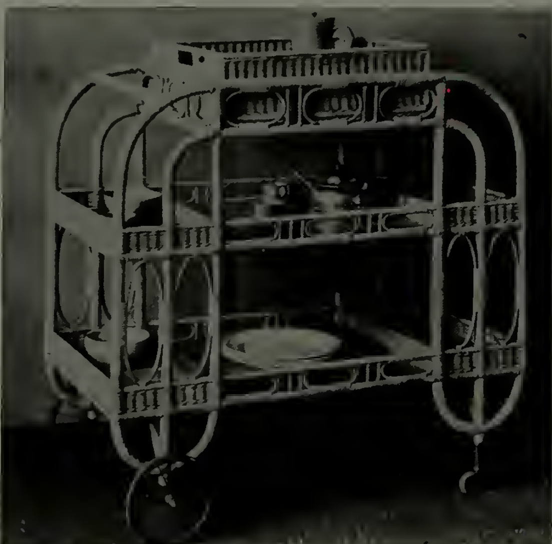
description because of the almost sumptuous effect gained by a perfect combination and arrangement of only two colors—mulberry and silver green. The simply gathered top is of the mulberry, the narrow collar and the skirt are of the green, while the narrow bindings on both are of the richer color. Altogether it is most effective and satisfactory and would make a most acceptable wedding gift.



Every bride needs a salad set of faience, and this Copenhagen one is gay with warm colored flowers that will make more enjoyable this epicurean course

The old-fashioned shades of plaited paper are coming again into use for porch use, though their form is more vertical than the old-time ones whose sides had considerable slant. The new ones are found in heavy glazed paper, of two colors, usually equally divided, though this is optional as the tints are laid on by hand, the heavier color being, as one might imagine, at the bottom, while the gathering cord at the top takes the tone of the darker color, thereby proving itself decorative as well as useful. And there is no limit to the effective combinations that can be made—pale yellow with mauve, with green, with blue; pale pink with green; rich yellow with black, and so on, all under a bright glaze.

Then there is a new clock on the market regulated by magnets that runs a thousand days without attention, and when its course is nearly run, calls attention automatically to its needs. This interesting article is to be had in a modest but handsome mounting of mahogany, at a cost that puts it within the reach of all.



Nothing could be more acceptable to her ladyship than a tea cart of smooth, fine cane, with plenty of room for dishes and easy service. Note the detachable tray on the top and the rubber tired wheels

There is a noticeable revival of the old time graceful custom of giving china to the brides, both in the form of odd pieces as well as full sets, that bids fair to become a widespread custom. Certainly there is no more sympathetic gift, if one may employ such a term, nor is there any field permitting so wide a choice where the results of such a choice are more generally acceptable.

There are a number of new patterns in china that are most attractive, many of them being the output of some of the famous manufacturers who have taken a delightful advantage of the present vogue for faience.

The coffee set shown at the bottom of the full page is a particularly good example of this inexpensive china. Note its graceful contours, its balance, the perfect distribution of its decoration, its dainty covers as well as its unusual handles that after the manner of the rare old English chinas, separate at the top thereby gaining lightness and grace for the whole. However delicate it seems, it is not a fragile china, but a stout, substantial ware that will give excellent service and always be good looking. The pot, creamer and sugar bowl cost $11.00; cups and saucers may be had at $17.75 per dozen, while the plates are $12.00.

A chair for the goodman and one for the goodman's bride in which to while away the evening tête-a-tête hours on piazza and lawn; painted in two shades of green, these are as attractive as they are comfortable

An important Jacobean Refectory Table with [illegible] top. The top possesses a wonderful colour resembling tortoiseshell. Dimensions 8 ft. long, 3 ft. wide, 33 inches high.

INCLUDED in the collection of Oak now on Exhibition is an extremely interesting 16th Century coffer.

Vernay

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7" high $6.00
A beautiful ornament for any table

Blues Greens
Rose colors
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Any piece, carriage paid, on receipt of price.

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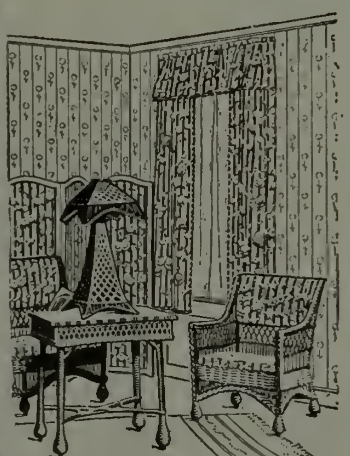
Fine Willow Furniture and Dainty Cretonnes

are inseparably associated with modern country life.

Our Willow Furniture possesses qualities of grace and comfort, combined with unusual durability, which commend it for use indoors as well as in loggias and on verandas and lawns. It is obtainable in all finishes at moderate prices.



In English Cretonnes we are showing a profusion of beautiful designs and colorings. The charming effect pictured, consisting of colorful flowers over a background of black stripes, is most effective.

Per yard, 60c.

The Valance and Draperies made up, at

$8.00 the set.

Equally good values throughout the extensive assortment.

Illustrated Willow Booklet on request.

Samples of Cretonnes sent if color requirements and an idea of price are submitted

McGIBBON & CO.

1 and 3 West 37th St. Just off Fifth Ave. New York

M M

Furniture Of Simple Informal Character

THE country house, with its spacious, many-windowed rooms and broad vistas of green lawn, owes its chief charm to the very informality of its environment.

¶ Within its doors that feeling of serenity which should pervade our rustic retreat is best expressed by such simple appointments as are suggested here for the sunny Breakfast Porch—a deep chintz-covered Sofa for the Living Room—and some of the quaint little groups which we have planned this Spring for the Morning Room and the Loggia.

¶ There are many such pieces in our diversified gathering of distinctive Furniture, each one leaving its own impression of the fitness of simple things to express the keynote of our country life.

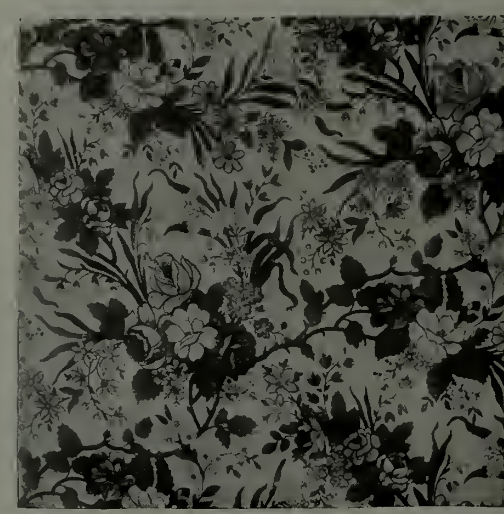
¶ In pleasing contrast to this lighter vein is that Furniture which better befits the dignity of the country house Dining Room—those classic reproductions in Mahogany so richly reminiscent of Georgian hospitality, for example.

The Grand Rapids Furniture Company
INCORPORATED
Retail Display Rooms:
34 and 36 West 32d. Street
Between Fifth Ave. and Broadway
New York

Summer Chintzes for Hangings and Covers

THE housewife who is looking for materials for summer hangings and slip covers will be delighted with the many new weaves and prints to be found this spring, despite the ill effects of the war on this business.

The first two designs pictured here are quite new, making their bow to the public about the



time this magazine appears. The first one shows natural tinted flowers, hand blocked on the deep cream ground that linen takes so well. The other is a daintily printed cotton fabric that sells at 60 cents. Both of these will be excellent for summer use, but not more effective than the beautifully colored exotic design on black linen whose beauties speak for themselves.

Glazed chintz is going to be used extensively this summer, both for shades, where it is ex-

tremely effective, and for upholstering couches, day-beds, and lounges for porch and sitting room. Perhaps its glaze has a psychologic effect as well, but certain it is that for lamp shades, slip covers, pillows, etc., it is very satisfying.

Apropos of covers, striped glass cloth and denim are gaining a wide popularity for covering those benches, chairs, and tables of wood and iron that are left on the loggia and lawn. These are as stunningly effective as they are useful, as a protection to the fragile laces and chiffons that come in contact with them.

No. 85 Chestnut Street, Boston, Mass.

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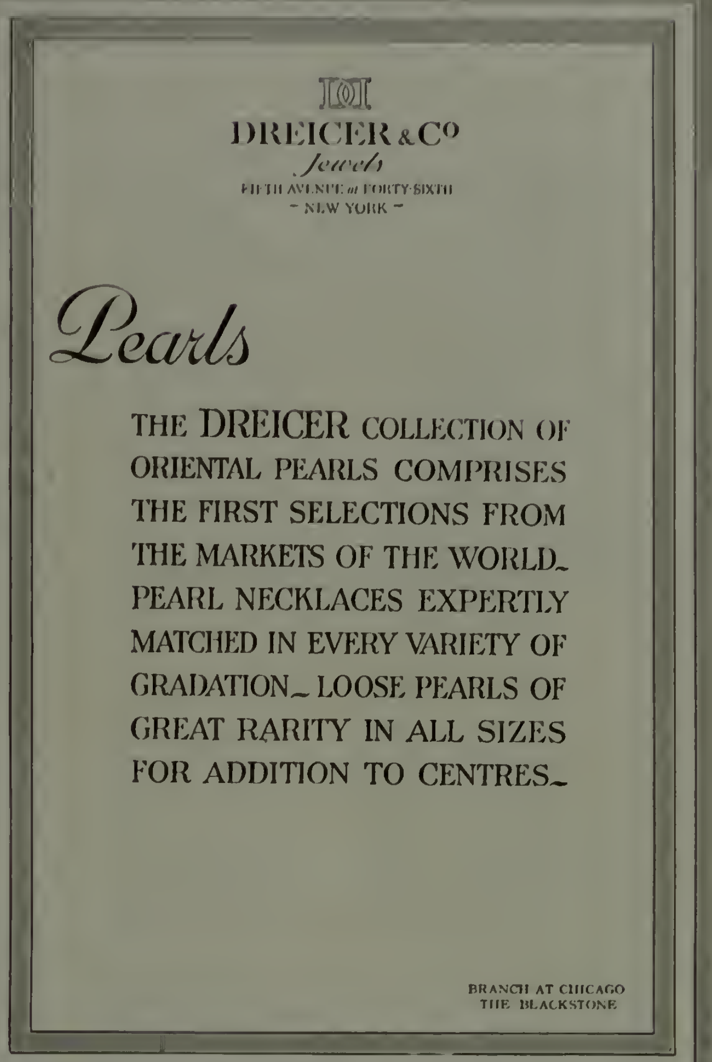
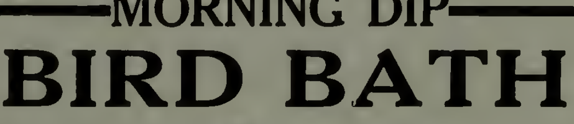


AS A READER of Country Life in America you are cordially invited to make full and frequent use of the decorating service rendered by this Department of which Mr. James Collier Marshall, Decorator, is the director.

You may be planning to redecorate or replenish your present residence or to decorate and furnish a new home this season and in this connection Mr. Marshall would be very glad to have you consult him for ideas and suggestions which he is prepared to give you in a complete and comprehensive way.

And as a logical sequel to the service of this Department we suggest and earnestly recommend that in purchasing supplies you patronize the eminently reliable and splendidly equipped shops whose announcements you find in these columns from month to month.

SHARONWARE



All Sharonware Bird Baths are designed to insure the comfort and the safety of our feathered friends. The floor of the bowl slopes gradually toward the center varying the depth from $\frac{1}{8}$ to 2 inches. Thus the birds readily regain a foothold and run no danger of drowning—a risk that exists in most other bird baths. Because of the semi-porous nature of the concrete, the water is absorbed within twenty-four hours. As a result the bath is always fresh and consistently sanitary. Frostproof. Attractive in design.

SHARONWARE BIRD BATHS are endorsed by the National Audubon Society and are your logical selection if you really have a soft spot in your heart for the birds.

MORNING DIP BIRD BATH Diameter 17 in., height 6 in. **$4.00**

CRYSTAL SPRING BIRD BATH (Same Bowl on Pedestal) height complete 39 in. **$10.00**

Prices (F. O. B., N. Y.) include crating charge.

There's an interesting story behind Sharonware. Send for it and catalogue showing sundials, benches, window and lawn boxes, jardinieres, etc., in practical use.

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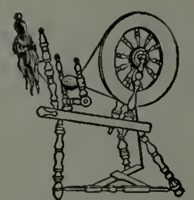
Summer Frocks Suits *and* Blouses at McCutcheon's



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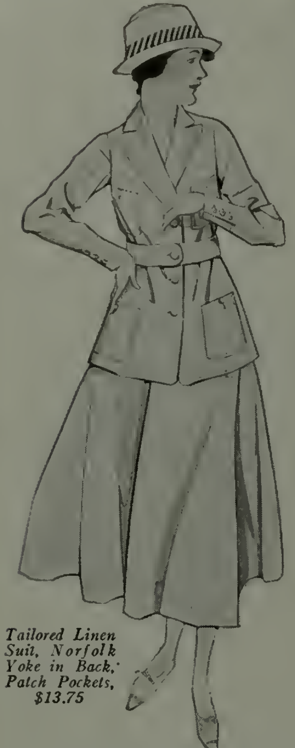

Tailored Linen Suit, Norfolk Yoke in Back, Patch Pockets, $13.75

A very attractive offering of smart apparel for Women and Misses, of Gowns, Street Frocks, Lingerie, Linen and Graduation Dresses, Silk Tailored Suits, Smart Outing and Sport Suits, Motor Coats, Evening Wraps, Outing Skirts and Tailored Blouses.

Tailored Suits of Linen; Smart Norfolk Coat or flare Model, White and colors	$13.75 to $18.75
Silk Jersey and Knitted Wool Sport Suits	25.00 to 32.50
Smart Tailored Street Coat in Pongee, Taffeta and Black four-in-one Silk	21.50
Linen Motor or Utility Coats	10.50 to 16.50
Linen One-piece Dresses, plain or combination Handkerchief Linen	8.75 to 18.50
Cotton Voile Dresses, several smart Models, hand embroidered and Lace trimmed	15.75 to 23.75
Dainty Frocks of Cotton Voile, Linen Gingham, Nets, Pompadour and Figured Tissues and Stripes	8.50 to 12.75
Sport Skirts of striped Chintz Silverbloom, Cotton Gabardine, Pique, Linen, Bedford Cords	5.75 to 12.75
Blouse of Handkerchief Linen, hand embroidered and scalloped edge	5.75
McCutcheon Tailored Linen Shirts of White Handkerchief Linen or colored stripe Linen, smart Pique Collar and Cuffs	5.95

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A handsomely illustrated book showing all Brunswick Home Carom and Pocket Billiard Tables in actual colors, giving easy terms, prices, etc. *Sent Free!* Write for it today.
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BIRDS and FLOWERS

BIRD BATH No. 237 34 in. high BOWL 17 in. wide PRICE $14.00

Hundreds of other exquisite ITALIAN OLD IVORY TINTED POTTERY pieces are shown in our new Garden Pottery Catalog. Bird Baths, shapely vases and pots, and graceful sundials and benches and many other things are included for indoor or outdoor use.

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is weatherproof, tough, hard—and very inexpensive. Send for Catalog. Order direct from the Pottery. We pay freight on all purchases amounting to $5.00 or over East of Denver.

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on your lawn or among your flowers will attract the birds and add to the charm of your garden. The bath illustrated is a new design affording a broad, shallow bathing area which can be enjoyed by fledglings quite as much as by older birds since it is but 4¾ inches from the ground. Reproduced in frost proof, Pompeian Stone. Diameter 26½ inches. Price (F. O. B., N. Y.)........ $5.00

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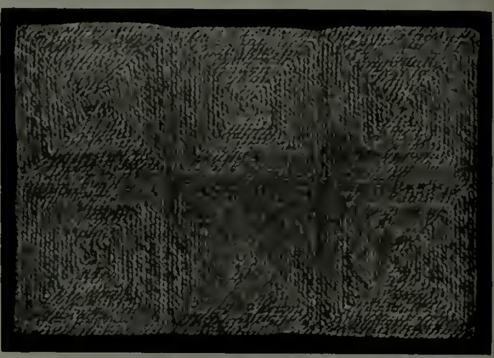
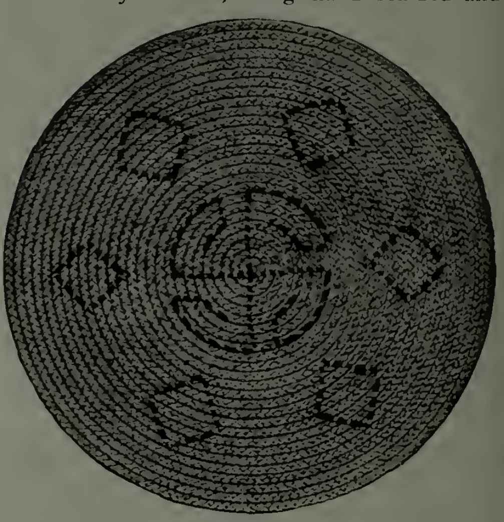
Unique Summer Rugs

OF THE number of unique and highly commendable summer rugs that have made their appearance this year the cotton bedroom rug, at the bottom of the page, is remarkable not only for its attractive double pattern, there being a different one printed in pleasing colors on either side, but also for its excellent manufacture, it being woven with double warp threads that



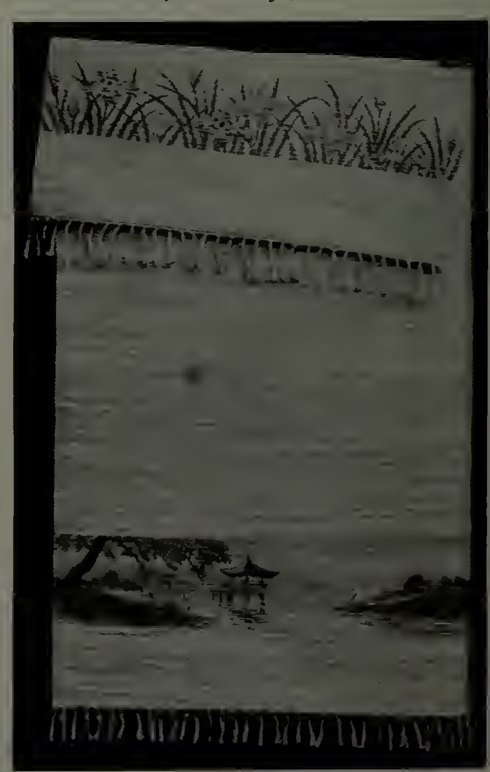
are locked by a deft twist between each two strands of cotton wool which adds greatly to its strength and makes it lie flat. Its very reasonable price is not the least of its attractions. This 3 x 6 ft. one costs but $2.50.

From the Far East comes the attractive rug of banana fibre, shown at the top of this column. This is very durable, being hand braided and



woven into squares that are most securely sewn together. It is excellent for porch use and comes in many sizes. This one, size 2 x 3 ft., costs $1.50.

Even more effective is the round one of hand braided and sewn rushes in natural colors, patterned with woolen strands that give an exceedingly novel and artistic effect. These come in several sizes, both round and oval. This one, 6 feet in diameter, costs only $12.



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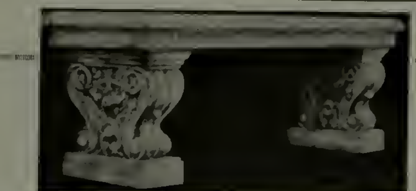

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On the Golf Links

FITTING out one's locker for the beginning of the Piping Rock season of golf, is almost as exciting as buying one's trousseau," said a matron of one winter. And it is exciting because there are so many stunning and effective things to wear in sports this summer.

The box in which this trousseau is taken in the motor to the locker is made of a new light wicker material covered in a highly glazed duck, bound in leather, with corners reinforced. The box is large enough for a week-end visit. It has a tray for convenience, and is lined with brown watered silk, with a large shirred pocket in the top of the box.

As to the trousseau to be packed within, dull monotony has gone, gayety in color and form prevails. The striped silk coats, semi-loose and long, are among the newest things; the Roman stripes are of old rose, sage green, blue, yellow, and black, all on a tan ground. The cut and finish are perfect. It is quite the smart thing to wear a skirt, tie, and stockings to match one color of the Roman stripe—sage green one day, old rose another, until the gauntlet of the colors has been run. Or a plain tan skirt following the color in the hat and stockings. These silk coats come in a variety of colors and are among the latest coats for golfing. A silk sweater is always part of the locker's outfit. They come in the same colors as the Roman stripes in the silk coats.

A golf bag in white canvas with plaid bands and black leather trimming, light in weight and graceful in lines

IF THE HAT IS BECOMING WEAR IT

This is the modern application of an old adage, as it seems that, even in sport, the hat is the apple of a woman's eye She gives it a surreptitious last look, a little pull here and a little pull there until the angle is the most becoming possible before she appears for the game.

The newest sports hat is in fine glazed leather which comes in various shapes and hues. A snappy small sailor in a light mustard color, with a bunch of deep purple plums and green leaves embroidered on the crown in heavy worsteds was most effective. Another hat in an old rose. leather with red ripe cherries and green leaves was most appealing. These glazed leather hats are light in weight and very serviceable, as they have the added value of being rainproof.

The popular openwork hats of last season have appeared in new and wonderful color designs, and are lined with muslin to harmonize with the color of the flowers or birds that are painted on the crown and brim. There are also leghorn hats in more picturesque shapes and painted with large baskets of fruit spreading quite over the hat. These are rather effective for the very young golfer.

Golf boots are less clumsy looking although as strongly made and as durable as in the past. They are in white leather or in canvas and have fancy bits of leather let in as trimming. This model comes in stunning effects in combinations of white and green, white and blue, and white and gray, also in white with black trimming. Then, too, are seen the more conventional golf shoes in tan and the solemn black affairs, but the gayer models are more appealing to-day.

The golf field is a riot of color to-day and a mixed foursome is a most effective group as seen from the club piazza.

A week-end box in black lacquered duck, leather bound and lined with brown watered silk, finished handsomely with gilt locks and snaps. Contents of box include a silk golf suit with skirt in white silk, box plaited, with green silk stripe to match stripe in golf coat. Roman striped silk coat lined with fine white China silk, having a low rolling collar and belt with loose ends. Stockings and shoes to match broad stripe in silk coat. Stockings in white silk with green checked tops. Shoes in white leather with green leather trimming. A stunning outfit for a summer game

LINDSAY GLEN
Of Country Life in America Advertising Department's Service Bureau will be glad to furnish further information or purchase any of the articles mentioned.
Address 11 West 32nd St., New York

MUCH discussion has been caused in the country clubs and the world of golf generally by an article in *Commerce and Finance* on the detriment of golf to men of fifty, that the thunder of disapproval has brought down the vials of wrath upon the head of the author, Theodore Price.

It has been proved by veterans on the links that open air and exercise are excellent for mind and body, in distinct opposition to Mr. Price's theory; but the article has created vast discussion, which begets interest, and interest keeps the man young and active.

Apropos of interest, the day has passed when a man needs to be coatless to be comfortable even in sports. The etiquette of the links demands that he shall be as smartly turned out for the field as for the club house, for to-day there is invariably a gallery to watch the play. Even the older players find the new golf coat a most brilliant success.

A suit which has created popular interest, especially among men whose creature comforts weigh equally with their desire to appear correctly dressed. It has a coat with a pivot sleeve; the especial feature is the expanding plait which is invisible in a normal position, yet gives absolute freedom to the muscles of the arm and the shoulder play.

Golf coat with new pivot sleeve, made in Burberry cloth, wind and rain proof

From addressing the ball to the follow through the long drive, the plait expands automatically. This makes a strong appeal to the comfort-loving golfer. The coat may also be adapted for trap shooting, motoring, and country wear generally.

Scotch tweeds and cheviots are in demand in this model, also golf suits in hand-loomed Donegal homespun. Wind and rain proofed fabrics also appeal for spring and summer wear. Golf coats in Shantung silk are made water-proof; the silk weighs $3\frac{7}{8}$ ounces to the yard, and makes one of the lightest weight coats in use. The knickerbockers are made with a strap cuff, and also with a two-button cuff arrangement.

In the golf shoe there is seen a slight getting away from the monotony which seems characteristic of men's sports clothes. Shoes are varied in style and design, imported English buck with black and tan trimmings being among the newest styles this season; they have either rubber or felt sole. A heavy box calf golf oxford may be fitted with English rubber bottom, and is a most popular make for the older sportsman.

Golf socks come in a bewildering variety—silk socks in white with plain tops, or in brown and tan with the check tops, and an Irish "tweed silk" in brown, green, and heather mixtures in wool with contrasting silk rib are some of the designs.

A pair of soft white chamois gloves has the left hand glove reinforced with leather; this model has not the perforated backs, but has instead special backs which shape themselves to the knuckles.

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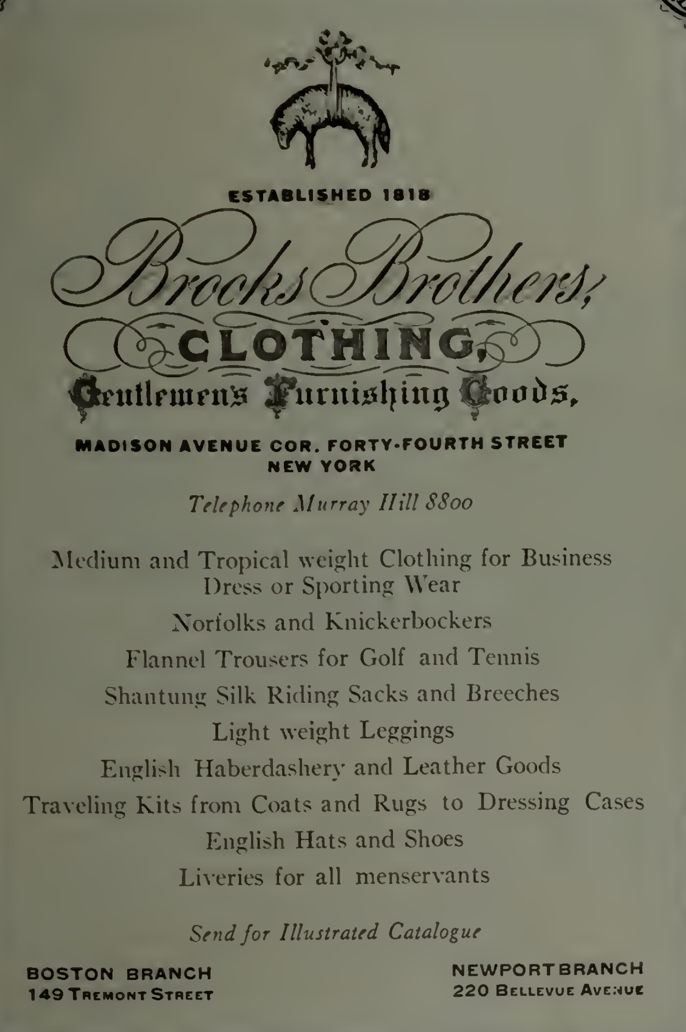

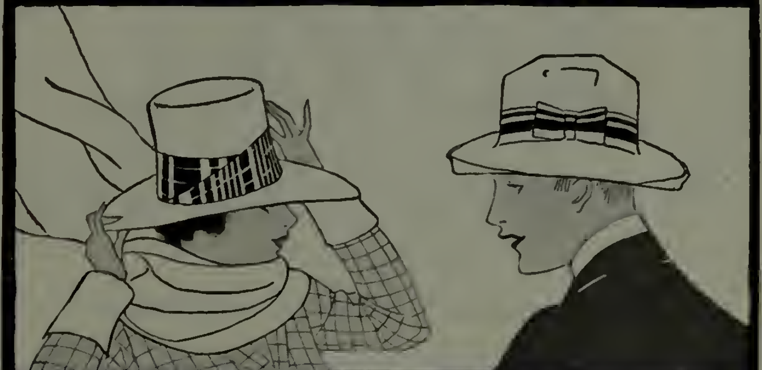

The Vogue of—
WICK FANCY HAT BANDS

COLOR'S the mode—the gorgeous hat-band and the scarlet scarf are gaily flaunting wherever the gleaming yachts and swift limousines glide through the summer breeze.

The newest idea is to have your Wick Hat Band "go" with the costume or suit you happen to be wearing, either in harmony or exquisite contrast—and appreciation was never so keen of *"the little hooks"* on Wick Hat Bands for slipping them on and off.

Get the famous Wick Roman Bayadere—in 84 designs and patterns ($1.50), or the Palm Beach Puggaree, gay with vari-colored silken bars, or one of the English Regimental Stripe Bands, or a plain Grosgrain Ribbon Band, or—but there are *scores* and *scores* to choose from, suitable for a woman's sports hat or a man's straw—mostly 50 cents each, some higher.

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Wick Hat Bands may be seen at hatters, haberdashers and department stores chiefly, but order direct if you like, stating colors preferred. You will get the bands by return mail. Fraternity—Golf—Tennis and Country Club colors made to order.

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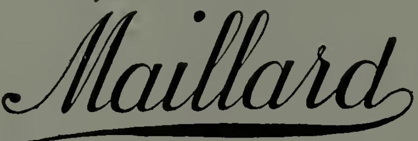
—an exceedingly valuable addition to the diet, because it is rich in the health-giving and strength-affording essentials that you need.

Easy to make—delicious to take



AT ALL GOOD STORES

THERE is no more fitting finish to a delicious dinner than an ice, and the creams and ices may be made in a short time with the new freezer of this season; berries and fruits lend themselves readily for this hasty sweet. The following recipe gives an easy method of preparing the syrup.

FROZEN BERRIES

Take two quarts of fresh strawberries, one pint of sugar, and one quart of water. Boil the water and sugar together half an hour; then add the strawberries, and cook fifteen minutes longer. Let this cool, and freeze. When the beater is taken out add one pint of whipped cream. Preserved fruit can be used instead of fresh. In this case, to each quart of preserves add one quart of water, and freeze.

Prepare raspberries the same as strawberries. When cold, add the juice of three lemons, and freeze. All kinds of canned and preserved fruits can be prepared and frozen in this way.

BISCUIT GLACE

Mix together in a deep bowl or pail one pint of rich cream, one-third cupful of sugar, and one teaspoonful of vanilla extract. Put the mixture in a pan of ice water and whip to a stiff froth. Stir this down and whip again. Skim the froth into a deep dish. When all the

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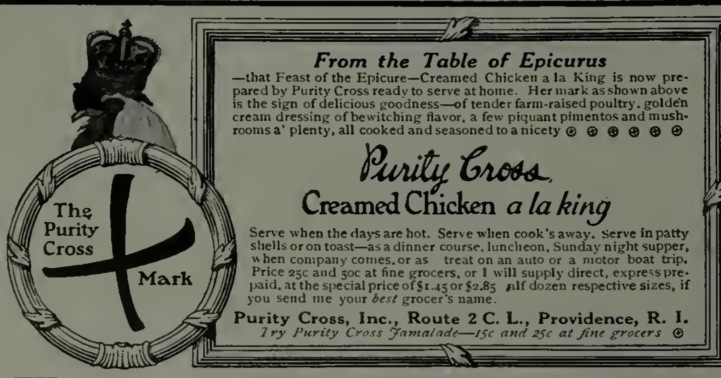
½ Pint—Pint—Quart—½ Gallon



From the Table of Epicurus

—that Feast of the Epicure—Creamed Chicken a la King is now prepared by Purity Cross ready to serve at home. Her mark as shown above is the sign of delicious goodness—of tender farm-raised poultry, golden cream dressing of bewitching flavor, a few piquant pimentos and mushrooms a' plenty, all cooked and seasoned to a nicety

Purity Cross

Creamed Chicken *a la king*

Serve when the days are hot. Serve when cook's away. Serve in patty shells or on toast—as a dinner course, luncheon, Sunday night supper, when company comes, or as treat on an auto or a motor boat trip. Price 25c and 50c at fine grocers, or I will supply direct, express prepaid, at the special price of $1.45 or $2.85 half dozen respective sizes, if you send me your *best* grocer's name.

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Mrs. Frederick is a housewife and mother, Consulting Household Editor of the Ladies Home Journal, and the National Secretary of the Associated Clubs of Domestic Science. *Illustrated. Net* $1.00.

Garden City Doubleday, Page & Company New York

FURTHER information about the products mentioned in this article will be sent upon request, address Miss Ann Remsen, care of Country Life in America, 11 W. 32nd St., N. Y.

cream has been whipped to a froth, fill paper cases with it, and place these in a large tin box (or, the freezer will do) that is nearly buried in ice and salt—two quarts of salt to six of ice, wholly cover with the ice and salt after the cases are put in, and let remain thus for two hours. Then make a pint of strawberry sherbet, put a thin layer of it on each case of cream, and return to the freezer. Let the cases stand half an hour longer, and serve. They should be arranged on a bright napkin, spread on a flat dish.

A sherbet, too, is a delicious sweet and gives a change. A good recipe for lemon sherbet is as follows:

The juice of five lemons, one pint of sugar, one quart of water, one tablespoonful of gelatine. Soak the gelatine for about five minutes in a little of the cold water. Boil one cupful of the water and dissolve the gelatine in it. Mix together the sugar, water, gelatine, and lemon juice, and turn into the can and freeze. This is light and creamy.

DESSERTS

CREAM MERINGUES

These are made similar to kisses, but are put on the paper in oblong shape, and dried two hours. Take from the board and, with a spoon, remove all the soft part. Season half a pint of rich cream with a tablespoonful of sugar and one of wine, or a little vanilla, and whip to a stiff froth. Fill the shells with this, and join them. Or, they may be filled with ice cream. If the meringues are exposed to much heat they are spoiled.

CHOCOLATE WHIPS

One quart of milk, one (ounce) square of chocolate, one generous half cupful of sugar, six eggs, a pinch of salt. Scrape the chocolate fine and put it in a small pan with two tablespoonfuls of the sugar and one of boiling water. When dissolved, add it to a pint and a half of the milk, which should be hot in the double boiler. Beat the eggs and the remainder of the sugar together, add the cold milk, and stir into the boiling milk. Stir constantly until it begins to thicken. Add the salt, and set away to cool. Whip one pint of cream to a stiff froth and season with two tablespoonfuls of sugar and a half teaspoonful of vanilla extract. When the custard is cold, half fill glasses with it, and heap whipped cream upon it. Or, it can be served in one large dish, with the whipped cream on top.

Frozen custard with a chocolate sauce is a tempting dessert and easily made. The recipe is as follows:—

1 quart of cream — 1/2 pound of sugar
Yolks of six eggs — 1 tablespoonful of vanilla

Put the cream on to boil in a farina boiler. Beat the yolks and sugar together until light, and stir into the boiling cream; stir constantly until it thickens, take from the fire, add the vanilla, and stand aside to cool. When cool, freeze. This will serve eight persons.

SAUCES

A peach sauce is a delicious addition to a vanilla cream and is made as follows:

4 large mellow peaches — 1 cup of cream
1 even tablespoonful of cornstarch — 1/2 cup of sugar
1/2 cup of water
Whites of two eggs

Pare and stone the peaches; put them in a saucepan with the water and sugar, stew until tender, then press them through a colander. Put the cream on to boil in a farina boiler; moisten the cornstarch in a little cold water, and stir into the boiling cream; stir until it thickens, then beat into it the peaches and the whites of the eggs beaten to a stiff froth. Stand in a cold place until thoroughly chilled.

Apricot sauce may be made in the same manner, using canned apricots.

FAIRY SAUCE

This is made the same as Hard Sauce, adding a tablespoonful of sherry instead of brandy.

1/2 cup of butter — 1 teaspoonful of vanilla or a tablespoonful of sherry
1 cup of powdered sugar
Whites of two eggs.

Beat the butter to a cream, add gradually the sugar, and beat until very light; add the whites, one at a time, and beat all until very light and frothy, then add gradually the flavoring, and beat again. Heap it on a small dish, sprinkle lightly with grated nutmeg, and stand away on the ice to harden.

June Brides and Berries

Brides and berries come in June—but no matter when they come there is Shredded Wheat Biscuit to welcome them with health, contentment and happy days. In all the joys of June there is nothing to compare with

Shredded Wheat Biscuit

and Strawberries

a combination that is deliciously wholesome and nourishing and is easily and quickly prepared. All the goodness of the whole wheat grain made digestible by steam cooking, shredding and baking. Each little loaf of baked whole wheat is a good meal in itself, containing all the strength-giving nutriment needed for a half-day's work.

Heat one or more Shredded Wheat Biscuits in the oven to restore their crispness; cover with strawberries prepared as for ordinary serving; pour over them cream or milk and sweeten to suit the taste. Deliciously nourishing and satisfying with any kind of berries, or fresh fruits.

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It may give to your place a dignified air of quiet elegance; or convey the impression of taste crudity.

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94 Church St. New York

Refrigeration—

The Vital Hot Weather Question

THERE is a vast amount of difference between a good refrigerator and a poor refrigerator, even though they *look* alike. In this difference lies the whole, vital question of proper refrigeration.

A *good* refrigerator is constructed, insulated and arranged in such a way that it prevents, to the greatest possible degree, the transmission of heat from the outside, and at the same time facilitates the free circulation of air within. This free circulation of air and protection from the outside temperature, constitute the fundamental principles of refrigeration.

The cold air in circulating, maintains the low temperature throughout the food chamber on which the protection and preservation of the food depend; and it carries off and deposits on the ice odors, which, if allowed to remain in the food chamber, would taint its contents.

So much for the importance of having a *good* refrigerator—but with refrigerators all looking much alike, people ask how they can be certain of *getting* a *good* one.

There is one sure way—

Buy your refrigerator from a concern which knows good refrigerators, and will tell you the truth about them.

We know what a good refrigerator is—we sell good refrigerators—ask us questions about any refrigerator we handle—we will answer your questions—and we will stand back of our answers.

There is a size, shape and capacity for every requirement. Catalogues will be sent by mail if desired—or a visit to this store will enable us to assist you in the selection of the proper refrigerator for your home.

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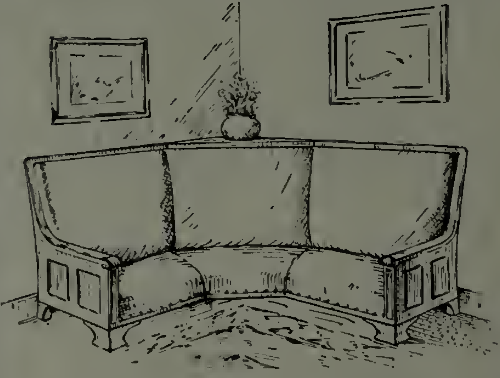

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Some Garden Furnishings

OF THE many joyful hours of summer life in the country the most perfect are those of complete physical relaxation after work or play, around the tea table on the loggia or under the trees. Here, where there is found mental as well as physical stimulus, are enacted the prettiest scenes of life, and it is but meet that these should have a proper and artistic setting.

The English have brought this lawn furnishing to that perfection of taste where one senses no feeling of prearrangement, a condition arrived at only by the careful choice and exact placement of the correct articles. That we are learning this

delightful art is admirably expressed in the two scenes pictured here.

The first one remarkable for its location and arrangement, is commendable for its simplicity, gracefulness, and comfort yielding qualities. Of very hard wood, these articles are hand turned and made, painted with three coats in white and light or dark green. The 7-foot bench costs $50; the chairs $22.50 each, and the table $18.

A trifle more formal though no less effective is the loggia set shown below. This excellent and durable group is made in the same careful manner and in the same colors, but is lower in price, the 3-foot table costing $9, the arm chairs $12 each, and the plain chairs $9.50 each. The 5½ foot settee pictured here ($27.50), is reminiscent

of Chippendale's Chinese designs and will be splendidly effective against greens in a shaded nook of the garden wall.

Then too, when considering garden furnishings one must not overlook the interesting steel sets composed of a stout round table that supports a huge umbrella, adjustable against the rays of the declining sun, and four chairs of steel. These sets, are immensely improved this season by the gay colored slip covers that make them most decorative and effective wherever used. These covers, made to fit exactly the chairs and table, usually take their color and design from the umbrellas, which are of almost Oriental character, having very deep scalloped edges with braided patterns, with long slender tassels suspended from the rib ends. In many different colors and patterns these sets with covers cost from $55 up.

JULY 1916
35 cents
Country Life in America
DOUBLEDAY, PAGE & COMPANY, GARDEN CITY, NEW YORK

Unequalled *for* Convenience—*for* Economy—*for* Service

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When it rains—
When it's dusty—
When it's cold—

And the minute it blows, rains, gets dusty or cold—then you want protection—instantly.

That's why, for most climates—for most occasions—for most people, the closed car is the best car to own.

There are few occasions when any other type of car would serve you better.

There are many occasions when no other type of car will serve you so well.

And among closed cars there are none so permanently reliable and economical to own and drive as these Willys-Knight models.

They cost less to buy because the economies made possible by huge production are here applied to closed car prices.

They cost less to drive because they have the sleeve-valve motor—the most economical motor the world has ever known.

Not only is the sleeve-valve motor the most economical in consumption of gasoline for the power it delivers—

But it will stand more use—even abuse—without mechanical attention or adjustment, than any other motor ever devised.

And it will outlast by many thousand miles any other type of motor.

These are not mere claims—they are universally admitted facts.

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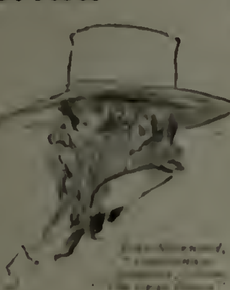

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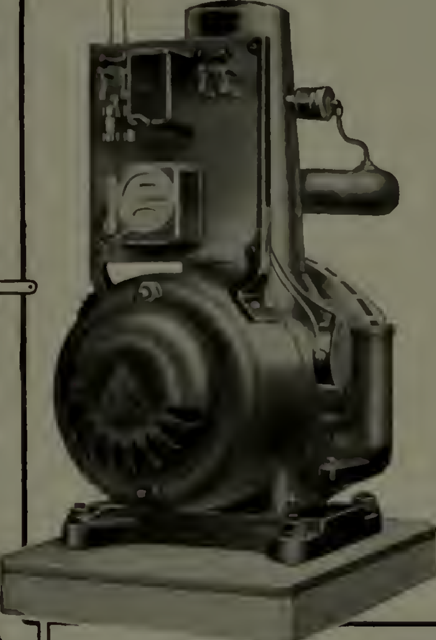

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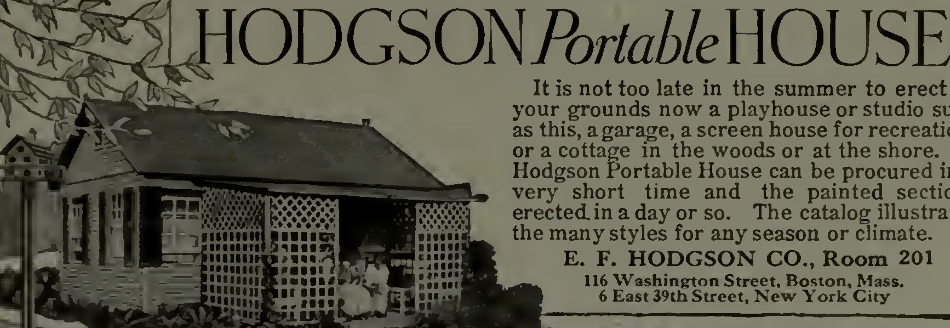

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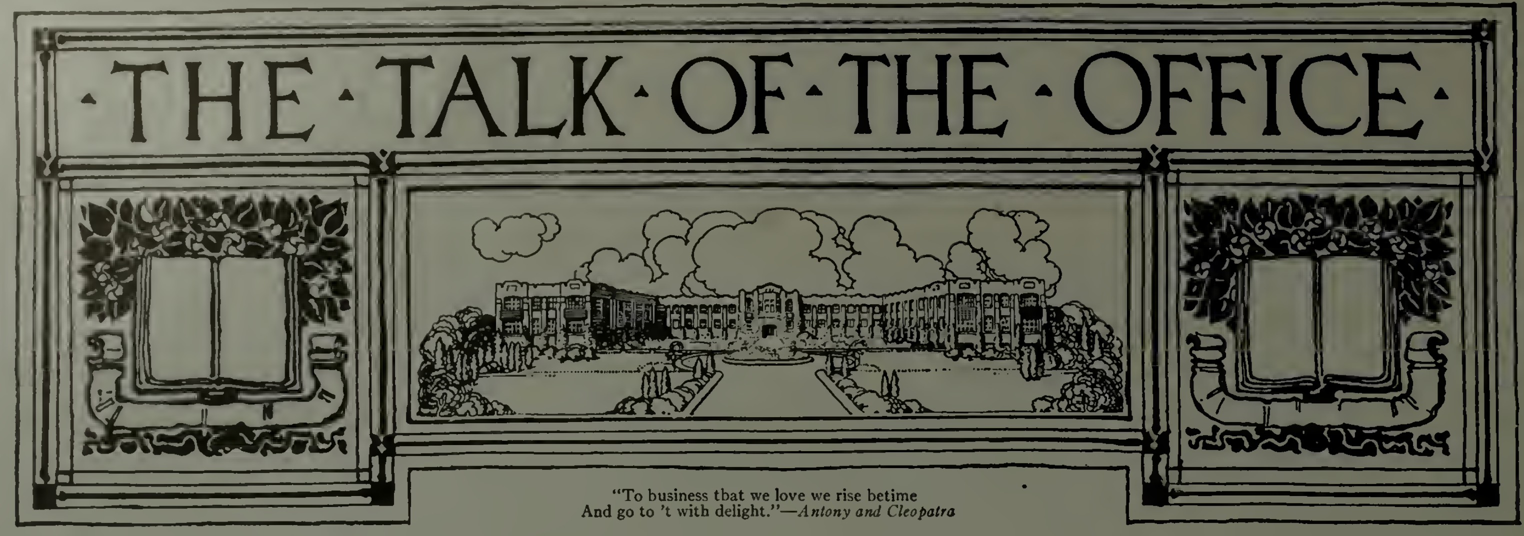


"To business that we love we rise betime
And go to 't with delight."—*Antony and Cleopatra*

O. HENRY

YEAR after year the sale of Sydney Porter's (O. Henry's) books grows. Not far from 125,000 sets have now been sold, and all summer the presses will be busy preparing stock for the fall and winter. There are always interesting things floating about the shop in connection with the name of "O. Henry": for instance, here is a note from Professor Stephen Leacock, of McGill University:

I am greatly obliged for your letter about my essay on O. Henry, and very glad to hear about the English edition. I was first led to O. Henry (two years ago) by noticing that reviewers of my books when they wanted to pay me a compliment said, "There is here at times something that suggests O. Henry"; and when they wanted to do the reverse they said, "Compare this idiotic drivel with such work as that of O. Henry." I wondered who O. Henry was, so one day I went into a store here and asked if they had a book by O. Henry. They had one ("Strictly Business"). I took it home and read as far as the end of "A Municipal Report," then I telephoned to the store and said, "Send to New York and get me every last word that O. Henry wrote."

I imagine that a lot of people have felt that way about his books.

In a new volume of essays by Professor Leacock, entitled "Essays and Literary Studies," there is a most delightful one on the books of O. Henry which was written chiefly to tell English readers that they would do well to try to understand the popularity of the author of "The Four Million." Mr. Leacock writes:

O. Henry is, more than any author who ever wrote in the United States, an American writer. As such his work may well appear to a British reader strange and unusual, and, at a casual glance, not attractive. It looks at first sight as if written in American slang, as if it were the careless unrevised production of a journalist. But this is only the impression of an open page, or at best, a judgment formed by a reader who has had the ill-fortune to light upon the less valuable part of O. Henry's output. Let it be remembered that he wrote more than two hundred stories. Even in Kentucky, where it is claimed that all whiskey is good whiskey, it is admitted that some whiskey is not so good as the rest. So it may be allowed to the most infatuated admirer of O. Henry to admit that some of his stories are not as good as the others. Yet even that admission would be reluctant. . . .

In New York O. Henry's finest work was done—inimitable, unsurpassable stories that make up the volumes entitled "The Four Million," "The Trimmed Lamp," and "The Voice of the City."

Marvelous indeed they are. Written offhand with the bold carelessness of the pen that only genius dare use, but revealing behind them such a glowing of the imagination and such a depth of understanding of the human heart as only genius can make manifest. . .

O. Henry wrote in all two hundred short stories of an average of about fifteen pages each. This was the form in which his literary activity shaped itself by instinct. A novel he never wrote. A play he often meditated but never achieved. One of his books—"Cabbages and Kings"—can make a certain claim to be continuous. But even this is rather a collection of little stories than a single piece of fiction. But it is an error of the grossest kind to say that O. Henry's work is not sustained. In reality his canvas is vast. His New York stories, like those of Central America or of the West, form one great picture as gloriously comprehensive in its scope as the lengthiest novels of a Dickens or the canvas of a Da Vinci. It is only the method that is different, not the result. . .

O. Henry lived some nine years in New York but little known to the public at large. Toward the end there came to him success, a competence and something that might be called celebrity if not fame. But it was marvelous how his light remained hid. The time came when the best known magazines eagerly sought his work. He could have commanded his own price. But the notoriety of noisy success, the personal triumph of literary conspicuousness he neither achieved nor envied. . . . Since his death, his fame in America has grown greater and greater with every year. The laurel wreath that should have crowned his brow is exchanged for the garland laid upon his grave. And the time is coming, let us hope, when the whole English-speaking world will recognize in O. Henry one of the great masters of modern literature.

There is a real biography of Sydney Porter in the making, by Professor C. Alphonso Smith, of the University of Virginia, which will be ready, we confidently expect, this fall, and a volume of his letters will be published some time in the autumn.

A CURIOSITY FROM THE TRENCHES

Mr. E. K. Hoak, the manager of our Pacific Coast office in Los Angeles, sends us this note, which may interest our readers:

Letters are laid upon my desk every month addressed to the publications represented by this office from almost every country in the world regarding investments, travel, communities, lands, etc., on the Pacific Coast and Southwest Country.

Mr. R. B. Bishop, Vice President of the Reynolds Mortgage Company of Fort Worth, Texas, has forwarded to me a clipping from the *World's Work* of an advertisement of the Reynolds Mortgage Company, which was taken from a dead Turk's pocket at the Dardanelles by Corporal S. Renfro, R. A. M. C., a Texas boy serving under British colors, who is now in a hospital at Netley, England, and forwarded by him to Mr. Bishop. In his letter, Renfro says:

"I don't happen to have any money to invest, but you will probably be interested in this bit of paper, with your advertisement, when I tell you where I found it.

"It was one of the most peculiar coincidences I think I've ever had happen to me. I found the page, torn from some American magazine evidently, in a dead Turk's pocket at the Dardanelles. Where the Turk got it from I don't know, unless he took it off one of our chaps, after he had been knocked off. The rest of the page was covered with blood, so I tore it off.

"I am a Greenville boy, and your advertisement brought home right up close to me, although I was in that God-forsaken hole, dodging shrapnel and snipers. I was wounded in the fight at Suvia Bay, on August 7th. It was hell there, and while I was lying in a dugout at the field hospital a Jack Johnson landed on top of the dugout and buried me.

"I came back to England with a set of shattered nerves and a Turkish bullet in my leg, but kept the piece of paper, and I would have sent it before, but have been unable to write on account of my nerves. However, I am much better, and I hope to get my own back on the Turks before this little dispute is settled, but I think I've accounted for a few of them.

"I've a cousin, Elmer Renfro, cashier of the Fort Worth National Bank. If you happen to know him, tell him I've learned to use the .44 Colts I had the last time he saw me.

"I trust you will excuse me taking this liberty, but the idea of sending this to you appealed to me so strongly I couldn't resist it; also, if you have any doubts regarding the circulation of this magazine, whatever it is, this letter will remove those doubts, because it evidently took some circulating to circulate it into that Turk's pocket."

With this letter and clipping, Mr. Bishop writes: "How is this for advertising? I have the original framed and in a conspicuous place on my desk. This was clipped from *World's Work*."

ADVICE ABOUT FINANCE

The story related above impresses us again with the interest shown in what we call The Readers' Service. This department was started about ten years ago in a small way, and was especially aimed to guard our readers as much as possible from get-rich-quick concerns, which were at that time (and are even now, but to a much less degree) taking money out of the pockets of widows, orphans and the inexperienced generally.

At first a very large number of letters came to us asking advice upon investing often large sums in the veriest "cats and dogs" and the most highly speculative stocks. These letters were easy to reply to, because they represented the activities of a gang of crooks which at that time flooded the United States mails with its circulars. Later the Post Office Department attacked the worst of this class. Some went to jail, and many were frightened out of the business. But during all these years letters from people who have money to invest have kept coming in increasing quantities, the intelligence of the would-be buyers has constantly improved, and the queries have represented many, many, millions of dollars.

Our readers in the *World's Work* have seen the hundreds of questions and answers printed in the magazine itself, and know to what pains we go to give reliable information. We have on the staff of the magazine a man who makes this his life work, and the work is done as conscientiously as he knows how to do it. No letter ever leaves our hands, no information or name is ever given to a broker or bondseller, and we hope and believe that we have served our readers well.

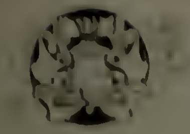
In this Service Department there are many other branches of questions and answers, and every kind of thing is asked about—gardening, bulbs and plants, destructive insects, soils and farm animals. The letters come in hundreds, and sometimes we are tempted to say that if our subscribers would buy and read the Garden and Farm Almanac for 1916, which costs a quarter, a good many of these service letters need never be written.

However, they are all welcome, and the force of the Service Department is always at your command.

THE LIGHTNING CONDUCTOR DISCOVERS AMERICA by the Williamsons, is published, and is selling as it well deserves to do. One fifty at all bookstores.

"THEY SHALL NOT PASS"

Mr. Frank Simonds, who first attracted attention by his articles on the War in the New York Evening *Sun* and afterward in the New York *Tribune*, has written a little book with the above title, and it refers, of course, to Verdun. It is a book which is illuminating and deserves a place beside Kipling's latest two little books, "The Fringes of the Fleet," and "France at War." Ask your bookseller about them.



Photograph by Ella M. Boult

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TO CONTRIBUTORS—While we are always glad to receive and examine manuscripts and photographs, we cannot hold ourselves responsible for them. All manuscripts must be accompanied by sufficient return postage. **TO SUBSCRIBERS—Expirations:** An advance notice of expiration of your subscription will be sent you ten days before actual date of expiration. We enclose an additional reminder in the last magazine of your subscription, if you have not responded to the first notice. By remitting promptly then, you will insure the regular receipt of the magazine.

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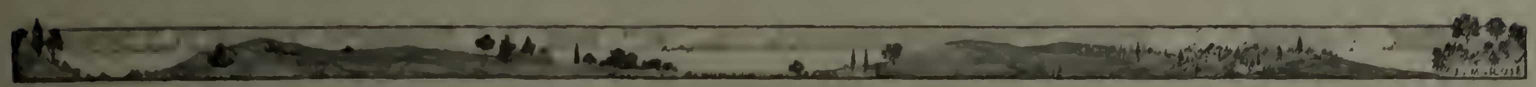
Photograph by R. W. Clement

THE WISSAHICKON BY MOONLIGHT. ONE OF THE LOVELIEST OF PHILADELPHIA'S MANY SUBURBAN BEAUTY SPOTS IS THE WINDING VALLEY OF WISSAHICKON CREEK, WHICH HAS THUS FAR ESCAPED THE BLIGHT OF BEING "IMPROVED"

COUNTRY LIFE IN AMERICA



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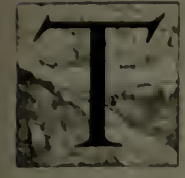
AN ISLAND GARDEN FROM 1652

By THOMAS TRYON



THE garden is old; so old that, in a new country, its story seems almost like a fairy tale whispered by a doting nurse—some recollection of her early days spent on another and larger island where many gardens grow. The ancient gentry have departed, but this spot remains, and its chatelaine of to-day is like her forebears in her love for the garden and her pride in its beauty.

The history of any given American family for 260 years does not usually cluster about one spot, but in this island garden of Sylvester Manor, at Shelter Island, New York, are found all the legends of two and a half centuries. Flowers bloom luxuriantly, lawns are close-clipped to velvet smoothness, there are box hedges two centuries old, splendid trees and shrubbery, long, well-kept roads under forest trees and over grass-grown downs, strange pools of black mystery fringed by water plants, terraces with deep, strong turf, magnificent old trees whose leaves seem to whisper of the Indians and the early days. And over all one hears, almost, the soft-toned voices of those who lie so quietly beneath the near-by rise of land, telling their story of the olden times, of the merry badinage of those who sailed away from the foot of the moss-grown steps at the ancient water gate.

One is tempted to dissent from Dr Cotton when he says:

> "It puzzles much the sages' brains
> "Where Eden stood of yore;
> "Some place it in Arabia's plains,
> "Some say it is no more."

But he never visited this island garden. Of a truth, it is a veritable Garden of Eden where one may invite his soul to ease and drink the brimful cup of joy.

The Manor House is so perfectly proportioned and so well situated, that the garden seems but the proper setting for the gem. It stretches on, acre after acre, around the Manor House. When I use the word garden I do not mean alone the flower garden with its blossoming plants, or the vegetable garden with its ample supply of well-nurtured products, but the park as well, with its woods and drives, the downs with their gay, flower-bordered pools and carefully cultured trees and shrubs, its remarkable lawns sloping to the water, its walls and gateways. All these go to make a perfect whole, and fill one with the joy of realization for who has not dreamed of such a spot? Beautiful in itself, it is full of the memories of an earlier time when men and women lived their lives and helped to make our history.

The Manor House and its garden were the outcome of events which, on this little island, were governed by greater ones in England. Perhaps, if Oliver Cromwell had not lived his forceful and eventful life in England, the early history of this island would have been something quite other than what it is. But Oliver Cromwell lived and won his victories over Charles I, thereby forcing many of the English to flee to America, since their sympathies were with royalty and not with the commonwealth. The first proprietor of the Manor, Nathaniel Sylvester, sought shelter here and brought with him his young wife. She was but sixteen years of age, and in 1652 left a luxurious home and all her family to take, with her young husband, what may have been one of the first bridal trips across the ocean.

The little white gate beyond which lies the old garden

The ship was wrecked and many of the household effects which the young adventurers had brought over with them from their English home were lost. Some, however, were saved at great risk, and among them a cabinet which, though broken open and with much of its contents lost, retained a quaint knife and fork with carnelian handles. These two pieces, in a beautiful Italian filigree silver case, are still preserved in the Manor House. They are such gifts as at that time were given to princesses at their christening.

The history of the island tells us that the first house there was built by Sylvester in 1652 and 1653. It stood for about eighty years, and was succeeded in 1737 by the present Manor House. The new house was constructed largely from materials which had been brought over from England and Holland for the first mansion; the great hand-hewn timbers can be seen still, in places, though those which formed the corners of the rooms are now, as they were then, covered by wood paneling, and are only in evidence as construction.

The bricks for the chimneys and many old dull blue tiles were imported from Holland,

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and of these some are still to be found in various parts of the present dwelling.

At the head of the inlet, just below the Manor, is a stone bridge which is called the watergate. Here moss-grown steps lead down to the landing stage where the old oar-propelled barges drew up to take away those who were to sail in the ships waiting in the bay beyond, or to go over to the mainland for church services or social festivities. A pretty story is told of one of the daughters of the house. As the young lady sat, under a canopy, in a barge propelled by the strong arms of six slaves, the soft light of a summer day resting upon the water was reflected in her face. A stranger young man on shore, watching her approach, was so won by the spell of her beauty and so impressed by her grace and charm that he sought an introduction and became at once enslaved. Of course, as it is a tale of the long ago, he later became her husband.

From these old steps have sailed away many good men and true, and to-day they recall interesting memories of George Fox, Lewis Morris, Edmondson and Winthrop, and a long list of New York's Dutch and English governors, and many well-known men from the neighboring states. From here Whitfield, the preacher, sailed away after exhorting the colonists from the little church. The first proprietor established his domain on much the same lines as his forebears had done in England, and for many years had his own chaplain, who was known as the "priest," although the Lord of the Manor was a staunch Protestant.

The thick, velvety turf of the lawn is unbroken by flower beds, and at the front of the house great elms and maples shade it

Its wonderful old boxwood is one of the garden's chief glories. Bowling green in background

Of one of the early daughters of the house it is told that, being asked on one occasion by a friend if she were not proud of her father's possessions, she answered: "No, I am not proud of my father's ships, nor of our fine linen, nor of our silverware, nor of having costly dresses; I am proud of just one thing—that I know how to spin."

The Manor and its gardens have many legends. Some of them are pleasant, some are not, but all are picturesque. The family ghost appears periodically and looks out, with the beautiful visage of some long-departed lady, from a quaint old mirror which hangs in one of the bed-chambers. Nothing more serious than a look of curiosity seems to characterize the appearance of the ghostly visitor, and, having satisfied herself that the owner of the room is there, she departs.

Another, rather more gruesome, legend is that, upon the approach of the death of the chatelaine of the Manor, a tall, white-robed figure is seen far down the straight avenue of cherry trees, which, in the early days, led up to the house. The figure walks with a stately tread and bows to the ground three times, raises itself, steps forward a short space and bows again; rising a third time and stepping forward once more, it reaches the lawn before the entrance door. Here the spectre stops and bows deliberately, only to disappear as mysteriously as it came.

Among the legends of the house are some connected with Captain Kidd. A local story of the period tells that while sailing along the shores of Long Island the redoubtable captain became short of fresh meat, and landed, at the head of a party of his desperadoes, to search for food. In the yard of the Manor House he came across two pigs, and directed his men, in the casual manner usual with gentlemen of his class, to appropriate them. But the pigs objected strenuously and raised their voices in lusty protest. This racket brought out upon the scene a serving maid, who defied the whole gang and harshly demanded that the pigs be dropped.

Captain Kidd no doubt saw that he had a determined woman to deal with, so in his most honeyed words he explained his needs and tore some links from the gold chain about his neck, which, to judge from the size and weight of these relics, which are cherished at the Manor House to-day, were of far greater value than the pigs. The maid accepted the payment and allowed the pigs to be carried away, and the story and the links have come down to posterity as one of the delightful tales of old.

Outside of the fine old mansion with its paneled walls, its splendid stairway, its old portraits, and countless evidences of other days—the central jewel in the setting of the garden—the garden itself bids us come.

Crossing the thick turf of the lawn shaded by its great elms and maples at the front of the house, we enter the little path which leads

In the water garden flourish an ever-changing variety of water plants

Sylvester Manor. First built in 1[illegible], it was succeeded in 1[illegible]37 by the present mansion

to the garden gate. Fine old box trees, fifteen or eighteen feet high, guard this entrance, and under the arch formed by them is the little gate which is the open sesame to this old, old garden. We swing it back and straight before us lies the box-bordered path. The growth of not less than two centuries, tenderly cared for by generation after generation of its owners, the box here stands to-day nearly six feet in height and fully five feet thick. It is very dense and heavy, with the peculiar perfume which to garden lovers is one of the chief charms of box bushes. The warm sun spreads this spicy odor through the air and tempts you to linger, but still the box is beside you as you enter the pansy maze, a mass of brilliant coloring.

To the left we enter through the box hedge into the fountain garden. Here a dazzling mass of annuals meets the view — phlox, both early and late, asters, a bewildering mass of color, while delicate gypsophila screens with its fine foliage and tiny blossoms the more vigorous plants beneath. These seem set in listening attitudes, as though they heard the gentle splash of the falling water from the old fountain in the centre. A stone seat invites one to rest and meditate while the water sings its merry song. The garden seems haunted by the dim presence of its old-time lovers. How many must have watched these slow-growing box borders attaining their height of eight or ten feet! They lead us on into the terrace garden, full of the beauty of roses, hollyhocks, marguerites, old-fashioned stock, columbine, larkspur, canterbury bells, etc. Wandering here and there through the many little paths that divide the beds in the lower garden, we glance up to a higher terrace and the rose arbors, where masses of pink and deep cream-colored blossoms clamber over graceful trellises. Beyond lies the bowling green, and to the left the tennis courts, whose velvet turf sets one to wondering how it was induced to grow so thick. Here are tree-embowered settees for the idle watcher, and tables from which tea may be served.

The water garden is another revelation as we come upon it, surrounded by great walls of fifteen-foot box hedges. Here flourish water-lilies, blue, pink, and white, papyrus, and an ever-changing varieties of other water plants.

But all this is only one part of the garden. On the other side of the central path lies the Ladies' Walk, which climbs gently over a rise of land, bordered with great masses of hollyhocks, cosmos, and gay lilies, splendid all summer with a profusion of blossoms.

The gentle hand of the Lady of the Manor, Miss Cornelia Horsford (descendant on her mother's side of Nathaniel Sylvester), which directs all this bloom, directs it wisely, and at no season of the year is the garden devoid of welcoming charm. Even in midwinter its masses of old box and other evergreens make it seem as if it were still vigorous in life, and not even for the moment fallen into somnolence.

"The box is still beside you as you enter the pansy maze, a mass of brilliant coloring"

By the driveway, which leads through a quarter mile of forest, with its fine old pines and cedars, purple beeches, and hawthorn, bordered with cornflowers and butter-and-eggs, we enter through the second gate to the wide cultivation before the Manor House itself. The mind that laid out these lawns knew the value of a splendid sweep of green, which slopes away from the house on three sides, to the meadow in the rear, to the water on the west, and to water and park in front.

On the eastern side lies the old garden in its enclosing white fence. These lawns are unbroken by beds of flowers and only here and there an occasional cedar or some well-trimmed shrub catches the eye.

Down along the water's edge is a rampart of plants which in the late afternoon is ablaze with color from the setting sun, and out across the inlet to the larger bay beyond, the color lies on the water in masses of red and gold streaked with shafts of silver and colder steel. Through this Oriental splendor floats a procession of ducks, black as night, though white in very truth, for their pure white becomes as black against the luminous quality of the light from the setting sun. One turns from picture to picture, from splendid masses of color and gorgeous piles of green to gentle nooks and corners where shy flowers peep out to welcome one. Which is most beautiful?

Surely, like the Queen of Sheba, we can say "the half has not been told."

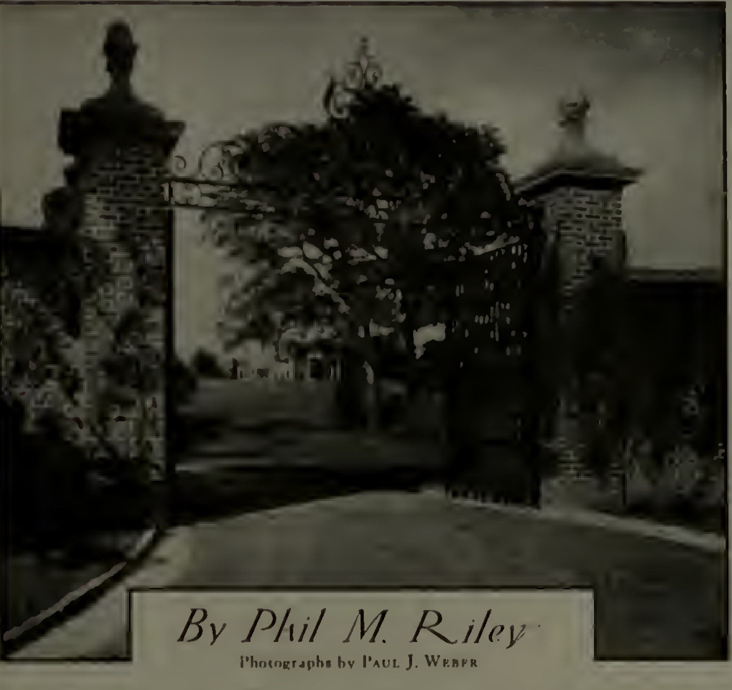
In the lower garden looking toward the upper terrace

SUMMER AND WINTER

To him who in the love of Nature holds
Communion with her visible forms, she speaks
A various language.

Photographs taken from the same point by I. T. Parker

SCALEBY — A NEW MANSION *of the* SOUTH



By Phil M. Riley

Photographs by PAUL J. WEBER

EVERY country has a dominant style in architecture possessed of distinguishing traits expressive of the character and life of the people, and representing the best thought of its architects. With us the real American style is, always has been, and probably always will be Colonial. It is our own and we cherish it.

It was with some such thought in mind that I rode along the Winchester and Berry's Ferry Pike through the half mile of lush, green countryside from the railway station at Boyce toward Scaleby, the Virginia home of Mr. and Mrs. Henry B. Gilpin. Early impressions influence the entire subsequent viewpoint, and mine were formed when the entrance of the estate came into view, the curved face of its flanking brick walls partly clothed with English ivy and sunflecked through the branches of great, overhanging oaks. The ornamental iron gates stood open that they might not belie the two stone pineapples—emblems of hospitality—surmounting the high brick piers.

The first glimpse of Scaleby from a bend in the carriage drive foretells a house of exceptional distinction, even for the Old Dominion. Its simple stateliness makes instant appeal no less than does its sincerity and directness of arrangement. Despite its great size and obvious costliness, the effect, though formal, holds a genuine note of hospitality, the result of spontaneous design, restrained ornamentation, and harmonious interrelation of its several principal features.

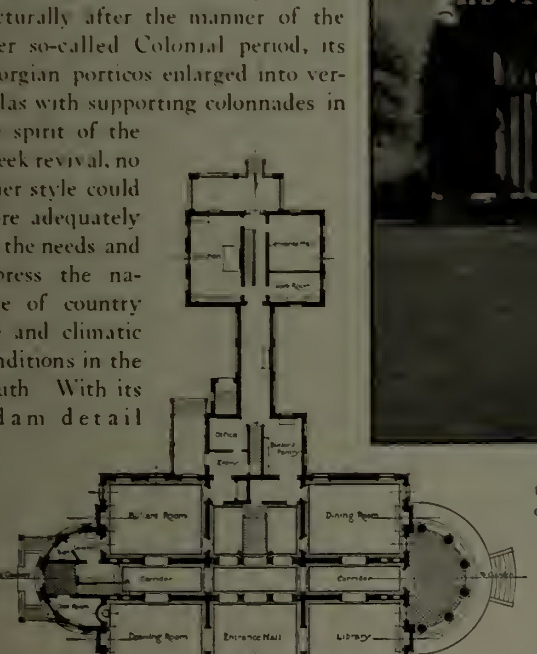
Every approach to the house lies somewhat below the level of the structure itself, a fact that accentuates its stateliness yet emphasizes the comfort as well as dignity of its porticos. Situated thus at the crest of a knoll, about 300 yards from the pike, the house commands magnificent views northward and southward along the Shenandoah Valley. Architecturally after the manner of the later so-called Colonial period, its Georgian porticos enlarged into verandas with supporting colonnades in the spirit of the Greek revival, no other style could more adequately fill the needs and express the nature of country life and climatic conditions in the South. With its Adam detail throughout, it embodies the best traditions of the South with the highest ideals of American architecture. It is of substantial fireproof construction, as indicated by the heavy stone masonry of the basement, the thick side walls of brick, the floors and partition walls of reinforced concrete, and the roof of Vermont slate supported on steel beams.

The house is three stories in height and 67 x 100½ feet ground dimensions, its rectangularity being relieved by semicircular wings to the eastward and westward. It fronts only a little east of south, the roof line of the massive front portico taking the form of an architrave supported by six carefully proportioned Ionic columns. The eastward wing consists of a two-story semicircular portico supported by six columns and fronting upon the garden, while the westward wing, of corresponding form, including six flat pilasters, provides the carriage entrance with its porte cochère. The hipped roof, its broad expanse broken on all sides by well proportioned dormers, terminates in a belvedere 30 x 50 feet, reached through a trap door of steel weighing a ton, yet so accurately balanced that a child can raise it.

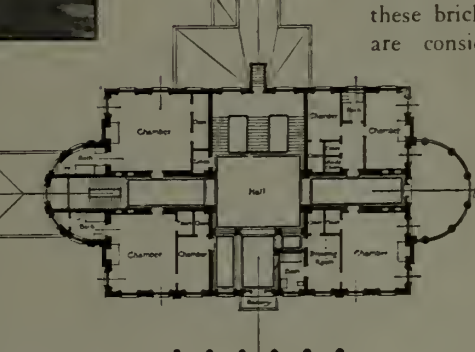
There is a separate two-story building for the service quarters, connected with the main house only by a long corridor, and containing fourteen rooms and a generous veranda, including kitchen, sitting room, linen closet, laundry, store room, and several bedrooms. These, together with the rooms of the main house, make a total of thirty-eight. The east portico, or two-story veranda, perpetuates a distinctly Southern innovation of the early builders, who did not hesitate to sacrifice classic precedents to convenience. As a whole the structure is almost devoid of ornamentation other than the columns, chimneys, dormers, and belvedere; the form of the house is its own ornamentation, its simple structural features having been planned to give the effect desired.

The chief construction material is brick ranging in color from salmon red to old rose and purple, and laid up in regular Flemish bond with warm gray mortar, the joints struck and slightly cut at the top. In size these bricks are consid-

The semicircular portico overlooking the garden to the east of the house. The path of stepping stones is on axis, with the east and west corridor



First floor plan. The broad main hall extending through the house from north to south, and the corridor which crosses it at right angles provide magnificent vistas



On the second floor there is no direct connection between the main house and the service portion, the ground-floor corridor between being reached by a stairway

The west wing corresponds in form to the circular portico on the east, six flat pilasters taking the place of the portico columns. The great chimneys here break the skyline effectively

The vista of columns framing the stairway forms an imposing picture, dignified and harmonious

erably larger than those of the present day, corresponding to those of the old Annapolis Court House, of which molds were taken. All of the columns, pilasters, portico architraves, and the south portico floor are of white marble; the east portico floor is of large, square, red tiles, and the roof is of unbleached Vermont slate.

Scaleby boasts only a relatively moderate number of rooms, but each is of generous size and eloquent of the genius of the architect in adaptation of classic detail. The hardware throughout was designed after old examples, and patterns for much of the composition work of cornices and the like were obtained from famous old houses.

Corresponding with the external appearance, the interior arrangement is generally symmetrical. A broad main hall extends entirely through the house from north to south, while a long, barrel-ceiled corridor extends each way from east to west.

To the right, in the main hall, double glazed doors of mahogany open into the library, as do corresponding doors into the drawing room to the left; farther back, single wood doors open into the dining room to the right and the billiard room to the left, while at the rear a door at one side opens into the farm office, and another at the opposite side of the stairway, into the butler's pantry adjoining the dining room. Two heavy beams bearing complete entablatures, supported by four fluted Ionic columns and four pilasters, continue the lines of the east and west corridor across the main hall, and this vista of columns frames the splendid stairway at the rear of the hall as one enters the front door. The stairway, its lower run 18 feet wide, rises to a broad half-way landing extending across the entire breadth of the hall, from whence wing flights rise in reverse direction to the floor above. Two high Palladian windows light the stairway and second floor main hall, and between them a door from the landing opens upon a short stairway leading down to the service corridor.

In the second floor hall, looking south toward the entrance front of the house

In the main hall and corridors, as in all the rooms of the first and second floors, except the billiard room, the woodwork is of white pine, the general color scheme of the paint and fresco work being old ivory. Most of the floors throughout the house consist of a double thickness of selected Georgia pine, tongued and grooved. For the upper floor and the stair-treads, quarter-sawed, waxed in its natural color, and brought to a high polish, it accords well with the ivory woodwork.

The wainscoated library, with its great fireplace, has built-in mahogany bookcases on two sides. Across the main hall, the drawing room has been worked out on a more pretentious scale. This applies to the cornice and ceiling, with their intricate fine-scale detail, the ornamentation of the doorway lintels, and also the wainscot with its superbly paneled dado and dainty scroll-pattern surbase.

The harmony of line and proportion of the broad molded panels in the dining room is excellent

Unlike any other part of the house, the dining room is paneled from floor to ceiling, an appropriate treatment in that it is the formal room of the house.

Several purposes are served by the billiard room. Primarily it is a masculine retreat, provided with a billiard and card table and facilities for smoking. Its treatment throughout is typically old English, with high paneled wainscot, all standing finish, mantel, floor, and furniture being in fumed oak.

The second floor has the same general plan as the first. The stairway leads to a broad hall or second-floor living room that extends to the front of the house and opens out upon a small ornamental iron balcony over the front doorway, but under the portico. An east and west corridor with low

The water tower is a clever reproduction of the famous ruined tower at Newport

The house from the garden, giving a glimpse of the entrance doorway under the south portico. The delicacy of detail in the fluted colonnettes, molded lintel, and fan and sidelights of this doorway is especially noteworthy

Glazed doors open from the library into the hall and into the corridor

On the second floor an east and west corridor with low elliptical arches corresponds to the one below

elliptical arches each side of the main hall corresponds to that below. Its east end opens upon the second floor of the semicircular portico, and at the west end the stairway to the third floor begins. On the second floor there are five bedchambers—four of them very large, with fireplaces and attractive mantels—four dressing rooms, and four bathrooms.

On the third floor there are four additional bedchambers and a hall room which are used only occasionally when the house happens to be full; also a ballroom 30 x 52 feet, lighted by six dormer windows. The latter is intended primarily for merrymaking, and has no architectural pretension. On this floor, too, Mrs. Gilpin has her Christmas room. There are more than 200 names on the Scaleby Christmas list, so that gift shopping can by no means be confined to Christmas week. Wherever and whenever anything is seen that seems appropriate for a gift, it is sent to this room for safekeeping. Wrapping and packing materials are at hand on a large centre table, in anticipation of the time to assign and send the gifts. This plan makes easy work of a really big task, and should appeal to all similarly situated.

Heat for the entire house is provided by two steam boilers in the basement. All radiators are concealed in partition walls behind brass gratings. A separate small heater provides hot water in summer. About a hundred yards north of the house, a private power plant furnishes the light, direct by day and early evening, and through the medium of a storage battery at night. The same gasolene engine which operates the dynamo also pumps water from an artesian well 275 feet deep.

There are several other outbuildings, including the ever-present smoke house, an important adjunct to every Southern homestead, a brick stable to the west of the house, and a fire-proof garage. All have been designed by the same architect who designed the mansion, Howard Sill, and erected by the same builder, Charles Morgan Marshall.

Sunken and terraced gardens are being developed to the east of the house, a succession of roses of many sorts being the chief feature. A pergola of weathered chestnut timbers supported by round concrete columns and located on axis with the east and west corridor of the house is the most important architectural feature. A path of irregular stone slabs leads from the east portico to it, and then winds on in picturesque fashion through the garden, past a charming little summer house and gazing globe, into an orchard below. Following the red-tiled path through the pergola, one comes to a circle within which a sundial marks the passing hour. From the wooden arbor just beyond, may be enjoyed one of the best views on the estate of the Shenandoah Valley and the Blue Ridge Mountains. Sitting here, one notices also, slightly to the northward of the house, another picturesque feature of the grounds—a stone tower, incomplete, and in imitation of the famous ruin at Newport, R. I., containing the tank from which the gardens are watered. The rainwater from the roof of the house collects in a 12,000-gallon tank under the tower. After being used in the power house for cooling the gasolene engine the water is pumped to a 6,000-gallon tank within the tower, from which it flows by gravity to the various faucets about the garden and grounds.

Mr. and Mrs. Gilpin realize that the making of a home is as enjoyable as occupation of the finished product—perhaps more so. They do not expect to exhaust the vast possibilities for beautifying and developing this great estate; neither do they anticipate that their children will do so. It will take generations to paint the perfect picture.

"There is something about the race with jumps that makes the man who has once ridden it . . . . forget all such unpleasant details as a broken collar bone or a bent rib now and again."
Third jump of the Greentree Steeplechase

The RENASCENCE *of* AMATEUR HORSE RACING

By Reginald McIntosh Cleveland

PHOTOGRAPHS BY EDWIN LEVICK

THROUGH a combination of circumstances, the turf has had an accession of amateur enthusiasts this year unequaled in the history of the "sport of kings" in this country. Never before have there been such important amateur race meets, such fat purses for the fortunate winners, or such crowded cards for races of all types and at all distances. Even the ardent supporter of horse racing is tempted to ask why this sudden blossoming of the sport, but the reasons, although many, are not far to seek.

In the first place, the war, at the door of which so many things otherwise inexplicable are laid, is, in this instance, a real and an important factor in the situation. The necessary dispersal of many of the most important racing stables in England and on the Continent has led to an importation of tried horses into this country hitherto undreamed of. Scores of the timber-toppers and successful track horses that have done well on the historic courses of the old world have thus become available to enrich the sport in this country.

Moreover, this breaking up of the European stables came at precisely the psychological moment so far as conditions on this side of the water were concerned, because prosperity was waxing apace, and the war—which seems inevitably to be the scapegoat — by the development of the "war brides" and their abundant profits, had created new homes for the very horses which it turned out of doors on their native heath. The opportunity was too attractive to be overlooked and race-horse-loving American sportsmen have stepped handsomely into the breach.

But conditions in Europe, after all, although they have had a real bearing on the renascence of amateur racing, have not been the only contributing causes. If there had been no war it is safe to say that the season would have demonstrated, none the less, an increased patronage of these meets founded on their true merit as a sport. There is enough of the blood of the landed gentry and the country squire in most of us to be set atingle by the thud of hoofs on the turf or the sailing leap of the steeplechase. Indeed, aside from its relation to our traditions or inheritance, amateur racing is closely associated with forward moving tendencies of modern country life, one of the most interesting of which is the breeding of thoroughbred horses and hunters. The sport is admittedly one for the few rather than the many, as it can be indulged in in any large way only by those blessed with this world's goods. But this restriction applies, of course, only to those who enter horses. For the rest there are the panoply of colors, the thrill of the jumps, or the breathless moments of the home stretch.

For those who have the wherewithal to enter their own horses, and especially to breed them, this season is an ideal opportunity. More than 200 horses of varying ages, the best blood in England, have been imported from the British Isles alone. There are colts by noted sires and fillies galore—in fact, an unprecedented abundance of material with which to start or fill out a stud. Great improvement is sure to follow this infusion of new blood in the quality of the flat racers in this country, but the most marked effect is likely to be in the development of a race of home-bred steeplechasers.

In this country we have been content, for the most part, to rely for our timber-toppers on a hunter with a bit more than the usual speed or on some flat racer with an unusual amount of substance that could be taught to jump. This, it goes without saying, is approaching the problem from the wrong end. What

The Mineola high weight handicap — coming down the stretch with Culvert in the lead

we want is a race of steeplechasers, bred especially to have the bone, stamina, size, and speed necessary for this exacting form of racing. With the horseflesh which the present season has brought into the country and the evident interest which horse lovers and racing enthusiasts have aroused in the game, there is no reason why we should not be able to produce such horses and hold steeplechases that for the quality of the field will rival the famous ones that have been run on John Bull's "tight little island," such as the long chases at Sandown Park or the Grand National at Aintree.

At Hewlett Bay, where the opening meet of the season is held each year. Mr Foxhall P. Keene's Toreador (in foreground), who won the Rockaway Cup this year

The race with jumps is a sport which grips the onlooker as do few others, with its tang of real danger and its spectacular settings. But, above all it is a sport which holds its riders in thrall. How firmly its grip takes hold of its devotees was illustrated in the second day's meet at Hewlett Bay Park on May 6th, when, in one of the races, three of the four horses to finish in the money were ridden by brothers, the Messrs. Tucker, enthusiastic gentlemen riders all. There was some spirited racing at this meet.

There is something about the course over jumps that makes the man who has once ridden it long to come back for more; that makes him forget all such unpleasant details as a broken collar bone or a bent rib now and again. The bunched scurry to the first jump, the take off and landing with a moment of speculation as to how the footing may be on the other side, the careful husbanding of one's mount with an eye to the distance and the rest of the field, the delicate negotiation of the "water" perhaps, and, at last, the satisfaction of the pell-mell drive up the home stretch. This is a sport which keeps a man in the saddle far into his veteran days.

Those who saw Foxhall P. Keene ride a wonderful race at the Rockaway Hunting Club's meet last year and win again the trophy for which he had successfully ridden for two decades before, need no argument to be convinced that racing over the jumps is one of the forms of sport which belie the axiom that youth will be served, and will understand why "once a steeplechaser, always a steeplechaser" is a maxim not without justification. This year, although Mr. Keene was not up, his same horse, Toreador, won the Rockaway Cup in handsome style, with several lengths to spare.

Certainly no race meets, amateur or otherwise, could ask a better setting than is to be found at the Hewlett Bay Park course, where the opening meet of the year is held each season under the auspices of the veteran Rockaway Hunting Club. It has been likened frequently to the famous cup course at Melbourne, Australia. The course lies over natural hunting country, entirely within view of the stands and the paddock, and, by way of background for the bright colors of the racing silks, there is the Atlantic itself. Another exceedingly attractive course from the point of view of the onlooker is that at Locust Valley, where the Piping Rock Racing Association held its annual meet early in June. There, as every follower of the ponies knows, the lawn back of the club house forms a high terrace, and the panorama of steeplechase or flat race is spread out before one with wonderful freedom.

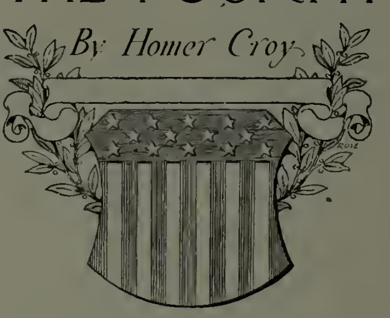
The largest and most important of the race meets, that of the United Hunts Racing Association, held at the Belmont Park Terminal, has not so picturesque a setting, perhaps, but it is one that has no lack of practical advantages. In all, $13,500 in purses in addition to a deal of valuable plate was put up this year for thirteen races in this meet, including one purse of $5,000 for the big steeplechase bearing the name of the meet. This was by far the largest purse ever offered for an amateur race in this country, but the event, a chase for seasoned horses four years old or over, under handicap and over a course of two and one half miles, was worth it. This Association alone in the first three months of the year gained more than eighty new members, which is strong evidence of the favor in which racing is held. The members subscribed, early in the season, to a guarantee fund of $25,000 for this meet.

Meets which are still to be held are those of the Country Club of Brookline, Mass., which closes the spring season, and the fall meets, including those of the new Rumson Hunt and Steeplechase Association of Rumson, N. J. and, probably, further meets by the United Hunts and the Rockaway Hunting Club. The Rumson meeting will be a new one on the calendar this year, but its announcement is not to be wondered at, for the dwellers in that section of New Jersey have long been enthusiastic followers of horse shows, hunting, and gymkanas, and the holding of a real race meet is no more than the full blossoming of these promising buds of sporting spirit. Where a nucleus of people who really love the thoroughbred can be found, the formation of a racing association is the logical thing to expect, and a crop of new organizations of this character may be looked for before another season rolls by.

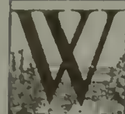
The sport is attracting surprising numbers, but not numbers only. It has enrolled a type of man, in nearly all cases, that stands for the development of many kinds of outdoor sport in this country. It is notoriously dangerous to prophesy, but if anything can be learned from the amateur racing season which is now passing into history, it is that horse racing will continue to grow in popularity; and last, but by no means least, that the quality and quantity of thoroughbred horses in this country will continue rapidly on the upward course.

At the Meadowbrook Steeplechase Association meet at Mr. Harry Payne Whitney's private track in Wheatley Hills. Start of the Rats' Cup race, a handicap for registered hunters

HOW ONE TOWN CELEBRATED THE FOURTH



A flashlight of the Colonial pageant, with our artistic railroad station as a background



WHEN one of our neighbor boys had his thumb torn off and another boy's eye hung in doubt for a week, we decided to have a Fourth that didn't require so much medical attention. So we hit upon a celebration that we have been giving for three years now.

Our town—picturesquely called Forest Hills, probably for the reason that it has neither forests nor hills—is like hundreds of others in the United States; it's a commuting suburb where everybody goes in on the 8:10 buried in his newspaper, and comes out on the 5:15 buried under bundles.

After a lot of talking and scheming and exploded bubbles we evolved a celebration that gives us all the thrills of an old-time anniversary without the hospital care. On looking our proposition square in the face we found that the whole kit and boodle of us had been going off some place else to celebrate the day; we were laboring under the delusion that if we went a long way off and spent a lot of money, we were having a rip-roaring good time. We didn't know that the four-leaf clover was growing in our own front yard.

Our first resolve was to stir up some excitement at home. So a strong-arm committee was appointed to go around to the different families and extract money. They put the proposition to them from the shoulder; a father couldn't hope to take his family out for the day and show them much of a time without parting company forever with a five-dollar bill. Now, why not trust the committee with the amount of money he would spend, and have the pleasure within a few blocks of his door? The contributors were a little doubtful at first as to how much of a time they would have, but finally the money squad reported that we had enough to make a stab at it. That was the first year—now it comes easy.

On resolving the proposition to its elements we found that the boys would have to be looked after first. They were the ones to be considered in planning a celebration. We wanted to find some way to keep them interested and to keep them whole. The first secret in keeping a boy interested is keeping him busy; there is no truer axiom than the one about the devil and idle hands. And the way to keep a boy busy is to keep him in competition with his kind. He won't want cannon crackers if he can have three-legged races. So we got up a lot of races and competitive games for the boys: wheelbarrow races, sack races, potato races, and so on clear down the line.

Then the girls had to be looked after; the same sport amuses a girl, except that it has to have a few ribbons on it. So we gave them plenty of games and competitions, but of such a nature that they didn't have to get down on their hands and knees to carry them out. A girl can't have any fun if her hands are dirty. We got around this by procuring a large canvas sheet and spreading it over a section of our main street; then if a girl came down on her elbow, a spot on her dotted swiss didn't make her feel bad all the afternoon.

After the boys and girls had been looked after, attention was devoted to the grown-ups. For them just enough of games to give the day a tang; just dignified enough to get them to come in; and just rough enough to muss them up and make them laugh. A girl falling down before a crowd doesn't like it, but a woman getting her hair mussed up before a crowd is having a good time. A happy combination of dignity and mussing was found in barrel tilting contests. A barrel was sawed in two, and the two ends placed ten feet apart, with the bottoms up; two contestants mounted these, pole in hand; the ends of the poles were padded. The two celebrators would lunge at each other, trying to see who could be first to push the other off and yet remain on herself. It may sound easy, but you'll find that the actual practice uses up a lot of oxygen. There were championship jousts between men and men, women and women, and then between the two.

For the stouter residents who didn't care to risk a barrel top, there were tossing games, where a circle had to be thrown over a peg; and for those who went in for muscularity a tennis game was in progress. The secret is in finding something that sometime during the day appeals to every person. A Fourth isn't much of a success where a handful of people do all the celebrating. People don't want their pleasure by proxy. From ten in the morning until ten at night a programme was in progress. There was something doing all the time—not always wildly exciting, but of interest to somebody.

The older people had almost as much fun at the games as the children did

One of our pretty features was the dedicating of the bird fountain. We had maneuvered around until we had got a bird park. In the middle of it was an artistic fountain where the birds could quench their thirst. Our little town on Long Island is miles away from fresh water, so we found that one reason why we were so short of birds was that they had no drinking place. Hence our bird fountain. With newspapers spread on the grass, we sat around while an imported dancer gave us some open-air classic dances. Barefooted and in costume, she put on several delightful numbers. Each was an interpretative dance, and one was an invitation to the birds, where she lightly and gracefully scattered seeds for them.

Getting ready for the potato race There was not an idle moment all day long

With newspapers spread on the grass, we sat around while an imported dancer gave us some classic dances

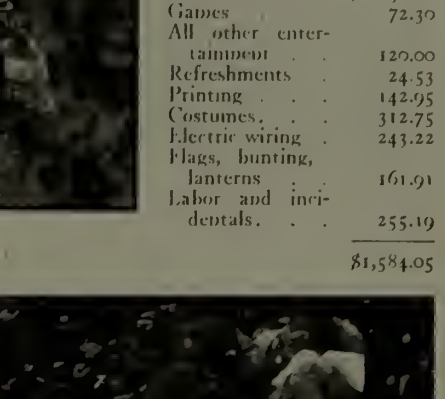
When we first got into our proposition the night was our chief bugbear. What could we do to interest the people at night? It seemed almost unloyal not to have firecrackers, but firecrackers filled the hospitals, so we decided to get along without them in any way, shape, or form. In their place we had three things: music, dancing, and a pageant. We hired a band — a good one — and then on the same canvas upon which we had played games earlier in the day, we danced. After that we had our pageant—a big pageant with a hundred people in it. The parts were taken in costume by our townspeople, men and women alike. From a professional costumer in the city we rented Uncle Sams, Molly Pitchers, and Paul Reveres until we could have almost put on a Revolution. We have an artistic railroad station with art steps, and these we used as a stage entrance. The pageant people came out of the station, down the steps, and on to the stage as if they were regulars at the Metropolitan.

We had a spotlight so that we could bring into view the character that we wanted. In the trees we had lights that we could turn off and on, so that our pageant had all the background of a professional entertainment.

The boy scouts acted as ushers, the band played, Uncle Sam danced with Columbia, and the evening went off with all the enthusiasm of a first circus.

Here are our expenses verified and audited by our committee:

Music . . .	$ 251.20
Games	72.30
All other entertainment . .	120.00
Refreshments .	24.53
Printing . . .	142.95
Costumes. . .	312.75
Electric wiring .	243.22
Flags, bunting, lanterns . .	161.91
Labor and incidentals. . .	255.19
	$1,584.05



This could be cut down by a town that didn't want to go into it so enthusiastically. The reason the band cost so much was that we had a military band, which played in the morning and all the evening. The printing bill was large because in our town we haven't a newspaper and had to put up posters. The electric wiring in trees was expensive and could be done away with by a town not collecting so much. Our flags and bunting were bought outright and we are keeping them for future use. In fact, a great deal of our paraphernalia we are going to keep as civic property for annual use.

Little Elma Rae stood beside the Boy in the Woods and spoke a piece, and our bird fountain was dedicated

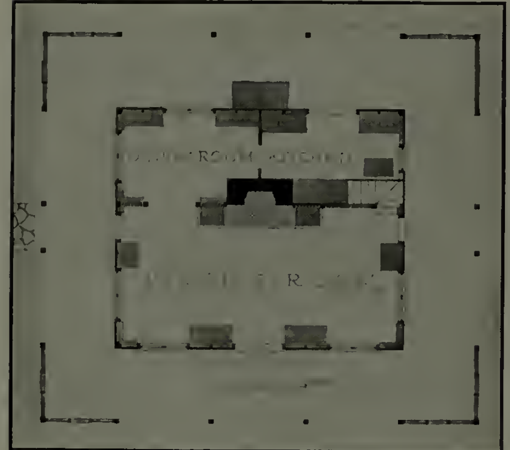
But we collected enough money to pay every cent of expense, and as there wasn't a single firecracker fired in Forest Hills that day, and as our boys and girls begin talking about the Fourth the day after Christmas, we think the money well spent.

But what we are proudest of is that every boy in our town went to bed that night with all his fingers and toes, and even more loyal citizens than if they had put match to gunpowder from dawn till curfew.

A close-up of those who performed in our Colonial pageant

Perspective of the island bungalow. On the left is a point of the mainland, and at the right the channel entrance to the harbor village three miles away. Albert Randolph Ross, architect

AN ARCHITECT'S BUNGALOW ON THE COAST OF MAINE



On the first floor are but three rooms—dining room, kitchen, and 30-foot living room

SOME years ago, becoming dissatisfied with the city life at so-called country resorts, I resolved to seek a strip of land and build a shack of my own. "Go to Maine," said a down-east friend. "You may be disappointed on landing; but stay three days and you'll stay a lifetime."

I certainly was disappointed on landing. It was in a drizzling rain on a cold and foggy July morning. But I stayed, and the next day breaking fair, everything scintillated in the warm sun, and I'm still staying.

Before the season was over I had acquired a fifteen-acre island, lying a couple of miles off shore, thickly covered on the lee half with virginal spruce, and built myself a bungalow; and I have had so much pleasure improving this little place, the past ten summers, that it has occurred to me that a sketch of it may be interesting to others likewise inclined. (Full details of construction are given on page 58.)

I planned a building to accommodate comfortably my wife and myself, and possibly a half dozen guests; an outbuilding for two servants and laundry; a kitchen garden; a wharf landing; and a flag standard.

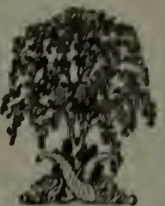
The ocean end of the island points southwest toward the sea breezes, and is fifty feet above mean tide, the tide variations being some ten feet. It is comparatively free of trees here, so at this point, on the highest knoll, I placed the house, with the living room on the side toward the open sea. On the left is a point of mainland and at the right the channel entrance to the harbor village three miles away.

Second floor. The central space is partitioned by folding glazed doors, which may be left open to make one large room

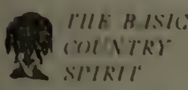
In deciding on the bungalow type I wished not only a piazza all round, to give always a lee side but, with its simple roof, to avoid the tedious cottage type. It also permitted two stories in an apparent one-story building, and its compactness and simplicity of plan and construction would give the greatest accommodation for the least money. A. R. R.

Topographical map of the fifteen-acre island, showing location of the house, wharf, etc. The ocean end of the island (where the house is) points southwest toward the prevailing sea breezes

FROM A COUNTRY WINDOW



BY FORCE of the circumstance of their struggle against and alliance with nature, the farming folk of all times and nationalities



THE BASIC COUNTRY SPIRIT

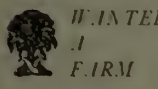
have relied upon themselves for their life and sustenance, but there has also been bred in them a mutual helpfulness which is not engendered in compact civic communities where certain duties and functions are relegated to those apparently fitted to perform them. In the city a crowd will watch but will not assist a draft horse over a slippery spot in the pavement, and will crowd around a demented man but offer not even sympathy. "Let 'them' (an all-inclusive word) help him—I might get into trouble," is the slogan of the city man.

But in the country things are ordered differently. The population of an entire district will assemble for a barn-raising bee with no thought of *quid pro quo* other than that found in the general merry-making, and in the dead of night the men will turn out from miles around if a glare in the sky shows that fate has directed a bolt of lightning to that barn. The assistance they render, puny, infinitesimal, is nothing—it is the spirit prompting them which is everything.

Occasionally, of course, there may be an exception, but the value of such a phenomenon has long since been expounded. Such an exception dwelt in the community of our boyhood, knowing every one, loving no one, hindering some, and (so it was believed) helping none. Our parents told us that he was only a lonely old man, more to be pitied than disliked, but youth, flogged under his apple trees, could accord him no measure of pity.

Later years took us back to the old hamlet, and it was on this visit that we revised our estimate of the "exception," now stooped with years. Accidentally observed, it was a trifling incident—the mere matter of removing a pile of boughs from a road along which he was traveling, but removing them *after* his sleepy horse had jogged over them. Self-interest had no part in the occurrence, for the road was little used and away off his beaten track—perhaps, too, with his reputation for crabbedness to sustain, he would have let them lie had he seen us watching him. That, however, is a matter between him and his conscience; for ourselves, we were satisfied that even in the exception to the rule the spirit of helpfulness is close to the surface, and our trust in humanity of the country-bred sort was doubly strengthened.

"IT IS A FACT," wrote a well known author recently to a friend in Massachusetts, "that I am weary of living on rented land and



WANTED: A FARM

that I am looking for a farm. Little I ask—only this: a good house, pine woods, a brook, nearness to the railway station to New York, and close proximity to an excellent eighteen-hole golf course. . . . The farm I want is chiefly to support a family cow and a kitchen garden. For the rest, I want woodland to play with and a chance to make a garden full of native plants. I am too poor to run a real farm."

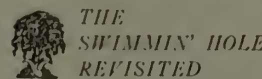
The writer is disposed to be whimsical, but he is also honest. He does not pretend that he wants to become a farmer, but he would like it if he could somehow contrive to live on a farm.

We suspect that a good many would-be back-to-the-landers harbor a somewhat similar desire. They feel no hankering for muddy boots, aching backs, and blistered hands. They do not desire to plow or to milk or to do the chores at 5 A. M., and they cannot afford, perhaps, to hire a manager and helpers to do their farming for them. But they do want to live on a farm.

We smile a little at this dilettante point of view, asserting that you can't have your agricultural cake and eat it too. But may that not be prejudice, perhaps, or slavish devotion to time-honored tradition? Is there anything fundamentally absurd or wicked or unconstitutional in the desire to live on a real farm and yet not be a real farmer?

If we analyze this attitude we discover that the craving is not so much for the occupations of a farmer, which are admittedly laborious and not always elevating, as for the authentic atmosphere of the farm home—a taste honestly inherited which runs as a sweet undercurrent of memory in the blood of many of us. The suburban house and garden do not satisfy it, nor the made-to-order country place, but only the old white farmhouse with the big barn and the spring house, the fields and meadows, orchard and woodlot, hay in the mow and chickens in the yard, and the long, winding road thither where rattle the infrequent buggy wheels of friendly neighbors. The man who has this desire deeply implanted in his soul may be justified in seeking any incongruous adjuncts which the exigencies of his other tastes and occupations demand.

NOT LONG AGO a portly, distinguished looking gentleman alighted from the train at a small railway station in Vermont and



THE SWIMMIN' HOLE REVISITED

surveyed, for the first time in thirty-five years, his native village. It looked rather insignificant and dingy to him now, except for the new grocery store where a smart young fellow with a pencil behind his ear had evidently supplanted the familiar old sage of the cracker barrels.

The gentleman left his baggage at the so-called hotel and took his way out beyond the town, through the woods where the lady's-slippers used to grow, to the open country beyond. Here was the old ball field, with the flat rocks that had once served as bases overgrown with weeds and briers; the distance from third to home didn't look as long as it had once appeared. There was the old wild apple tree still, with the low limb where he had often "skinned (or is it skun?) the cat"—an exploit he would scarcely care to attempt to-day.

Then he climbed, with shortening breath, the rounded hill over which he had scampered as a barefooted lad, and, mopping his brow, gazed down with keen disappointment upon the old swimmin' hole. What a wretched little mud puddle it was, to be sure! And where were the elder bushes that used to grow so luxuriantly on the farther bank? Though the day was hot the gentleman was in no degree tempted, but turned sorrowfully away—back to the city and his office and the dull routine that made up his life.

The glamour of youth is something that cannot be recalled even by revisiting the old swimmin' hole. However much or little the old scenes may have changed, the heart of man has changed more. Disillusionment is bound to follow upon any attempt to revive the sensations of a dead past, if those sensations themselves have been allowed to pass into oblivion. It is not the elder bushes but the spirit of boyhood whose passing leaves the aching void. Better let the old illusions lie decently buried—or, better still, keep them alive through the years by a continuous contact with the soil and with nature, which is ever young.

OUR COMING CROP OF TENNIS STARS

By HERBERT REED

FOLLOWERS of American lawn tennis have become so accustomed to the sudden appearance in the first rank of a player who is just out of his teens, that the novelty has worn off to a large extent. McLoughlin, Johnston, and others have taught us to look to the Pacific Coast for the newcomers of championship class. It did not take long to discover that their sudden flashing across the tennis horizon was by no means an accident, but the result of a policy of preparation of the most thorough order. In this California took the lead, but henceforth the far Westerners will face stiff competition in the matter of training the young idea in the generalship of the courts, for all over the country, and especially in the East, this policy of careful preparation is being followed out under the guidance of experienced veterans, notably at the West Side Tennis Club at Forest Hills, Long Island. The results are in sight, and the prospects are that the next crop of top-notchers, now playing as juniors, and in many cases in the class for boys, will take the championship courts not as unknowns, but as promising young players with whose early work the tennis public will have a chance to become familiar in the formative stage through the medium of the junior tournaments.

Young players of the calibre of George P. Throckmorton are becoming as well known already as their seniors who for some years have monopolized the championship courts, but there are still many, already extremely promising, whose work is not widely known. It is the hope of the men who are interested in this systematic promotion of "boy tennis" that the mass of the tennis public will be drawn to the junior tournaments, where they will have an opportunity to become better acquainted with the movement and where they will witness play of a very high order. An afternoon spent watching Cecil Donaldson, a boy of fourteen, Charles S. Garland, Elliott Binzen, and half a dozen other youngsters in action, is an afternoon profitably spent, for these are the tennis stars of the very near future.

Professional coaching for boys is something of a novelty. Everybody knows what it has done for R. Norris Williams 2nd, but not everybody knows what is being done at Forest Hills under the able professional coaching of George Agutter and the keen advice of the veteran enthusiast, Frederick B. Alexander, who is chairman of the committee in charge of the Junior West Side Tennis Club. The professional coaching is of the utmost value, since the professional is such a master of placement that he can constantly play to the weak side of his pupil and so round out that pupil's game—something that is beyond the powers of the very best amateurs. Teaching is apt to ruin the amateur's own game. Further, he is in it for fun and wants to play actual games to improve his own work. The fruits of Agutter's work are already very much in evidence at Forest Hills, notably in the play of H. P. Guiler, the former St. Paul's School star, and at present captain of the West Side junior team. Guiler, who plays a finished, all-round game, rich in promise for the very near future, would alone be a justification of the present careful system. It is a tennis treat to watch him in action.

In teaching the game to boys it must be remembered that they have not attained their full growth. The boy who has not yet shot upward is apt to be weak overhead, while the tall youth who has not yet broadened out has generally mastered a fine forehand drive, and in the interest of winning matches shows a tendency to favor the stroke at the expense of the rest of his play. These little tendencies have to be watched at an early stage. If let alone the boy will continue to favor certain strokes—the strokes with which he can win—so that he comes out of the junior class finally with a one-sided development that will take him just so far and no farther.

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Harold Throckmorton, the National Interscholastic Champion, who is still in the junior ranks

Among the very young players who are promising, but yet must round out their game, are Herbert Forster and L. Maxwell Banks. The former, eighteen years old, is six feet two inches tall, with a consequent long reach. He is among those who have developed a fine forehand drive and are given to favoring it, while Banks is still primarily a backcourt player.

Experts who have made a thorough study of the work of all the younger contingent speak most enthusiastically of the play of Charles S. Garland, with W. Irving Plitt holder of the Metropolitan Junior Doubles Championship, and I am inclined to agree with them. It is high praise, but deserved, I think, to say that Garland reminds one strongly of "The Little Do." Both his head work and his foot work are practically flawless, and he has that same fine faculty of sparing himself that marked the play of the great Doherty. He never puts forth too much energy, and there is always a reserve of power for any crisis that may arise. There is no height to which young Garland cannot rise by the time he has achieved a man's strength. He has everything that a great tennis player needs, and his natural aptitude for and steady development in court generalship make him formidable, even now at the age of sixteen. He is the opposite type to Throckmorton, which does not mean, however, that Throckmorton is not promisingly dangerous. Their temperaments are different, for Throckmorton is a chance-taker who forces his way to victory, and we have seen enough of that kind in recent years to realize how hard the type is to beat.

Cecil Donaldson is another excellent prospect in the boys' as distinguished from the junior class. He isn't tall enough yet to make a great deal of the overhead game, but he is heady, and plays the most confident game of the lot. There is rapid action every minute that he is on the courts. There are no outstanding characteristics in his work, other than this supreme confidence, for he plays well-rounded tennis, with some emphasis on the volley, one of his best strokes.

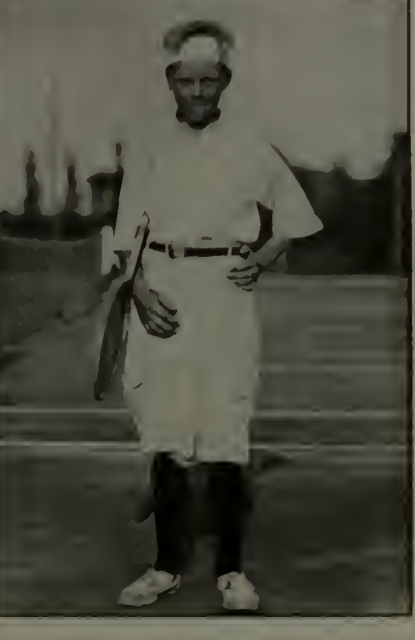
Elliott Binzen, winner of the first National Indoor Junior Championship, is another young man who will be heard from when he gets out of the junior class. He commands possibly the best ground strokes of any of the younger players, and his foot work is a constant delight. He gets a good, hard drive, with plenty of top spin—the kind of drive that will score through small openings—and he is very fast on the court. His service is of the most useful type, with plenty of speed and spin, and very accurate. It is the good, workmanlike, modern service, with no exaggerations.

Charles S. Garland, one of the most promising of the junior players

Herbert W. Forster, with George P. Throckmorton runner-up in Metropolitan Junior Doubles

Elliott Binzen, National Indoor Junior Champion

W. Irving Plitt, with C. S. Garland winner of the Metropolitan Junior Doubles title



Fourteen year-old Cecil Donaldson plays the most confident game of the lot

Good doubles players in the younger set are still as rare as they are among their seniors. Perhaps the best of them is W. Irving Plitt, a very heady player, with a thoroughly sound idea of the generalship of doubles. Plitt is the Newtown High School captain who paired with Garland in the last Metropolitan Junior Championship, and won the title.

The junior movement is doing quite as well in other cities as in New York and San Francisco, although in this section Kings County is to run off the Island Championship, and Mr. Alexander has persuaded the Sleepy Hollow Club to hold a junior event.

Dwight F. Davis is the big tennis impetus in the West among the juniors as well as the seniors. He has presented an inter-city junior trophy, which in some respects is like the famous Davis Cup. It is not of course, international, but there is no telling what it will be by the time Mr. Davis's plans are complete. Mr. Davis is superintendent of the public parks in St. Louis, and deeply interested in the development of tennis in the parks everywhere. The first inter-city junior meet will be held in St. Louis, and thereafter the teams will be weeded out to the final round for the new trophy. It is the real foundation for the national junior tennis movement which is growing so fast that George Adee, president of the United States National Lawn Tennis Association, succeeding Robert D. Wrenn, has in mind appointing a national secretary who will take the mass of the work off the hands of the various sectional committees, who find that they have more to do than they can handle without the aid of a central secretary. It is planned, too, to turn over the beautiful Goddard Wells Saunders bowl, the Metropolitan Junior trophy, to the care of the national organization. This and the Davis trophy should make for the keenest sort of competition among the youngsters.

It is a treat to watch H. P. Guiler in action. He plays a finished, all-round game that is rich in promise

Turning once again to the players themselves, one finds promising newcomers all over the land. Because of the past record of the juniors from the Golden Gate Park courts in San Francisco, it is natural to look for more stars from that section. One glance at Roland Roberts on his home courts last year convinced me that as a trouble-maker for the Easterners he would be the natural successor to the distinguished group that had preceded him. He is no longer a surprise party. There are others, however, already in an advanced state of preparation.

The latest Pacific Coast youngster to make a name for himself is Raymond Kinsey, whose age keeps him in the junior class, and whose play is already good enough for higher ranking. Like nearly all the Coast men, save those who came from the southern section, he is just now to the stage of development that might leave something to be desired were he to play on a grass court, but he has the same genius for pace that marks the other men from that section. His victory in the junior event at the Pacific Coast Championship showed that he was almost in a class by himself. He won his final round in straight sets without letting out any extra links. Irving Karsky, whom he defeated for the title, is his nearest competitor, and the two make an excellent doubles team that will be heard from, I think, in the course of the inter-city matches.

Perhaps the next most dangerous player in the far Western section is Marshall Allen, the Washington State Junior Champion. The most promising feature of his tournament play is his ability to fight an uphill battle. He is still apt to get into difficulties through mistakes of his own making, but he has the true type of tournament courage. His game, like that of so many juniors, needs a lot of rounding out, and a certain amount of settling, that no doubt will come with age. W. S. Taylor, whom he defeated in the semifinal round, and until that time considered the best of the juniors, cannot be counted upon this year, for he will be over the age limit for junior competition.

John Virden of the Cleveland University School team is one of the most dangerous junior players in the country. He will probably be seen in the East this year

Cleveland boasts of one of the most dangerous junior players in the country, not merely because of his form, but because of his ability to stand the strain of severe competition. John Virden, a member of the Cleveland University School team, is the man. He is tall, an easy player, with a deal of sweep to his strokes, and a fine knowledge of the court. Some idea of the test of his stamina may be gained from the statement that he came through a field of 164 seasoned youngsters, most of whom already had reputations as school players. Virden will be seen in the East this year in all probability, for he has acquired the right to enter the National Interscholastic Tournament to be held at Forest Hills in August.

Massachusetts pins its faith to Arthur Favreau of Wollaston, the state's Junior Champion, and there is another player in the junior ranks who is not far behind him, in the person of Joe Tong, of Concord, a native-born Chinese.

It was to be expected of Philadelphia that it would have a Thayer in the list, for the family has had one representative in almost every branch of sport as long as any one can remember. Sidney Thayer, in spite of his defeat in the championships last year by E. C. Cassard, is improving steadily, and ought to be one of Philadelphia's best in a year or two. R. R. Coffin of Germantown, and G. H. Thornton of Merion, are ranked very close to Cassard.

I had almost forgotten to mention another young man closer home. Paul Treanor, of Staten Island, who won last year's championship at the Clifton Tennis Club. His play is well thought of by the experts who are looking for coming champions.

The gardens of Mellody Farm, as the Armour summer home is called, were planned by Mrs. Armour and the architect for the house, Mr. Arthur Heun

The SUMMER HOME OF *Mr. & Mrs.* J. OGDEN ARMOUR

LAKE FOREST ILLINOIS

Arthur Heun, Architect

The porte-cochere is on the axis of the long, tree-shaded entrance driveway

Much of this garden's charm, as of many others, is due to changes of level

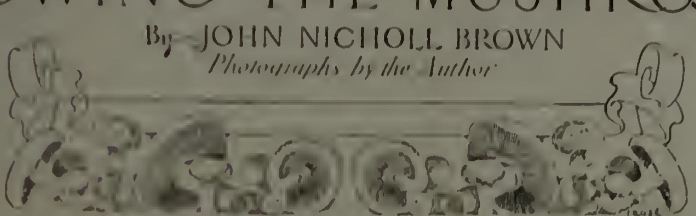
An arbor screen bounds one side of the garden, affording an architectural line of enclosure and a retreat from which to view its broad pattern

Facing the house and forming a fitting terminal feature on the main axis is a raised garden shelter, paved with brick, and roofed

KNOWING THE MUSHROOMS

By JOHN NICHOLL BROWN

Photographs by the Author



WHEN asked if they are fond of mushrooms, most people will reply, "No, I never eat them," and they will remind you of the untimely death of some one they have known or read about, who had eaten a toadstool by mistake. When you assure them that, with comparatively little study and observation of the characteristics of a few species, mushrooms could be enjoyed in perfect safety, they remain unconvinced and sadly regard you as a foolhardy crank doomed to a premature end.

Another class, who have a famous belief in the purity and harmlessness of anything sold in a store, will tell you that they eat only the common mushroom, *Agaricus campestris*, sold in the markets or peddled.

A third and very small class have discovered that the town-loving inkies, Coprinus, are edible and excellent, and they eagerly appropriate them wherever they appear, without the least regard for property rights.

A fourth class consists of those who have made a more or less serious study of fungi, numbering perhaps less than fifty in the whole United States, who may enjoy gastronomic delights in the form of Morels, Hydnums, Clavaria, and Russulæ, which the rich gourmet, who imagines that he has had the rarest and choicest foods which money can buy, has never tasted.

From this it is evident that economic mycology is as largely ignored in this country, to-day, as it was in Great Britain when Dr. Badham said: "I have seen whole hundred weights of rich, wholesome diet rotting under the trees; woods teeming with food, and not one hand to gather it; and this perhaps in the midst of poverty and all manner of privations, and public prayers against imminent famine."

We are to-day facing an alarming increase in the cost of living, which is simply a forerunner of actual shortage. During our years of abundance we have ignored and despised this spontaneous and bounteous supply of fungous food, so rich in protein and nitrogenous elements that it is an adequate and acceptable substitute for meat; but I believe that the time is not far distant when we will be forced to regard our mushrooms as the children of Israel did the manna in the wilderness. In England mushrooms from the fields and woods are an important part of the food supply, and are also the basic and most essential ingredient of the English table sauces. In many parts of Continental Europe centuries of privation have caused the peasants to know many of the edible fungi by a process of crude experimentation, in which some became martyrs that others might eat.

The one and only cause of the amazing spectacle of a whole nation, and part of it hungry, absolutely ignoring a feast of the most delicious food is the universal fear of one single family of mushrooms, the deadly Amanita, whose poison is as fatal as that of the rattlesnake. In the popular imagination it lurks wherever fungi grow. It may be common in some localities, but I have found it so rare that only after the careful exploration of many square miles of likely territory, could I find the specimens shown here. In the state of New York alone there are 215 edible species, which are as harmless as corn or potatoes, yet the existence of this one deadly family causes a popular total abstinence from fungous food. There is but one way by which this great food supply can become available to the people, and that is by their learning to know the more common edible mushrooms by their botanical identifying characteristics. All other ways of knowing them have invariably led to fatalities.

The chief obstacle to a general acquisition of this knowledge has been the prohibitive cost and technical phraseology of reliable books on the subject. Another obstacle has been the general belief that the way in which edible and poisonous mushrooms were distinguished from each other was by popular traditional tests, supposedly the mysterious and carefully guarded secrets of ancient crones and village oracles. These tests, such as the darkening of a silver spoon when thrust into cooking mushrooms or peeling of the skin of the cap, are worse than worthless, because they afford no protection whatever against the one deadly family, and exclude all others except the common meadow mushroom.

The object of this article is to describe so clearly, accurately, and simply a number of the most desirable fungi commonly found throughout the United States, that even a tyro may be able to identify them, thus not only offering the reader an increase in the quantity and variety of his food, but an introduction to one of the most delightful recreations afforded by country life.

Mushroom hunting need not be confined to a vacation season. Some species can always be found, from April to November. Certain mushrooms make their homes in towns and even in cities. I have seen the Glistening Coprinus, enough for several meals, growing in New York's City Hall Park, and the *Coprinus atramentarius* flourishing on the site of a defunct tree on Fifth Avenue. The town dweller may find his dinner at his very doorstep, clinging to his shade trees, or on his neighbor's lawn.

Amanita verna (left) and *A. phalloides* are similar in shape, but the former is unchangeably white, while the latter varies in color. Both are deadly poison

It may be asked, "Will not the farmer come to a realization of the value of his long neglected mushroom harvest, and warn us from his land?" From personal observation I can answer that unless the Government should add education in mycology to its other agricultural benevolences, he will still continue to regard all mushrooms, save one, as toadstools, and poison, and contentedly eat salt pork while his children play football with the nutritious Giant Puffball.

Before going into the description of species, I ask that the reader banish the name toadstool from the language of fungi, because it has no meaning. Originally used to indicate certain large mushrooms suspected of being poisonous, which have since been found to be edible, it has now become a popular designation of any unfamiliar fungus. The species I have selected for description, with the exception of the common field mushroom and the Smooth Lepiota, have such distinctive characteristics that even a careless observer could hardly confuse them with any poisonous species. The poisonous and unwholesome mushrooms are far fewer than is generally supposed. The *Russula emetica*, long noted as a dangerous fungus, is now known to be harmless when cooked, and another fearsome fungus, the Bitter Boletus, is so uncompromisingly bitter, that no one has ever been able to eat enough of it to test its edibility. Of a few other species nothing worse may be said than that they are unwholesome, and their unpleasant odor and taste will prevent their being eaten.

Outline drawing of the Amanita from infancy to maturity, showing the underground cup—the one constant structural characteristic by which the members of this family may be identified

The Amanitas alone, so far as known, are the only mushrooms that have caused death, and although they are easily recognized, I earnestly advise all who take up the study of fungi to memorize thoroughly the identifying characteristics, and when a specimen has been found, to treat it with the same respect you would accord to a rattlesnake or poison ivy, because its subtle, poisonous alkaloid is continually disseminated by its invisible spores, which float in the air

Amanita muscaria, showing the egg-shaped cap when young (left) and the flattened cap at maturity. Deadly poison

about the plant. Poisoning, not necessarily fatal, will result from absorption of the poison through the pores of the skin or inhalation of the spore laden air near the plant. It is obvious from this, that a single Amanita, carried in a basket with harmless mushrooms, will render them all poisonous. This may explain cases of poisoning resulting from eating the common mushrooms bought in the markets, which have been gathered by children or ignorant aliens, who would be quite likely to include a white Amanita, which they would naturally suppose to be an exceptionally beautiful field mushroom with an unusually long stem.

Fortunately, all the Amanita have one constant structural characteristic by which they may be positively identified. This is the cup, socket, or membranous sheath about the base of the stem, consisting of the remains of the wrapper or volva which enveloped the entire plant in its infancy. This cup may be considered as the cautionary symbol of the genus Amanita. This structural peculiarity is plainly shown in the drawing on the preceding page, which represents in outline the growth of the Amanita from infancy to maturity. This cup, however, is usually hidden under the soil, sometimes several inches under the ground; therefore in all cases where other characteristics indicate an Amanita, the earth should be removed and search made for the cup or membranous sheath-like wrapper. In beauty and symmetry the Amanita is the ideal mushroom, and its attractive appearance makes it all the more dangerous.

The *Amanita verna* is pure white. The gills are persistently and unchangeably white and free from the stem. The cap is smooth, white, and viscid or slimy when moist. The stem is white and covered with minute floccose scales, and is stuffed (filled with loose fibers or cottony pith) or hollow in age. Around the upper part of the stem will be found a broad white collar. The length of the stem is usually greater than the diameter of the cap, and its base is abruptly enlarged and is sheathed with a cup-like membranous wrapper which hugs the stem more or less closely. It inhabits woods but is sometimes found in the open.

The *Amanita phalloides* is variable in color, the forms being pure white, yellowish green or olive, to umber. The white form is scarcely distinguishable from the *Amanita verna*. The cap is smooth, even on the margin, and destitute of warts or striation; fleshy, viscid, or slimy when moist, convex, and in age more or less depressed by the elevation of the margin. The gills are persistently white in all forms and free from the stem or only joined to it by a narrow line. The stem is longer than the diameter of the cap, usually smooth and white, in dark forms partaking of the color of the cap. It is stuffed when young, hollow in age, and abruptly enlarged at the base, where it is sheathed with the cup-like remains of the wrapper. It inhabits woods, their borders, and bushy pastures.

The *Amanita muscaria* is much larger than the preceding species, its expanded cap varying from three to six inches in diameter. The cap is egg-shaped when young, flat at maturity. Its color varies from yellow to orange or scarlet. One form is light brown. The cap is dotted with adhesive white warts, remnants of the wrapper. The gills are pure white, symmetrical, of various lengths, the shorter ones terminating under the cap with vertical abruptness. The stem is white, yellowish when old, becoming shaggy and scaly, the scales at the base of the stem merging into the form of an obscure cup. The cup is indicated by a ragged line of shaggy scales around a bulbous base. It grows in pine and hemlock woods and under cedar trees, and prefers poor gravelly soil.

Condensing the absolutely essential identifying factors of the Amanita, we have the cup, socket, or membranous wrapper, sheathing the base of the stem; the persistent, unchanging whiteness of the gills; the stem equal to or generally longer than the diameter of the cap; in the *Amanita verna* and *phalloides* the viscid, smooth, pallid white cap;

Agaricus campester, the common meadow mushroom which everybody knows; found in pastures and grassy places

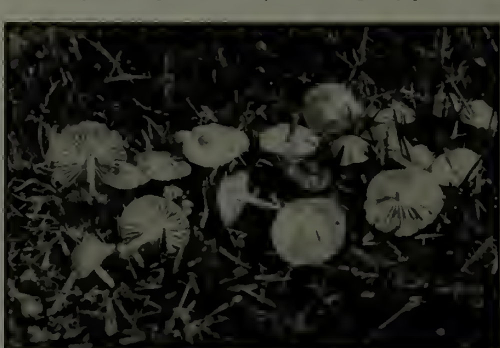
The Flat Cap Mushroom, *Agaricus placomyces*, favors the vicinity of hemlocks

Coprinus micaceus (Glistening Coprinus) is also found near stumps or over wood rotting in the ground

Coprinus comatus, otherwise Shaggy Mane, is edible when young and white. It melts into ink in age

Ink Caps (*Coprinus atramentarius*) are generally found near decayed stumps or on richly manured grassy places

The delicious Smooth Lepiota (*Lepiota naucina*) is the only edible species likely to be confused with the deadly Amanita



The *Marasmius oreades*, Fairy Ring, famous in child lore, grows in circles or arcs of circles

Pleurotus ulmarius (Elm Mushroom), so-called because it is found on the trunks and wounded surfaces of elms

Another mushroom found on tree trunks is *Pleurotus ostreatus*, the Oyster Mushroom. It frequently grows in dense, overlapping masses

Pleurotus sapidus (Sapid Mushroom) likewise grows on tree trunks and rotting logs

and in the *Amanita muscaria* a cap of pronounced color more or less dotted with white warts. There are other species of Amanita, some of which are innocent, but it is safest to avoid them all.

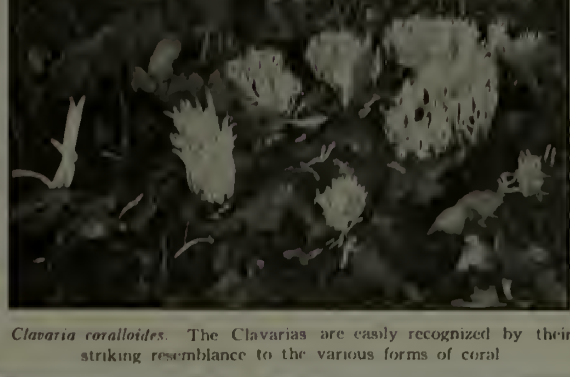
I have thus carefully described the Amanita because the ability to identify them means the removal of fear, and excludes the distinctly fatal poisons. Of the edible species, none, with the possible exception of the tender and delicious Smooth Lepiota, need be confused with the Amanita, and even this variety, with its superficial resemblance to the white forms of the Amanita, is definitely differentiated by the absence of a cup or the suggestion of one; by the gradual enlargement of the stem into a graceful bulb, by the stem being usually shorter than the diameter of the cap, by the dryness of the cap, which in texture and color resembles a fine, white kid glove, and positively, by the color of the gills, which changes to a degraded pink in age or shortly after being bruised.

Peculiarities of their spore bearing surfaces naturally divide fungi into a number of classes. The largest of these classes is that of the Agarics or gill bearing mushrooms, of which a typical example is the common Meadow Mushroom, *Agaricus campestris*, the one mushroom which everybody knows, the pink gilled kind, the only species which has allowed itself to survive as a captive in caves, cellars, and shed. To this division also belong the *Coprinus comatus*, the Shaggy Mane, which derives its name from its resemblance to a powdered wig on a barber's block, the *Marasmius oreades*, Fairy-Ring, famous in child lore, which grows in circles or arcs of a circle, the *Pleurotus ostreatus*, Oyster Mushroom, and the *Pleurotus ulmarius*, Elm Mushroom, which make their homes on the trunks of trees. Another division, the Boleti, in place of gills have a closely packed mass of minute tubes, presenting an apparently porous surface on the under side of the cap, and are rarely found outside of woods. The Hydnei are distinguished by having awl-shaped spines in place of gills, and the Clavarias by their striking resemblance to the various forms of coral.

The Lycoperdon or Puffball differs from all others in having its whole interior filled with spores, when mature. Puffballs are the most easily recognized of fungi, and are edible when young and snowy white within. The large form is particularly delicious and nutritious, but I have found some of the smaller forms of inferior quality. In its infant state, the white Amanita, shrouded in its volva, superficially resembles a small Puffball, but if cut open the structure of the Amanita will be revealed.

It has been said that all Morels, Puffballs, and Clavarias are edible, and that the collector could therefore safely partake of these, even if he were unable to distinguish one species from another, but there is always the possibility of the existence of a rare and unknown species, possibly poisonous, such as the fungus I have called the Bird's-Nest Mushroom, which resembles a Puffball and is really an Agaric. Eminent mycologists have assured me that this species is unlike any fungus they have seen.

Morchella crassipes (left) and *M. esculenta*. Look for the Morels in wet weather



Clavaria coralloides. The Clavarias are easily recognized by their striking resemblance to the various forms of coral

For the sake of condensation in the subjoined table of characteristics the following technical terms have been used.

Cap: the first part of a mushroom which attracts the attention.

Gills: thin, membranous, vertical plates on the under side of the cap, radiating from the stem to the margin of the cap.

Free: said of the gills when they are rounded off without reaching the stem.

Solid: said of the stem when it is evenly fleshy.

Hollow: when interior is occupied by a cavity.

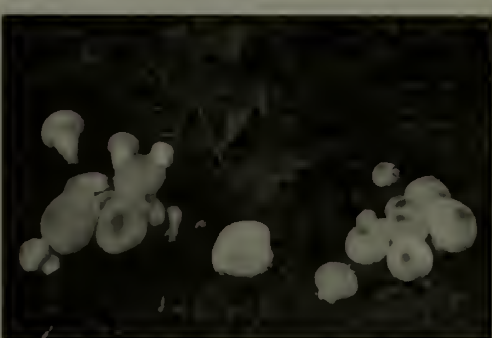
Stuffed: when filled with fibrous threads or pith.

Veil: a thin, delicate membrane, which in the young of some species extends from the stem to the margin of the cap, concealing the gills.

Spores: the reproductive fruit bodies or seeds of the mushroom, invisible to the eye except in mass, as in a sporeprint, which is made by placing the cap, gills down, on paper, and covering it with a bowl; after several hours the deposited spores will have made a perfect print, by which the color of the spores may be determined.

The Giant Puffball, *Lycoperdon giganteum*, is particularly delicious and nutritious. Edible when snowy white inside

Giant Puffball beyond the edible stage, its rind no longer smooth, and the flesh inside not firm and white



Lycoperdon gemmatum, the Top-shaped Puffball. While not injurious, this species is not always agreeable in flavor

The Edible Boletus (*Boletus edulis*) is rarely found outside of woods. The Boleti have a tube surface in place of gills

The essential character of Bear's Head Hydnum (*Hydnum caputursi*) is a fleshy body with branches covered with spines

Strobilomyces strobilaceus, the Cone-like Boletus. The tube masses should be removed before cooking

The Bitter Boletus (*Boletus felleus*) is poisonous, but is too bitter anyway to be eaten

The Bird's-Nest Mushroom resembles a Puffball but really belongs to the Agaricus family

TABLE OF IDENTIFYING CHARACTERISTICS OF SPECIES

	Species	Common Name	Character	Cap	Gills	Stem	Annulus or Ring	Spores	Habitat	Season
Amanita	*Amanita verna*	Vernal Amanita	Deadly poison	White, smooth, viscid, slimy when moist	Persistently white; free from the stem	White, abruptly enlarged at base and sheathed by a cup-like membrane	White, broad	White	Woods	July to October
	A. phalloides	Poison Amanita	Deadly poison	Variable in color, white, yellowish, amber, and olive green; smooth, viscid, slimy when moist	White in all forms free from the stem	Abruptly enlarged at base and sheathed by cup-like remains of the volva	White, broad	White	Woods and bushy pastures	July to October
	A. muscaria	Fly Amanita	Deadly poison	Brilliant yellow, orange, scarlet or light brown, pale in age, dotted with adhesive warts	Pure white, very symmetrical, of various lengths	White, becoming shaggy, the scales below forming an obscure cup around the bulbous base	A distinct ring but does not hang in folds	White	Pine and hemlock woods and their borders	Summer and autumn
	A. Cæsaria	Royal Agaric	Edible, but use great caution	Reddish, yellow, or orange; smooth but striated at margin	Yellow and free from the stem	White, hollow, only slightly enlarged at base, where it is covered by a prominent fleshy white membrane	Broad, and hangs from upper part of the stem	White	Woods	Summer and early autumn
	A. rubescens	Reddish Amanita	Edible, but use great caution	Smooth, slightly striated on margin, covered with floccose gray scales; color varies, usually tinged reddish hues	White and free from stem	Tapering above, enlarged at base, tapering abruptly below; dull reddish, becomes red where bruised	Broad, membranous, and fragile	White	Woods and open places	Late summer and early autumn

	Species	Common Name	Character	Cap	Gills	Stem	Spores	Season	Habitat
Agarics	*Agaricus campester*	Meadow Mushroom	Edible	White, silky, or scaly; diameter, 2 to 4 inches	At first pink, brown in age, closely placed, free	Equal, smooth, white, stuffed, 1 to 3 inches long	Brown	From July to November	Pastures and grassy places, never in thick woods
	A. placomyces	Flat Cap Mushroom	Edible	Bell shaped when young, flat at maturity. Thin, covered with minute brown scales; diameter, 2 to 4 inches	Close, at first white changing to pink, finally brown	White, smooth, stuffed or hollow, enlarged toward the base, 3 to 5 inches long	Purple brown. The veil is double and leaves a handsome collar on the stem	June to September	Woods, favoring the vicinity of hemlock
	Coprinus comatus	Shaggy Mane	Edible when young and white	Oblong, white, melting into ink in age	Broad, crowded, moist, equal, free, white changing to pink, salmon, brown, finally black	White, long, smooth, stuffed or hollow, 3 to 4 inches long	Black	Summer	Lawns and manured grassy places
	C. atramentarius	Ink Cap	Edible when young, darkens in cooking	Color varies from silvery gray to smoky brown; surface marked by fine striations	Broad, crowded, white, pinkish gray, finally black, dissolving in inky drops	Hollow, firm, white	Black	From midsummer to late autumn	Near decayed stumps, lawns, and richly manured grassy places
	C. micaceous	Glistening Coprinus	Edible when young, darkens in cooking	Thin; at first oval then expanded; pale buff to yellow; margin notched and split	Whitish, then pinkish, and finally black melting into ink	Slender, fragile, hollow, white	Brown	May to November; common in spring	Near decayed stumps and where trees have been, or over wood rotting underground
	Marasmius oreades	Fairy Ring	Edible, the best species to dry for winter use	Has an umbo or mound in centre, reddish buff to cream color, resembles dressed sheep skin	Broad and quite separated, unequal, leaving stem as they curve upward, deep cream color	Solid, smooth at base, equal, tough and fibrous	White	Summer and autumn	Found in pastures and lawns in circles or arcs of a circle
	M. urens	False Fairy Ring	Poisonous	Cap has no mound and becomes depressed. Pale buff, tough and fleshy	Unequal cream color, closer than in true form, hardly reaching stem	Covered with white flocculent down, dense and even hairy at base	Its taste is acrid and bitter even when cooked		Lawns and pastures, often associated with *M. Oreades*
	Lepiota naucina	Smooth Lepiota	Edible	Very fleshy, white, rarely its surface may be broken into minute scales	White, in age or after being bruised becoming dull pink, free, rounded at inner extremity	Bulbous, stuffed	White	August, September, October	Lawns, grassy places, and sometimes cultivated fields
	Russula virescens	Green Russula	Edible	Firm, solid, dull, dry, moldy green or creamy with sage green broken spots, more united at centre; centre depressed	Pale creamy white, usually equal, but often forked, very brittle	Solid, creamy white, no veil	White	July, August, September	Woods
	R. emetica	Emetic Mushroom	Suspicious; poisonous raw, edible if cooked	Very smooth, pale bright pink to deep scarlet	Broad, mostly equal, not crowded, white, continuous from cap to stem	White or pinkish, taste hot and peppery	White	July, August, September	Woods
	Lactarius deliciosus	Orange-milk Mushroom	Edible, and said to be the most delicious known	Yellow to dull orange with mottled zones of deeper color, smooth and moist at first, convex, later funnel-shaped	Orange, of clearer hue than the cap, when bruised exuding an orange-colored milky juice	Paler than cap, hollow; flesh brittle, creamy, stained with orange	White. Taste, slightly peppery	July, August, September	Woods, pine groves, swamps
	Pleurotus ulmarius	Elm Mushroom	Edible	Cream color, pale yellow or buff, smooth when young, at maturity spotted and fissured	Broad, rather distant, dingy white, extending down the stem	Varies in length, usually curved, firm, white, solid,	White	Autumn	Trunks and wounded surfaces of the elm, sometimes on other trees
	P. ostreatus	Oyster Mushroom	Edible	Smooth, white or light yellowish, pale ochre, thin at margin	Dingy white, unequal, extending down stem in elevated vein-like lines, not crowded	Short or obsolete on side of cap	White	Summer and autumn	Old tree trunks, often in dense overlapping masses
	P. sapidus	Sapid Mushroom	Edible	White, yellowish gray or brownish, margin wavy in age	White, broad, not crowded, extending down stem, often cracked	Short, solid, tufted, usually two or three growing from a common base	Tinged with lilac when seen in mass on white paper	June to November	Tree trunks and rotting logs

	Species	Common Name	Character	Cap	Tube Surface	Stem	Spores	Season	Habitat
Boleti	*Boletus edulis*	Edible Boletus	Edible	Cushion-like, smooth, moist, light brown to brownish red	Whitish, becoming yellow and later yellowish green	Stout, solid pale brown with fine network of pink raised lines near cap	Ochre colored	July to October. (Flesh white or tinged with yellow)	Woods and their borders
	B. felleus	Bitter Boletus	Poisonous	Smooth, tawny, buff-brown, dark reddish brown	Whitish becoming pale flesh color, rounded upward at stem	Equal or tapering upward, somewhat ridged with coarse reticulations	Pinkish. Bitter taste	July to October. (Flesh white, changes to pinkish on fracture)	Woods and their borders
	Strobilomyces strobilaceus	Cone-like Boletus	Edible	Covered with gray overlapping wooly tufts, tipped with dark brown or black	Grayish white at first, dark brown or black in age, changing color where bruised	Very scaly, with soft scales of same color as the cap	Dark brown	Summer (Tube masses should be removed before cooking)	Woods, singly or in clusters
Morels	*Morchella esculenta*	Common Morel	Edible	Oval, round, or elliptical; hollow, buff or brown to greenish, with deep pits separated by network of ridges		Stout, hollow, dingy white		May and June	Woods, orchards, and damp, shady places
	M. crassipes		Edible			Nearly equal in diameter to that of the cap, otherwise does not differ from *M. Esculenta*			
Clavaria	*Clavaria coralloides*	Coral Mushroom	Edible	Resembles coral, white and brittle		Hollow		Autumn	Woods, especially among cedar and hemlock
	C. formosa		Edible	Thickly branched from a stout pale base, brittle; color, saffron yellow, buff in age					Woods
Hydnums	*Hydnum caput-ursi*	Awl-like spines cover the entire exposed part of this fungus, which grows in fleshy branches each terminating in a crown of shorter drooping teeth; color, white or creamy white. Stem, single, stout. Grows on tree trunks, favoring smooth barked trees. Edible							
	H. caput-medusæ	Very similar to the *Hydnum caput-ursi* (Bear's Head Hydnum) in appearance but does not branch, growing in one mass. Edible and delicious							
	H. coralloides	Resembles a branch of coral. A common stem arises from a rotting log, sending out successive graceful branches, from the under side of which hang the spines, similar to those of the Bear's Head Hydnum but shorter. Edible							
	H. erinaceus	Satyr's Beard. Edible, grows in a large tubular mass, does not branch. Spines long and straight, hanging downward in parallel lines. Found on dead tree trunks and wounds in living trees.							
Lycoperdon	*Lycoperdon giganteum*	Giant Puff-ball	Grows on the ground in fields and pastures, maturing in autumn. White to dingy white. Rind, smooth, dry, and white to whitish, 8 to 16 inches in diameter, often larger; edible when young while the flesh is firm and snowy white						
	L. gemmatum	Top-shaped Puffball	Small, white, dark gray when mature, covered with minute scales or warts. The smaller Puffballs, while not injurious, do not possess always an agreeable flavor.						

BIRD NEIGHBORS

CONDUCTED BY T GILBERT PEARSON

Secretary of the National Association of Audubon Societies

[Mr. Pearson will be glad to answer any questions relating to birds; for convenience, kindly address Readers' Service, COUNTRY LIFE IN AMERICA, Garden City, N. Y.]

SPARROW HAWK BIOGRAPHY

By DR. R. W. SHUFELDT

AMONG the falconine birds of the United States we have no more beautiful species than the sparrow hawk. There are several varieties or subspecies of them, but in appearance and general habits they are more or less alike. At different times I have bestowed special attention upon the sparrow hawk, and more than once one of the birds has been a captive in my hands for months at a time. As pets they give little trouble, and they thrive upon bits of raw meat, or on foods they themselves obtain in nature, such as mice, English sparrows, and grasshoppers. Usually the bird becomes tame and contented very shortly after its capture, it soon learns to perch upon your finger, and to make known to you, in various ways, that it is hungry.

The sexes are quite differently marked, and are easily distinguished. The crown of the head is of a fine slaty-blue color, with a central patch of chestnut, the latter varying much in size and sometimes absent altogether. One conspicuous, vertical, black bar crosses over the region of the ear and another at the angle of the mouth. At the back of the neck there are three more, the combination giving the head a very black-barred appearance; all seven of these may, like the crown patch, be much subordinated in intensity, and in some individuals so obscure as to be scarcely noticeable at all. The back also is chestnut, which, in the slightly larger female bird, is transversely barred with black. My pet male bird had the wing coverts of a delicate slaty-blue, with a few small black spots scattered over it, but in the female these feathers are of a cinnamon color and black-barred like her back. The big feathers of the wings are black with white indentations, the next tier of feathers above being slaty-blue again. All the lower parts are white, shaded with pale buff, their area being beautifully black spotted in the male, and streaked with dark brown in the female.

Coming to the tail, in my bird it was of a glossy chestnut, each feather being tipped with white, which latter was separated from the chestnut by a black zone including all the feathers. The entire tail in the female is imperfectly barred with black. The feet are bright yellowish orange in both sexes.

Long before my time, Audubon also had kept one of these little falcons as a pet. Of it he wrote: "No bird can be more easily raised and kept than this beautiful hawk. I once found a young male that had dropped from the nest before it was able to fly. Its cries for food attracted my notice, and I discovered it lying near a log. It was large, and covered with soft white down, through which the young feathers protruded. Its little blue bill and yet gray eyes made it look not unlike an owl. I took it home,

The sparrow hawk commonly lays five eggs to the set, though the number may vary from three to seven

The male sparrow hawk which Dr Shufeldt kept as a pet for many months, and which became perfectly tame and gentle

named it Nero, and provided it with small birds, at which it would scramble fiercely, although yet unable to tear their flesh, in which I assisted it. In a few weeks it grew very beautiful, and became so voracious, requiring a great number of birds daily, that I turned it out to see how it would shift for itself. This proved a gratification to both of us; it soon hunted for grasshoppers and other insects, and on returning from my walks I now and then threw a dead bird high in the air, which it never failed to perceive from its stand, and toward which it launched with such quickness as sometimes to catch it before it fell to the ground. The little fellow attracted the notice of his brothers, brought up hard by, who, accompanied by their parents, at first gave it chase, and forced it to take refuge behind one of the window shutters, where it usually passed the night, but soon became gentler toward it, as if forgiving its desertion. My bird was fastidious in the choice of food, would not touch a woodpecker, however fresh, and as he grew older, refused to eat birds that were in the least tainted. To the last he continued kind to me, and never failed to return at night to his favorite roost behind the window shutter. His courageous disposition often amused the family, as he would sail off from his stand, and fall on the back of a tame duck, which, setting up a loud quacking, would waddle off in great alarm with the hawk sticking to her. But, as has often happened to adventurers of similar spirit, his audacity cost him his life. A hen and her brood chanced to attract his notice, and he flew to secure one of the chickens, but met one whose parental affection inspired her with a courage greater than his own. The conflict, which was severe, ended the adventures of poor Nero."

Seventeen years ago last May, I received from a friend for study five beautiful young sparrow hawks taken from an old woodpecker's nest, where the pair had bred, near Washington, D. C. They were in excellent condition and very vigorous. Not having any mice or birds handy to feed them with, I purchased about a pound and a half of raw beef. This I fed to them in turn by hand, and, remarkable as it may seem, the five ravenous little fellows ate it all up in less than a quarter of an hour. Shortly after their coming into my possession, I noticed that the oldest and largest bird of the brood was nearly double the size of the youngest one, while the three others graduated down from the biggest to the littlest one in regular order, the difference in size from first to last being almost in exact proportion. It was evident, then, that the female had laid the eggs at regular intervals, very likely three or four days apart, and that incubation commenced immediately after the first egg was deposited. What is more worthy of note, however, is the fact that the sex of these nestlings alternated, the oldest bird being a male, the next a female, followed by another male, and so on, the last and youngest being a male. The latter had a plumage of pure white down, with the pinfeathers of the primaries and secondaries of the wings, as well as the rectrices of the tail, just beginning to open at their extremities. It has long been known that some owls begin brooding as soon as the first egg is laid. Newton ("Dictionary of Birds"), has pointed out the advantages of this, "since the offspring, being of different ages, thereby become less of a burden on the parents which have to minister to their wants, while the fostering warmth of the earlier chicks can hardly fail to aid the development of those which are unhatched, during the absence of the father and mother in search of food; but most birds, and, it need hardly be said, all those the young of which run from their birth, await the completion of the clutch before sitting is begun."

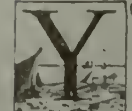
Our sparrow hawk seems to mate for life, if we may judge from the fact that they are in mated pairs when they arrive from the South at their Northern breeding ranges. They select all sorts of sites for a home—generally a deserted nest of some woodpecker; but often the hollow of a tree, or any natural cavity that may be found. Sometimes—though rarely—they will deposit their eggs in an old crow's nest, or in that of some other bird.

Personally, I have not found the nest of this species more than once or twice in my life; the beautiful set of eggs here reproduced was loaned me for the purpose of photography by Mr. Edward J. Court, of Washington, D. C., who has taken more eggs of eagles, hawks, and owls—twice over—than any other ornithologist in the city of Washington.

Nestling sparrow hawk in the white, downy stage—one of the five taken from an old woodpecker's nest near Washington

WORKING A FARM DOUBLE SHIFT

By H W COLLINGWOOD



YOU may say, if you like, that this farm was done on both sides; kept busy with no idle days in the year. Before the farm was well done it certainly could be called raw. Most men put in a day's work and then stop for sleep. Many of them would, if they had their own way, cut the work in two and add the clipped hours to their time of rest. If they are farmers, they are quite willing to treat their farms on the same principle, with six months for production and six more for resting.

I knew a man who for some months worked fifteen days a week. He was a ship carpenter, and during the Spanish War there was a rush to fit out vessels for service. This man's labor union made eight hours a day's work. He worked eight hours, took six hours' rest, and then worked eight hours more, and so on. Each eight hours was a "day," and he put in fifteen of them inside of fourteen times around the clock. This man surely kept out of mischief, and there are farms run in something of the same way. An old Yankee in our town, when I was a boy, hated to see anything rest. He said rest was rust. He built a dam across one end of the swamp and held back the water in a pond. This provided winter power for a small saw mill, while in summer he picked cranberries and checkerberries and blueberries, and cut the coarse grass for bedding.

" Ice and its partners, honey and spring water, ... take no plant food away from the soil "

Very likely it was a descendant of this old fellow who brought the system up to date and made a worthless piece of land take on such character and energy that it worked every hour in the year—days, nights, and Sundays.

Ten years ago this industrious farm was about the laziest specimen of land that you could find in a week's search—a narrow valley between low hills, where a sluggish little stream turned and twisted down through it, as if determined to see that every square foot of the soil was turned into ooze. There was a fine crop of cattails, coarse grass, and brush. Bullfrogs and muskrats were its only citizens. A foolish young cow once waded in on a voyage of discovery, but they had to take a yoke of oxen to pull her out. For years it had been an eyesore and a reproach. The stream was fed by pure springs back among the hills, and a chemist would have taken some of that soil into his laboratory and brought back the report that it was as rich in crude material as stable manure. Why not, since the wealth of the hills had been washed out into this swamp, while, when the flood subsided, the lazy stream did not have energy enough to carry the plant food away? Raising bullfrogs on soil rich enough to be used as fertilizer can hardly be called good farming, yet that was about the limit in the production of this field.

The swamp was part of a farm belonging to a sensitive man, who went through life constantly galled because his farm carried a mortgage and an eyesore. The mortgage was held by one of his wife's relatives, and I can hardly think of a more trying creditor. He never would foreclose of course, but what was worse, he made remarks about the fortunate circumstance that Mary's people had been able to finance John's farm for him. The eyesore was this narrow swamp. John was a good farmer, but his tillable fields were poor and thin. Their fat had been washed down into this worthless place. Of course he realized something of the riches which lay sodden and crude in this swamp soil, but what can such a man do without capital, and where can you get capital until you show that one dollar can be made to earn three? No capitalist banks on a borrower's opinion. He wants to see the goods, and who can blame him? John tried hauling this black soil out on the upper fields, but that is a slow way to get ahead. No one ever got very far along hauling muck for upland crops, in spite of what the chemists tell us they can find in the muck. You must carry the crops down into the muck if you want them to be sizable. This farmer had no capital with which to drain the swamp, and so he would lie at night listening to the bullfrogs croaking. "Mortgage! Mortgage! Never pay it! Never pay it!"

A few miles away was a town of good size. It was a factory town with rather a warm reputation. The warmer the town's reputation, the greater the need for ice, for more people turn out to parade the streets at night, and they all want to be cooled off. There was no pond near-by where good ice could be cut. It was all brought in from a distance. One day a shrewd business man cast his eye over John's valley swamp. The springs which fed the sluggish little stream were noted for their purity, and the location made it easy to throw a dam across the valley and hold the water back. The result was a contract under which John built the dam broad and high, and the business man built an ice house. The wife's relative who held the mortgage looked kindly on. He did not have so much faith in the ice business, but he thought that there might be good fishing for pickerel or trout in that pond.

They finished the dam by early October, and the water began to rise against it and slowly flood the swamp. Up it came, higher and higher, until even the high-bush blueberries were out of sight. The heavy fall rains came washing and tearing the soil out of the hills. In former years this flood had gone roaring and lashing through the swamp and beyond, a biting riot of yellow water. Now against that dam it spread out into a broad pond, and the sediment settled out of that yellow water, leaving it clear. The wife's relative saw this going on, but he had no idea that as this thin mud settled in the pond, it was also settling that mortgage. This was true, for the water had washed the life out of the hills, but it could not get away with it as before. It is during the late summer and fall that the soil makes most of its plant food available. Nature had been washing it out just as grandmother used to leach the wood ashes in order to make soap. In former years all this richness had been rushed off down through the streams to the ocean. Now it was settling in John's pond to make a soap that would wash the mortgage off the farm.

They got their ice crop, and it was a good one, clear and pure. After all, you may call ice in its way an ideal farm crop. Ice and its partners, honey and spring water, are the three graces which take no plant food away from the soil. Furthermore, nature does most of the work of preparing them. You might sell ice, honey, and spring water off a farm for years, and then you could bring back in a bushel basket all the plant food they had ever carried away.

March came, and with it the break up of winter. It came hard that year, for winter hated to go for some reason of his own. He fought till he cried, and the tears came in a deluge of warm rain. The ice broke on the pond, and the wind and rain forced it like a battering ram against the dam. Crash went the gateway, and a slice of the wall went with it. The water dug a hole under the gate like some blind, frightened giant rushing from security out into trouble without knowing why. The farmer stood and saw his dam crumble away and the pond disappear. The wife's relative saw his fishing pond spoiled, and he wanted a payment on that mortgage at once. John's pocket was warm with his share of the ice money, and Mary begged him to turn it over so as to keep the relative quiet, but John had been so long without capital that he meant to see if one dollar could not be made to earn another on that farm, and so he kept his ice money in cold storage.

The pond finally emptied itself, and the swamp pushed its nose up out of the water. Somehow it was a different looking nose than before it took its bath. Much of the old growth seemed to be dead, and there was a dark brown deposit all over the land. In some way the last of the ice and the rush of the water had taken that sluggish stream by the tail and shaken out several of its kinks by gouging out a new channel. In the lower part of the swamp it twisted and wound about as before, but at the upper end it had taken a straight course, and the soil was drying out earlier than ever before.

There came one day an old man from the next township. He was a retired farmer. Some farmers retire in order to commit suicide in the longest and most painful manner. After working hard for forty years they move to town and proceed to do nothing. Having never formed the reading habit, they do not get beyond the county paper in their study of literature. They take no exercise, yet continue to eat as heartly as when they worked fourteen hours a day. Their wives do their own housework and keep chickens or a garden, thus obtaining exercise and keeping the mind busy. The husband sits around and talks; the wife moves around and works. That is why, when twenty retired farmers come to town, there are usually within a few years about eighteen widows and eighteen gravestones. This farmer had all his life studied how to do farm work, without knowing why. Now he was occupying his mind by studying the why of things. Thus he had struck a new life, and a more interesting one, in finding out why he had dug ditches for drainage, used phosphate with manure, and a dozen other things. This man saw that brown deposit at the bottom of the pond, and that crooked stream wandering lazily along. He looked at it for awhile, then put on his spectacles and pulled out a set of figures, and this is part of what he read:

POUNDS IN ONE TON

	[illegible]	[illegible]	[illegible]
Mud	[illegible]	[illegible]	[illegible]
Pond bottom	[illegible]	[illegible]	9
[illegible]	[illegible]	4	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
Stable manure	[illegible]	[illegible]	[illegible]

While the old man was on the farm practising the [illegible] of farming this would not have meant much to him. Now that he had studied the [illegible], he saw that the water which stood on this swamp had carried in and dropped on the ground a thick smear of plant food. An army of horses hauling in stable manure could hardly have done better work. The farmer with a mortgage and no capital must eat the dry crust of hard bread. When nature puts such a smear as this on his land, and he can obtain the tools for making it useful, it is like adding the butter and sugar needed to make bread pudding or cake. Here was land containing as much nitrogen as stable manure, and here came nature to carry out a well-known scriptural truth by buttering it over each winter with added richness, yet the soil lay there inert and incapable because it was water-logged and sour.

This old farmer had studied that too. They went to the upper part of the swamp where the stream had been straightened, and saw that the soil which it drained was drying out. Through the straight and narrow path cut by the ice, the water went quickly off about its business. Such activity is catching, and the little cat-holes and pools had fallen into the spirit of things, and sent their surface water out to be carried on. Down below, where the stream still dawdled and twisted in the broad and pleasant way, the water remained and the cat-holes were full. The old man pointed this out and shut one eye as he sighted down through the stream to show the natural water course.

And so John raised something of a family tumult when he invested part of this ice money in dynamite. One of the most interesting things in this world is the mental picture of a good woman, who has confidence in her husband, feels somehow that it is shaking, and yet bravely faces her relative who holds the mortgage. John punched holes in the natural water course in that swamp, put in his dynamite, and let it off with mighty explosions. With some hand work it was easy in this way to open a straight track through the field. Water is well trained. It will always march to lower ground, and by so doing raises the farm to higher ground. This stream quit wandering and twisting and turning and fell right into the new track. The ditch changed into a brook in twenty-four hours. As the bright water from the hills rippled on through this new opening, it called cheerfully to its sleepy, sluggish friends in the cat-holes and pools:

"Come on! Awake—arise—or be forever fallen. Life lies below. Quit slumbering here, and come with us out into the world." And out of every ooze and pool it came, not all of it, but enough to show what would happen when the little ditches were dug in to give an easier chance.

As the swamp commenced to dry, the relative began to see that after all it was a case of methodical madness. There came a mournful catch in the voice of the bullfrogs, like that of many another old citizen who sees progress crowding him out of his old-time haunts. The relative thought that it might make a fair pasture after all, but John had begun to see things a little. No one would think of pasturing cows on hotbed soil. Here was soil with as much fertility as a hotbed, but lacking the heat and the punch of fermenting plant food to make it go.

From the analysis, what that sour and ugly soil most needed was phosphate and peace, the latter of a kind that you must fight for. By May there were several acres of that soil in the upper part of the swamp dry enough to plow. It was a tough job, but it was finally turned over. Then they put on to each acre a ton of air slaked lime and harrowed it thoroughly in. The neighbors hooted at this plan of whitewashing land. Some sour men are whitewashed when they ought to be dipped in carbolic acid. When the wash flakes off they are sourer than ever before, but good, honest soil will take the whitewashing and turn it into nature's green paint on their crops. Then when the corn was planted they scattered a little acid phosphate around each hill and hoed it in, for the analysis of such soil showed that this element was lacking. Luckily it was a dry season naturally. Had it been wet, the corn would have waded through water carrying a poor, yellow crop. As it turned out, there was a drought, the water sank low in the soil, and as a result such corn had never been seen in that country before. The crops on the dry hills were mostly a failure, but in this rich and chastened soil the stalks grew up like trees. The neighbors called it luck. In a way it was, but that sort of luck is made out of drainage, lime, and phosphate. The wife's relative was a wise man and a sport when you cornered him, and he was the very person to come forward and offer to lend the money for a complete system of drainage in that swamp.

They built up the dam stronger than ever, and put up another ice house. Then an engineer came and got the levels for a full system of drainage. A big main runs down the centre of the swamp, with smaller laterals running into it. From these, smaller tile run back to every low spot of ooze and cat-holes. These little lines of tile are most important of all, since they tap the hidden springs and drill the water into the trick of marching away from home for service elsewhere. They are like Kipling's orderly sergeants in the Egyptian army. No one ever heard of them. They are too small to be mentioned in reports, and yet

"They drilled a brown man white—
They made a mummy fight!"

The main drain runs out under the dam down below like a sewer. There is a concrete mouth to it, which can be closed or opened at will like the pipe of a water power. In the fall the mouth is closed, and the water backs up against the dam to form the ice pond. When the pond is filled, the drainage system may be partly opened to give some flow through the tile and thus prevent clogging. The ice crop has come to be a large proposition, and it removes no plant food from the soil. In the spring the gates may all be opened, and the water turned out. There is always found a smear of mud over the ground which represents the settlings from the pond. It would be safe to say that this deposit represents on one acre all the nitrogen and a good share of the potash to be found in twenty tons of stable manure. There is very little phosphoric acid, and the nitrogen is inert and sour.

That gives a line on the farm side of the proposition. That soil needs what we have called phosphate and peace. When cows gnaw old boards or try to eat the barn down, it is well understood that they need phosphates. When men look as if they could gnaw a file, they need peace, although it would be hard to make them think so. When soils become sour and stagnant they need lime. After a few years of work you would not recognize this soil. The tough, sour grass has disappeared, and the aristocratic timothy would grow five feet high. In place of the sour and tough and untilled muck you find a rich, crumbling soil, black and beautiful.

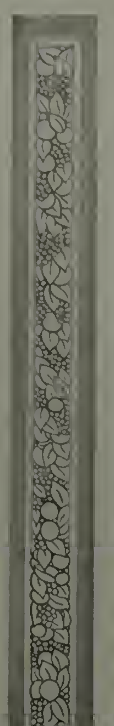
Corn, potatoes, celery, and onions are the crops best suited to this soil, but whatever grows there must be off before the middle of October, for there can be no sleep for this land. While other soils lie waiting for winter to go, this farm is producing its ice crop, and receiving its thin buttering of the fat taken out of the hills. Other corn fields might boast of their cover crops. This one is covered with water, and goes in swimming in the place of resting. Corn is the best crop for such a field, because it can make use of the rough plant food in the soil, and ends its work with the first hard frost. With a dressing of lime to quicken up the humus in the soil, and a fair dressing of phosphates, corn grows to enormous size. Potatoes and celery are different. This is ideal soil in which they may develop, but their feeding habits are different, and fertilizer may well be used to push them on, even in this rich and fertile ground.

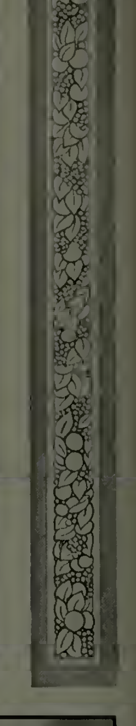
The corn crop reaches up out of the swamp and puts its strengthening hand upon the hills. Silage corn grows in this pond bottom until you would think you were standing in a Louisiana cane brake. It is hauled out and cut into a silo, and then fed to cattle. The manure from the cattle feeding goes out on the upland soil, and thus is bringing those thin old fields back to clover and alfalfa. The raw muck hauled out of the old swamp could not do this, but the drained and sweetened muck produces corn, and this, after paying a good profit in milk and meat, passes off to the upland and fits it for alfalfa.

Thus this farm is done on both sides, and well done at that. There are many locations where such a plan could be carried out. Even if no ice were cut, the pond would often pay for its effect in fertilizing and soaking the soil.

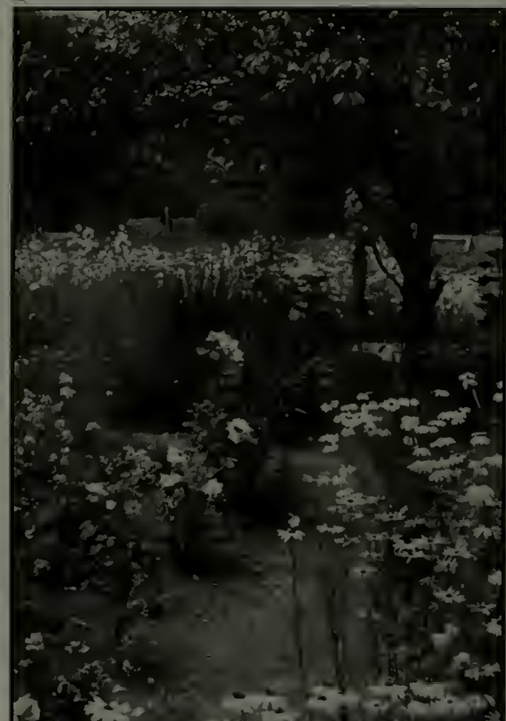
It was lazy swamp land such as this that John put to work on double time. There are many locations where such a plan could be carried out

In this rich soil the corn stalks grow up like trees





The back of Greycote, looking up the path. The garden is planted for succession, perennials in masses and annuals filling in. The plan of the garden is Miss Foster's own, and all the planting has been done either by her own hands or under her supervision



GREYCOTE
The Garden of Miss M. D. FOSTER
SAYVILLE L. I.

The tea roses are grouped together but not set apart from the other flowers. Pyrethrum in foreground at the right

On the south side of the house a pink rambler outlined against the gray shingles makes an unforgettable picture

"Long about knee-deep in June". The whole garden is delightfully informal, with its winding paths and cross paths, and friendly groups of flowers

Blue and white hardy bellflowers, pyrethrum, and early perennials, with asters, gladioli, dahlias from seed, and rainbow corn in the foreground

An orange grove in bearing is a beautiful sight, but beauty is not the only end served. The value of the California navel orange crop is more than $10,000,000 annually

FORTY YEARS OF THE NAVEL ORANGE

By George Cladden

THE wonderful beauty and luxuriance of the great orange groves of southern California, especially in the region around Riverside, must make an eloquent appeal to the esthetic sense of all sojourners in that enchanted land, but I wonder how many of these delighted beholders gain any clear comprehension of the significance of this growth as an illustration of what nature, with man's assistance, can accomplish in a comparatively short time, much less of its economic meaning.

How many, I wonder, realize that fully three fourths of the *nearly eight millions* of bearing orange trees in California in 1914 owed their existence to the importation into that state less than forty years ago of two small navel orange trees, or that, according to no less an authority than the United States Census, "in no other State have agricultural lands, as such, reached the selling price of the sub-tropical fruit orchards of southern California."

The first definite written record of the navel orange, appears to be that which was made by the Jesuit monk, Baptiste Ferrari, in his work, "*Hesperides sive de Malorum Aureorum Cultura et Usu. Libri Quatuor*," which was published at Rome, in 1646. Ferrari calls this variety, *Aurantium form[illegible]ferum*. The navel is again mentioned in the "*Historiae Naturalis de Arboribus et Fructibus Libri Decem. Johannis Jonstoni, Medicinae Doctoris*," published at Frankfort-on-Main in 1662. (Hume's "Citrus Fruits and their Culture.")

From the discussion of the orange industry in the Twelfth United States Census we learn, furthermore, that oranges were brought from Asia to Portugal in about the year 1500, and thence spread throughout the Mediterranean regions. Taken to Brazil by early explorers, the tree became wild, as it did when it was brought to Florida by the Spaniards in 1560. In Florida, wild groves were to be found until about 1880.

The following historical sketch is an extract from a speech by the Hon. William L. Kettner to the House of Representatives. It is based on information which he had obtained from an official of the Agricultural Department.

"According to the late James Hogg, of New York, a wealthy Brazilian planter, a Scotchman by birth, determined to manumit his slaves and remove with them to the United States. This he did about 1838, settling on an island in middle or southern Florida. He then returned to Brazil and secured a collection of Brazilian plants for introduction, which he consigned to the late Thomas Hogg, who then conducted a nursery at the corner of Broadway and Twenty-third Street, New York City. Among these plants were several navel orange trees. The collection was held in the greenhouse in New York for nearly a year, until the plants had recovered from the effects of the sea voyage, and was then forwarded to the owner in Florida. During the Seminole War the entire collection was destroyed by United States troops, the owner being charged with giving aid and comfort to the enemy. The owner then removed to Haiti. While it is not positively known that these trees were of the same variety as that subsequently introduced by the department, it seems probable that this was the case. None of the trees survived long enough to come into fruit, however, and no trace of them now exists. The facts regarding this early introduction of the navel orange do not appear to have been generally known until 1888, when the above statement was published by Mr. Hogg.

"During the year 1868 Mr. William Saunders, the horticulturist landscape gardener, and superintendent of gardens and grounds of the United States Department of Agriculture, learned through a correspondent then in Bahia, Brazil, that the oranges were of a superior character to any known in the United States. The department accordingly ordered a small shipment of trees. The first lot were found dead upon arrival. By sending minute directions as to budding, packing, and shipping, 12 small trees in fairly good condition were finally received by the department in 1870. These were planted in one of the greenhouses and propagated from by budding on small orange stocks. The young trees thus propagated were distributed to orange growers in Florida and California, under the name 'Bahia,' for testing. In 1873 two of these young trees propagated from those originally imported from Brazil were sent to Mrs. L. C. Tibbets, Riverside, Cal., upon the request of Gen. B. F. Butler, then a Member of Congress from Massachusetts. When these came into bearing the superiority of their fruit to that of the other varieties then grown in California was quickly recognized, and the trees on Mrs. Tibbets's place were largely propagated from by California nurserymen. One of these renamed the variety 'Riverside Navel,' and claimed to have imported the trees from Brazil himself. Later, at a conference of orange growers held in Los Angeles, Cal., the name 'Washington Navel' was adopted for the variety, in recognition of the fact of its introduction by the Department of Agriculture, and it is very generally grown at present under that name. The American Pomological Society still adheres to the name 'Bahia,' under which Mr. Saunders introduced it, and recognizes the names 'Riverside Navel' and 'Washington Navel' as synonymous. It is now the most extensively grown variety in California.

"The Washington Navel was widely planted in southern California, the state acquired a world-wide reputation for its citrus fruits, and a new era in orange culture began."

The irrigating canal which traverses the Riverside, Cal., orange groves

One of the two original trees to which the navel orange industry of southern California owes its existence

The so-called "thermal belt," of California, with a soil and climate both suitable for oranges, extends northward from San Diego, for about seven hundred miles, to Tehama County (at about the 40th parallel), is from two or three to twenty-five miles wide, and includes about 1,500,000 acres, which is practically 2,344 square miles.

The reader will forgive me for employing here a few statistics—notoriously dull reading—in a further effort to convey a definite idea of the astonishing growth of this industry. These figures I shall take from the latest United States Census, and they therefore represent conditions which existed about six years ago, since which time, of course, the industry has been very considerably enlarged.

From the census tables we learn that in 1899 there were in California, 5,648,174 orange trees of *bearing* age, which in that year produced 5,882,193 boxes of oranges, while in 1910, the number of bearing trees had increased to 6,615,805; also that in the previous year, the crop amounted to 14,436,180, boxes, valued at $12,951,505. And remember that account is taken here only of trees which were actually bearing, and that this excludes practically all of the trees under three years of age.

As to the proportionate value of the navel orange crop, the following statement on the subject, which appeared in the Department of Agriculture's "Weekly Crop Letter to Correspondents," of March 4, 1914, is significant: "One of the most striking introductions of fruit ever made by our Department of Agriculture was that of the seedless orange. The value of this crop in California is now more than $10,000,000 every year. Millions of California navel orange trees are the descendants of the few that were introduced by the Department in the seventies."

An up-to-date packing house, showing machinery for sorting the oranges and packing them for shipment

GARDEN SCULPTURE IN LEAD

DESIGNED AND EXECUTED BY THE BROMSGROVE GUILD

Boy and hound—a vivid group

Lead garden sculpture is practically indestructible, and it ages to a silvery gray which blends harmoniously with its background of greenery. Boy and dolnhin fountain group

Summer, seated on a stone pedestal

A dancing faun

Autumn bidding butterfly good-bye

Flora with castanets

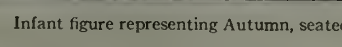
Figure of boy with hedgehog

Spring welcoming the young birds

A frog for the edge of the pool

and a turtle to keep him company

Flora with her wreath, and a realistic snake charmer, on either side of a garden entrance



Infant figure representing Autumn, seated

Seated Summer, a companion piece to Autumn

THE NEW BUSINESS OF FARMING

CONDUCTED BY F. D. COBURN

[Mr. Coburn will be glad to answer any questions relating to farming; for convenience kindly address Readers' Service, COUNTRY LIFE IN AMERICA, *Garden City, N. Y.]*

THE IMPORTANCE OF DIVERSITY IN FARMING

THERE are three big reasons for diversity on the farm: it is an insurance against crop failure, it is a method of equalizing work throughout the season, and it almost automatically provides a rotation of crops.

There are three little reasons against diversity: first, that the specialized workman becomes more skillful than the one who does many kinds of work. Second, a farm with one crop can have a better supply of tools adapted to that crop. Third, a small farm can do business on a larger scale if all the product is in one specialty. It is sometimes given as a favorable factor for specialized farming that it is easier for the farmer to have a vacation, but this is merely another way of stating that such farming does not provide work throughout the year.

Insurance against crop failure is especially important, because the risks are many. The manufacturer buys his raw material, makes it up into the finished product, and sells it. His risk is the chance of the selling price being below the cost of the raw material plus the expense of finishing. Weather conditions cannot prevent him from turning the crude article into the refined, and he can insure himself against fire and strikes.

The farmer plants his seed in hopeful anticipation that weather and insects will permit it to grow, that he will be permitted to harvest the crop, and finally, that he will be able to sell that crop at a profit. Continued rains may rot the seed, late frosts may kill the young shoots, bugs may devour the older plants, early freezes or hail storms may destroy the crop at the last moment, or wet weather may interfere with harvesting.

Ordinary business prudence suggests insurance or a division of risks, and that is what diversity provides. Early rains will help the hay crop and hinder certain others, hot days and nights will make the corn grow but will worry the cows, and late rains may give an extra cut of rowen even while they cause the potatoes to rot in the ground. The price of any one crop may be abnormally low in any given year, but the chance of hitting a wrong market with many crops is reduced by every crop added. It is better to have the income distributed throughout the year, for it is then easier to make it meet demands. If capital is limited, money must be borrowed to meet expenses, and then paid off at the end of the season when the crops are sold. This is unpleasant, for one likes to have the "feel" of money once in a while. More than either of these is the mental effect of having money coming in throughout the year. It keeps up a man's courage and makes him face the world with a twinkle in his eye. This phase of the matter is especially important to a man from the city, accustomed to weekly or monthly pay checks. Despise not the cow, with her daily yield of milk and butter.

Diversity equalizes the farm work and spreads it over a larger part of the season. Even the cautious writers of the Bureau of Farm Management at Washington forget their habitual care when writing of diversity and one of them says: "If the working equipment can be all kept busy on paying enterprises, success is almost assured."

Labor is the chief item of cost in farming. Large area contributes to economy in labor, therefore the size of the farm is important. Capital is needed to buy the large farm or to intensify the few acres of the florist or the truck gardener, to economize labor. Diversity is as important as either size or capital, because it contributes to economy of labor and the utilization of equipment.

The difficult problem is so to plan the various enterprises on the farm as to yield the greatest yearly return. The old-time farmer solved it with the dairy. Milking and the care of his cows kept him fairly busy throughout the year, and the harvest season found him overworked for a few weeks. But the production of milk and butter increased until they were sold at a price that did not pay the producer full-time wages for half-time work. This is the condition on many farms to-day, for all of the owners have not learned to change their ways, and too many cows do not afford a profit at the present prices of milk and butter.

The simplest way to understand the results of diversity is to study a couple of actual farm accounts. These are not presented as of typical farms but are used simply to illustrate the point in discussion.

FARM No. 1, 211 ACRES

Capital

4 horses, 31 cows, 30 sheep, and other stock	$ 3,497	
Land, tools, etc.	11,562	
		$15,059

RECEIPTS		EXPENSES	
Wheat	$ 357	Labor and board	$1,286
Oats	366	Seed	90
Buckwheat	20	Feeds	1,193
Hay	110	Fertilizer	78
Potatoes	1,797	Machinery	93
Apples	12	Buildings and fences	150
Cabbage	118	Miscellaneous	319
Milk	3,841		
Cattle	536		
Eggs	69		
Lambs	224		
Wool	63		
	$7,513		$3,209

Farm income	$4,304
Interest on capital at 5 per cent	753
Labor income	$3,551

If this farmer had sold only milk and cattle his receipts would have been $4,377, which would have left him a labor income of only $415. Presumably, though, he would have raised more grain and roughage, which would have reduced his feed bill somewhat. Thus if we add to this income all the expenses which could possibly be charged against the additional crops we would have:

		$415
Extra labor	$500.00	
Seeds	75.00	
Fertilizer	78.00	
Machinery (½)	46.50	
Miscellaneous (½)	159.50	
		859
Labor income		$1,274

as against $3,551 for the diversified farming. In business parlance, this difference is the value of the by-products.

FARM No. 2, 225 ACRES

Capital

6 horses, 30 cows, 20 heifers, 3 bulls, other stock	$ 5,036	
Real estate, tools, etc.	16,750	
		$21,786

RECEIPTS		EXPENSES	
Milk retailed	$6,400	Labor and board	$525
Cattle	2,255	Seeds	50
Miscellaneous	641	Feeds	570
		Lime	50
		Buildings and repairs	500
		Machinery and repairs	85
		All else	110
	$9,296		$1,890

Farm income	$7,406
Interest 5 per cent	1,089
Family labor	100
Labor income (father and son)	$6,217

Apparently this farmer specialized on dairying, but in reality he diversified for he (1) produced market milk, (2) raised pure-bred cattle, (3) retailed milk.

Let us figure on the additional profit which this diversification brought to him.

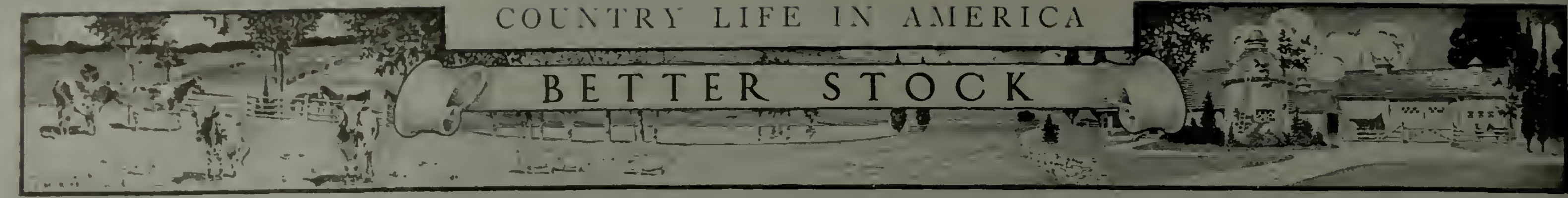
If his cows had done as well as those on Farm No. 1 he would have received for milk at wholesale $3,900. If his stock had sold for the same price as those on Farm No. 1 he would have had a cattle income of $750. The miscellaneous items, however, would have remained practically the same, giving total receipts of $5,291.

		$5,291
Expenses		1,890
Farm income		$3,401
Interest	$1,089	
Family labor	100	1,189
Labor income		$2,212

The diversity of retailing the milk and raising pure-bred stock made an additional profit of $4,005.

These are extreme cases and must not be taken as typical, but they serve to show the advantage of diversity in farm management. An increase of 25 to 100 per cent. in receipts, with very little added cost, is however, fairly representative.

A diversity of crops may curtail the farmer's vacation time, but it is a sort of insurance that every tiller of the soil should take out



BETTER STOCK

CONDUCTED BY E. L. D. SEYMOUR

[*Mr. Seymour will be glad to answer any questions relating to live stock: for convenience, kindly address the Readers' Service,* COUNTRY LIFE IN AMERICA, *Garden City, N. Y.*—THE EDITORS.]

FLY PROTECTION FOR THE HERD

ONE of the commonest sights in midsummer, unfortunately, is a herd of cattle standing tail to tail, perhaps knee deep in a stream, fighting the hordes of flies that alternately cover their hides and rise in swarms before their swishing tails. But this is not the end. Cows so persecuted subsequently come in from the field at milking time weary, irritable, with sore backs and appetites unappeased, and, naturally, unable to yield their accustomed flow of milk.

There are several ways of preventing these discomforts and losses. In large dairies and breeding establishments where many animals are handled and cheap labor is plentiful, the commonest practice is to spray the cows morning and evening with a chemical fly repellent. Its chief disadvantage is that it calls for more labor and expense than the average farmer can afford. Another is the tendency of the spray material to lose its power by early afternoon, leaving the cattle at the mercy of the flies during the hours when the insects are likely to be most active. The greatest usefulness of these sprays is in keeping the cows quiet during milking time.

The fly is a lover of heat and sunlight and in their absence is comparatively inactive. This is the basis for another up-to-date and economical method of combating it, namely, the practice of keeping the herd in the barn—which should be screened and shaded—throughout the heat of the day. Of course this is possible only where a separate building is devoted to the cows, so that they are not molested by, or in the way of, the handling of hay and other crops. Under this system the herd is turned out to pasture in the early evening and brought in in time for the morning's milking. The plan originated in Europe but is gaining favor among increasing numbers of our farmers each year. It involves a minimum of labor in caring for the herd except where pasturage is scanty or not available, when soiling must be practised.

Where barns for the exclusive use of the cattle are wanting, the next best plan is to provide sheds in the pastures into which the cattle may go during the hottest part of the day. These should be as dark as possible, but they must also be well ventilated else they will become excessively hot and even more uncomfortable than the sunlit open.

When none of the above suggestions can be followed, the only thing is to provide plenty of natural shade in the pastures, or—which is usually more practicable—to make pastures of those fields where shade is already available. Running water and low-hanging trees are veritable boons to the stock raiser. For it is not only cruel to the cattle but also costly to their owner to deprive them of any comfort that can practicably be provided. No cow can stand out in the full sunlight battling with flies and gnats and maintain her health and milk flow; inevitably she will lose both. And almost as inevitably her owner will soon find himself confronted by the unpleasant necessity of disposing of her for whatever he can get, and replacing her at a loss of both time and money.

W. E. WIECKING.

Running water and low-hanging trees are boons to stock

The shoulders and back of every work and saddle animal should be washed with cold water and rubbed dry at noon every working day, to avoid galls and sores

It is not only humane to clean all dirt and sweat from the work horses' collars each noontime, but it is good business — a form of live-stock insurance

HORSES' SHOULDERS IN SUMMER

IN THE West, they say: "Show me a tenderfoot's horse, and I'll show you a sore back," but on the farm it is more often the shoulders that suffer. Conditions are even worse in the thousands of lumber camps scattered among the pines, from Maine to the Gulf, for there, owing to lack of attention, horses frequently give out in a year or less.

A young college graduate friend of mine had charge of some eighty miles of construction on his father's railroad "somewhere in the South." Under him were men innumerable, and 1,200 mules. "The weakest spot in this whole system," he once remarked to me, "is the shoulders of those bally mules. If any more go to the bad it will tie us up for the season."

More *did* go to the bad, until one day he discovered a tow-headed, freckle-faced youth driving a team of four mules entirely free from shoulder-galls. The following conversation ensued:

"How long have you had those mules?"

"'Bout three months, I reckon."

"How do you keep them from getting galled?"

"I wash their shoulders with cold water every noon, and scrape the grease (dirt) off their collars."

"But the foreman tells me that they were the worst galled team in the whole outfit when you got them—how did you cure them?"

"That one thar had a sore covered with proud-flesh—I cured that with burnt alum. I put jemson-weed leaves—I didn't have time to boil 'em in grease as I orter—on the other one, bein' as it was an old sore. I got time, later on, and boiled some elder leaves in lard for the fresh sores, and put a leetle on at noon after I washed the shoulders."

"Well, young man," remarked my friend, "from now on you are the mule doctor of this camp, and of camps six and seven, too. I am going to double your wages, and if you make good—and take in camps nine and ten—you'll get another raise."

He made good, and every time I saw him thereafter he was busy over a big pot, boiling "jemson "weed or elder leaves in lard. The typewritten directions now tacked up in every construction camp of the system read as follows:

"Wash the shoulders, and the back of every saddle and pack animal, with cold water at noon, and rub dry. If a 'green' or young animal, add a teaspoonful of alum, or a pound of salt, to a bucket of water.

"All collars must be scraped at noon, and every particle of sweat and dirt removed.

"For fresh sores, apply elder leaves boiled in lard mixture.

"For old sores, apply jimson weed boiled in lard mixture.

"When the flesh of an old wound is puffy, or light in appearance, indicating proud-flesh, apply burnt alum, made by thoroughly burning ordinary alum on a clean stove-top, or any other iron, and using what remains, powdered."

"Homely remedies," you say; but remember that the proof of pudding is always in the eating. The jimson and elder remedies are known to most old Southern families, jimson being, in fact,

a corruption of Jamestown. The Indians pointed out the weed in the tobacco fields on what are now the streets of that city and taught the early white settlers how to use it. And to this day it has remained a valued agent in alleviating the discomfort and suffering of man and beast.

R. L. Rinckwitz.

PUTTING ON FLESH

TO MANY people pigs is pigs, and the average farmer is content to get a couple in the spring, let them run in the orchard, feed them on unsalable by-products, and take what profit he can in the fall when they weigh perhaps 200 pounds each. But the pig clubs throughout the country are teaching that there is more in it than that. For example:

Raymond Williams of Denton County, Texas, joined the pig club of his locality in the spring of 1915. He got a two-months-old Duroc Jersey pig weighing 41 pounds and commenced feeding it early in April in accordance with instructions. He grazed it on oats, Bermuda grass, and alfalfa and fed it a supplementary feed of shorts, chopped maize, some skim milk, and, toward the end, some cottonseed meal. In November, seven months later, it weighed 414 pounds, and when killed, dressed 395 pounds. For six months of this time it averaged a net gain of more than two pounds daily; you could almost see it grow.

The meat, lard, sausage, etc., when sold at retail, brought \$51.65. The total cost, including feed, original cost of pig, killing, cutting, and refrigeration, was \$28.34. The net profit of \$23.31 was approximately twice as much as if the hog had been sold on the hoof.

Of course no one, least of all a practical farmer, should imagine from this that the probable profit from a herd of, say, 100 hogs will be \$2,331. Farming finances don't work that way; for it is practically impossible to give to a number of animals the care that can and must be given to one if such results are to be obtained. Moreover, the danger from disease, and the necessary investment for shelter and purchased feed, all increase with the number of animals. And finally, it is usually impracticable to dispose of an entire herd at retail for the generous prices that one superior carcass will bring. Nevertheless, such results *are* entirely possible with a few hogs, on every farm; and if the opportunity to achieve them is given to boys and girls in the form of a privilege and an honorable duty, rather than as a chore or an affliction; and if those boys and girls are permitted to receive all the credit and financial benefit that result from their conscientious labor and thought, then an entirely new set of benefits will accrue in the form of heightened confidence and self respect, increased interest in farm work, increased knowledge, and more lofty ambitions. For after all, the contributing elements in the successful case herein described were good stock, a good start before weaning, a balanced ration, a mineral mixture always before the pig, *and* the care and industry of a boy who was really interested in what he was doing.

Dalton Wylie.

Raymond Williams, of Texas, and the Duroc-Jersey pig which under his care and feeding attained a weight of 414 pounds at nine months of age

THE MAN WHO HAD TO BE SHOWN

OF COURSE I'm not what you would call a 'horny handed son of toil,'" remarked the Texas lumberman, who is also banker, capitalist, and, to some extent, farmer. "My farm is my play house and as such I get a lot of fun out of it. But just the same I try to play the game right and according to all the latest rules and most progressive knowledge. Last fall, for example, we had an epidemic of hog cholera down our way, and as I had about sixty head of Poland-Chinas coming along I decided to try serum inoculation. My farm foreman has a little place adjoining mine, and as he had twenty hogs there I ordered enough serum to treat the entire hog population of both farms. It was an experiment pure and simple, so I had no intention of letting it cost him a cent.

"They sent the stuff up from the Agricultural Experiment Station along with an expert to administer it, and as I was too busy to go to the farm, I sent him out in my car with a note directing the foreman to give him every possible assistance. The next evening he called at my office with a grin on his face. 'Well,' I asked, 'How did you get along?'

"'Well enough so long as I worked on your hogs,' he replied, 'but when I wanted to tackle your foreman's bunch he went up in the air. He allowed it was all right for you to poison your stock if you chose, because you could afford it, but that there was enough danger of his hogs catching the cholera without feeding it to them out of a bottle. When we came to check up the number I had treated we found that one of his had been let in with yours by mistake. He was quite peeved about that, for he figures that shote a clean loss. He is going to send me a bill if it dies. I told him to turn the treated animals into that small grass lot and to cut the corn out of their feed for a couple of weeks, and suggested that if any of them got sick he put them in clean pens by themselves and give them physic. I don't believe they will have a bit of trouble, but he's mighty skeptical and you'll probably hear from him.'

"Sure enough, a few days later the foreman called me by telephone to say that most of my hogs were sick. 'Well,' I asked, 'didn't the expert tell you what to do?' 'Yes, he told me all right, but I don't believe it will do any good. Them hogs is goners sure enough.' 'Do the best you can,' I replied, 'and let me know if any die!' I could tell by the way he grunted and hung up the receiver that he was looking forward to a wholesale hog burying.

"That was early in October, and as I was away most of the time until Thanksgiving, I lost track of the hog situation until one day the foreman came into my office with a face as long as a mule's. 'Hello,' I said, 'How are my hogs getting along?'

"'Finest kind,' he returned without enthusiasm. 'Say, that little note I gave you will be due in a few days, and I'd like to renew it for six months if you don't mind; I've had some bad luck.' (I had loaned him a little stake to help him buy his place.)

"'Of course we'll renew it,' I replied. 'What's the matter, some of your folks been sick?'

"'No, my hogs all died with cholera.'

"'Hogs all dead? Well I swear!'

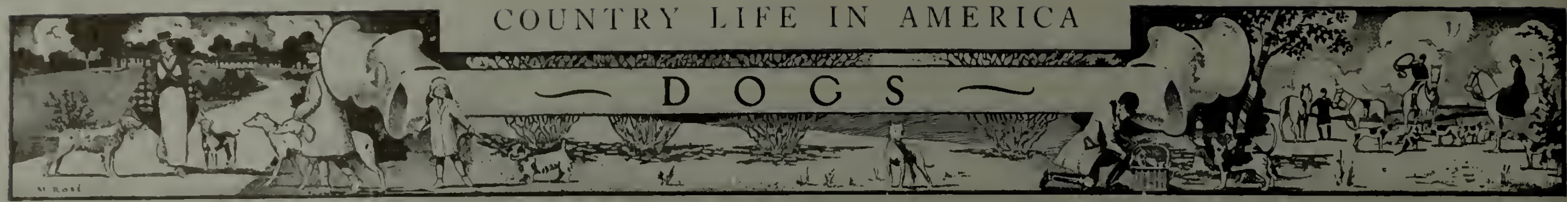
"'Well they might as well all be dead,—there's only one left.'

"'One left, eh? That's odd. How did he happen to pull through?'

"'Oh, he got in with your bunch when that dadgummed vet'nary was here, and the feller gave him a dose of serum by mistake!"

B. J. Woods.

The splendid herd and part of the farmstead of the beautiful Folly Farms, on the George W. Elkins estate at Abington, Pa.



CONDUCTED BY WALTER A. DYER

[*Mr. Dyer will be glad to answer any questions relating to dogs; for convenience, kindly address Readers' Service,* COUNTRY LIFE IN AMERICA, *Garden City, N. Y.*—THE EDITORS.]

FOUR-FOOTED POLICEMEN

IN SPITE of all that has been said as to the value of dogs as an adjunct to the police force of town or country, the idea seems to be making its way but slowly in America. In Europe the police dog is an established member of hundreds of communities—or was before the war. Belgium has usually been given credit for originating the idea, but the city of Hildesheim, in Germany, is now claiming the honor. Dr. Gerland is said to have introduced the police dog there in 1896. Ghent, in Belgium, soon followed suit, however, and became the possessor of the most famous police dog squad in the world.

About 1901 the idea spread rapidly all over Europe, until police dogs were in use in many cities of Germany, France, Belgium, Switzerland, Holland, Italy, Austria, and even Russia. Japan, also, has experimented successfully with police dogs. England and the United States fell into line a little more slowly, the former still clinging to the bloodhound as the best possible man trailer.

In America the best known police dog squad is that of the New York Police Department, established in 1907 and located in the Parkville section of Brooklyn. The work of this squad was described in COUNTRY LIFE IN AMERICA for July, 1915. Since that time new and more adequate quarters have been built for the dogs and several of the puppies bred from them have been trained to service. The Department has acquired a lot about 125 x 75 feet at the corner of Foster Avenue and Ocean Parkway, and at the east end of this a one-story frame building, 50 x 18 feet, has been erected. There are twenty-four kennels within, each 3 x 4 feet, built back to back down the centre of the building, forming two aisles 40 feet long and 5 feet wide. Doors open from these aisles upon a fenced-in yard about 80 x 65 feet. About 10 feet across the front of the building is partitioned off and is used as a kitchen and store room. Adjoining at the rear a hospital addition has been built, 15 x 13 feet, with five kennels and runways, where dogs sick with distemper may be isolated, or brood bitches retained. There are also sixteen outdoor kennels at the west end of the lot, each 3 x 5 feet, and each having a runway of 15 feet, where the dogs are kept in good weather.

The Parkville squad continues to keep nocturnal crimes down to a low minimum, and the residents of Flatbush sleep in peace.

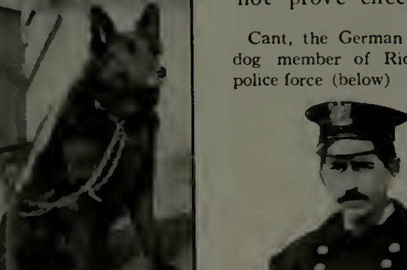
Recently burglars terrorized the exclusive residential section overlooking the Hudson River between Spuyten Duyvil and Yonkers, in the 74th Police Precinct. Two of the Parkville patrolmen with their dogs were sent there in November, and not a single attempt at burglary has been reported in the precinct since. The residents of Riverdale are now protesting strenuously against the return of the dogs, and this may lead to the extension of the service in New York.

A year ago the New York police dogs, with the exception of one Airedale, were all Belgian sheepdogs, of two varieties. Recently, however, there has been a disposition to introduce German shepherd dogs as well, and three of these dogs and a squad of policemen have been in training at a branch of the Elmview Kennels on Long Island, under the management of a former official trainer for the Swiss government. The squad now owns six likely looking puppies, sired by Mr. B. H. Throop's huge Nero Affolter out of the Department's Ollie.

The Parkville squad mobilizing. The new kennels are in the background

Within the past two or three years several smaller communities in the East have formed police dog squads. The town of Ridgewood, N. J., owns several trained German shepherd dogs which are used for night patrol duty in much the same manner as the dogs of the New York squad. Chief of Police Peter E. Pulis writes: "We had a number of burglaries before the dogs were purchased, but I am glad to say that since we have had the dogs we have been free from burglaries."

A little over two years ago Ridgewood was overrun with thieves of all sorts. Five or six robberies were committed every night, so that the authorities were obliged to supply the citizens with police whistles. Even this, however, did not prove effective, and Mayor Garber and Chief Pulis decided to form a dog squad. Two clever German shepherd dogs were purchased from Mr. L. I. De Winter in the spring of 1914—Cant and Dina. A public demonstration of police dog work was given, so that loitering crooks might have an opportunity to observe what might be expected. Then the dogs went on night patrol duty, and for two months not a robbery was reported, the criminals apparently decamping to safer localities. Then one night a gang of burglars, recovering their boldness, abstracted a thousand dollars' worth of silverware from a Ridgewood residence. In order to be free to make a quick get-away, and so avoid being caught by the dogs, they hid their booty in a near-by barn, under the hay, intending to return for it after the trail had cooled. But Dina proved too good a trailer, and as soon as she was put on the scent she led the police directly to the barn and promptly dug up the silver. From there she took up the trail again to the outskirts of the town, where the robbers had jumped a freight train and escaped. This was but one of several remarkable instances in which these dogs proved their worth, and several arrests have been made with their help.



Duc, the Groenendael Belgian sheepdog of the Englewood police department

Cant, the German shepherd dog member of Ridgewood's police force (below)

In the near-by town of Englewood, N. J., two Belgian police dogs have done efficient service, and Mr. Cornelius G. Hayes, Supervisor of Public Safety, is much gratified with the results. These dogs have been put to the usual use, accompanying night patrolmen on their rounds, and investigating back yards, porches, and possible lurking places for criminals. These dogs were presented to the town by Mr. H. Weatherby, and I am indebted to him for the following account of their activities:

"During the summer of 1913 the city of Englewood suffered from an epidemic of burglaries. Almost nightly houses were broken into and much valuable property taken. The police seemed to be powerless, and at last conditions became so acute that the citizens became aroused and decided that action of some sort must be taken by the whole community. A meeting of citizens was held at the Englewood Club and a committee was appointed. This committee, acting in conjunction with the city authorities, employed extra watchmen and detectives and had the city patrolled as never before; but the housebreaking still continued, and finally, in desperation, it was decided to try police dogs.

"Cable messages were soon on the way to Antwerp, Belgium, and on November 28th there arrived at the police station a pair of Black Belgian shepherds—Duc, a dog weighing about sixty pounds, and Mouche, a bitch of about fifty pounds.

"With the advent of these sagacious animals the burglaries suddenly ceased. Criminals evidently decided to avoid Englewood. Both dogs have numerous captures to their credit, and their work is so sure and reliable that the burglar has no chance against them. The dogs are used both with and without muzzles.

"One of the most celebrated cases in Bergen County was the capture by Officer Michael J. O'Neill, with Duc, of the burglar Joe Blake who had raided about twenty houses in the vicinity of Haworth. The trail was about six hours old and the sheriff and a posse of twenty-five men, with several dogs, had previously scoured the neighborhood. Duc located Blake in a small house. The burglar jumped out of a second-story back window in his stocking feet and made for the woods, sneaking down through

a wire chicken run. Dan nailed him just as he emerged from the chicken yard.

"Last year Officer Noble Wyville, with Mouche, captured James L. Shelby, a noted criminal, caught breaking into a residence on Maple Street. Shelby was trying to enter a small window in the rear of the house. Mouche pointed him from the street a hundred feet away, and soon had him cornered. When Wyville threw on his flash-light, there was Shelby with his hands up and Mouche standing guard.

"Officer Wyville, with Mouche, arrested David Purvis, a negro who had shot another man. Purvis made off through Phelps Woods and on toward Teaneck, keeping well under cover. When Mouche was brought to the scene of the shooting, there was no fugitive within sight or hearing. Mouche took the scent and struck off into the woods, Wyville allowing her to go her own way. The trail led to a spring in the woods where Purvis afterward said he had stopped for a drink. Trailing for about two miles farther, Mouche began circling and finally outflanked and held her man. Wyville, coming up, drew his revolver and completed the arrest. When searched, Purvis had a loaded revolver, but he said he decided to give up when he saw the dog.

"Those communities which have adopted the police dog are enjoying a security which they have never before known. The time is not far distant when each suburban locality will have its kennel of dogs with a squad of officers capable of handling them."

The Englewood Department now has five puppies from Mouche, sired by King Cole—all black, full-blooded Groenendaels.

The question as to which breed is best suited to this purpose in America has yet to be determined by comparative experiment. In Germany the German shepherd dog, the Belgian sheepdog, the Airedale terrier, the Doberman pinscher, and the less common Rottweiler dog have all been successfully employed; in Belgium the Belgian sheepdog is naturally the favorite. Our American dog squads have been made up of the German or Belgian shepherds, though at least two Airedales have been tried in Brooklyn; they are difficult to train, but make wonderful performers. Privately owned Dobermans have been employed effectively on occasional police duty near Seattle, Buffalo, Rochester, and elsewhere, while the bloodhound's ability in trailing criminals is historic and has been proved by a number of modern instances. At the international police dog trials held in Paris, Turin, Monte Carlo, and in several German cities, the Belgian has been the most frequent winner.

In the matter of popularity the German shepherd dog has had by far the best of it in the United States, owing largely to the activities of the German Shepherd Dog Club of America. It has been widely advertised, figures prominently at the shows, is represented by a monthly journal devoted to its interests, and has been taken up enthusiastically by the fancy. There are now in operation several good police dog training schools, most of which specialize in the German breed, while field trials, such as that held on Staten Island last October, have been doing much to acquaint the public with the accomplishments of the breed. W. A. D.

THE DOGS OF MEXICO

WHILE the Eskimo dog and the husky are closely related to the Arctic dogs of Europe and Asia, and while the Newfoundland and other so-called American breeds all have European blood in their veins, there are, nevertheless, native breeds in the western hemisphere which are like no others and which are found nowhere else. I refer to the dogs of Mexico, Central America, the West Indies, and South America, of which the best known is the Chihuahua.

Perhaps the most curious of these are the hairless and semi-hairless varieties of the warmer sections of America, which somewhat resemble the hairless dogs of China, the Philippines, and certain parts of Africa. "There seem to be two types," says Leighton: "one built on the lines of the Manchester terrier, and sometimes attaining the racy fineness of the whippet; and the other a short-legged, cloddy animal, less elegant and prone to run to ungainly obesity. The size varies. Some are small dogs of four or five pounds in weight; others may average from ten to fifteen pounds, while some are as heavy as twenty-five pounds."

There is also in Mexico a little known breed which is variously called the Mexican poodle, lap-dog, etc. It is popular with some Mexican ladies, but I doubt if it has ever been seen in the States. It is said to be an uninteresting dog, though attractive in appearance. It has long silky hair and butterfly ears, and resembles the Belgian papillon or squirrel spaniel, of which, according to some authorities, it is the possible ancestor.

But of all the dogs of Mexico—and there are a number of less well defined varieties there—the only one which has gained any considerable degree of popularity in this country is the cunning little toy terrier of northern Mexico, known as the Chihuahua dog.

The Chihuahua (pronounced Che-wa-wa) is probably the smallest of the canine race, though there are occasionally freak toy black-and tans which weigh less. The smallest specimens appear to be no larger than a slender rat and can easily stand upon a man's hand and be carried about in the pocket. Mature specimens have weighed as little as twenty-two ounces, though they often run up to four pounds in weight. Small size is the essential characteristic of the breed, and other things being equal, the smaller the specimen, the better. Still, there is a good demand for Chihuahuas weighing anywhere from one and one-half to three and one-half pounds. They are said to become larger when bred in colder countries—to become *degenerado*, as the Mexicans say—but there are a number of American breeders who have been remarkably successful in keeping down the size. Miss Daisy M. Hall writes: "I don't think that those raised in this part of the country are any larger than in Mexico. When I was in Mexico I saw a great many more large ones than small, and they have some that are larger than any I ever saw here. Dogs properly raised will always be small."

The Chihuahua is a native of the Mexican table lands, where it is bred to no particular standard and varies considerably in size, shape, and color, though the smallest ones are most desired. They are chocolate, tan, cream, and white, the rarest being all white. In this country the white and fawn colors have been most popular, particularly the latter. The coat is short and smooth and easily kept clean. The eyes are large, bright, and round, and the face intelligent. The ears are large and erect, flaring slightly outward. The tail is comparatively long.

In a general way the breed resembles the toy Manchester, and should be built on the lines of a small hunting dog—that is, not too cobby or fat, but rather long in the body. The nails are long and claw-like.

The head is round and domed. One peculiarity of the pure-bred Chihuahua is a soft spot, or *muellera*, on the top of the skull, which one can easily detect with the finger. The well informed judge of toys always looks for this.

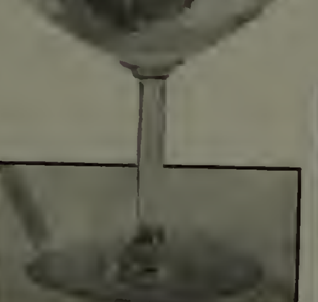
The Chihuahua is naturally delicate and requires special care during our northern winters, though the specimens bred here are said to be hardier. Miss Hall writes: "I do not find it hard to acclimate them. At the present time my yard is covered with snow and I let them run in and out as they wish. They seem to enjoy the snow, running and playing just as in summer."

The breed is somewhat timid and very sensitive. They have small utilitarian value, except that they are very alert and will give the alarm if an intruder enters the house. They make gentle and loving house pets. Mrs. C. D. Atwood, owner of several prize-winning Chihuahuas, writes: "They make ideal pets and are good little watch dogs. They are shy in disposition, but are very affectionate and possess more than the average intelligence. They are usually long-lived; fifteen or eighteen years is not rare for a Chihuahua." Mrs. Maurice E. Callahan writes: "I find Chihuahuas the best toy dogs as pets. Having a short coat of hair, they are almost no care. They make good watch dogs and are most intelligent, affectionate, and companionable."

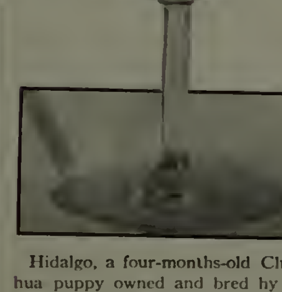
A few years ago the Chihuahua was scarcely known with us, but has been increasing in popularity of late. Taking 1915 shows as an indication, seven were benched in New York, five at Mineola, and three at Southampton. Last February only three were shown at Madison Square Garden. On account of the present troubled conditions in Mexico it is difficult to learn what the status of the breed is there, but it is safe to say that there will be few importations for some time to come.

Anita and Monita, Miss Daisy M. Hall's fawn colored Chihuahuas. The two together weigh four and a quarter pounds

Hidalgo, a four-months-old Chihuahua puppy owned and bred by Mrs. Atwood. Weight eleven ounces



Mrs. C. D. Atwood's Chihuahuas. The largest is ten years old and has sired more than 200 puppies.



Gipsy Queen, Mrs. M. E. Callahan's "pocket piece," weighs three pounds

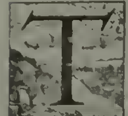
Cafeto with his collar weighs just two pounds. Owned by Miss Hall

POULTRY

CONDUCTED BY F. H. VALENTINE

[*Mr. Valentine will be glad to answer any questions relating to poultry; for convenience kindly address Readers' Service,* COUNTRY LIFE IN AMERICA, *Garden City, N. Y.*—THE EDITORS.]

THE FAVEROLLES



THIS breed is of French ancestry, and named after Faverolle, France. Like some other fowls of foreign origin, it came to us *via* England, where it has been bred for probably a score of years. It is of mixed parentage, its five toes denoting Dorking origin, its feathered legs and toes, Asiatic blood, while the Houdan or Crevecœur blood was also used. A distinguishing characteristic is a heavy beard which gives the birds a peculiar appearance, and to which some object. On the other hand, their admirers say: "The beard is a valuable protection to the bird's face and throat during cold weather, and contributes much to the natural hardiness of the breed." This beard resembles that of the old-time "mufflechops" hen.

King Phil, the White Faverolle cock which took first at the last Madison Square show. He has a full, rounded breast, and good head, eyes, beard, and muffing. Weight ten pounds

Those who like smooth shanks will not fancy the feathered shanks of the Faverolle. The white skins and legs will not please those who like the yellow colored skins of our American breeds. But these are minor points, and if fine quality of flesh and large performance at the egg basket are combined in the breed, these may be overlooked.

The Salmon Faverolles were admitted to the American Standard of Perfection at its latest revision last year. There are a good many White Faverolles in this country, and they seem to be well liked. There are, also, some Buffs. In England, several varieties are found, of which the English Salmon is said to be the most highly developed. Others are the English Ermine, French Black, French Salmon, and Blue.

The Faverolles are in the middle-weight class, the American Standard weights being, cock, 8 pounds; cockerel, 7 pounds; hen, 6½ pounds; pullet, 5½ pounds. These are approximately the weights authorized by the Faverolle Club of England, except that the latter allows considerable variation: for instance, cock, 7 to 8½ pounds; cockerel, 6½ to 7½ pounds; hen, 6 to 7 pounds; pullet, 5 to 6½ pounds. The Standard adopted by the White Faverolle Club of America calls for weights of, cock, 9 pounds; cockerel, 8 pounds; hen, 7 pounds; pullet, 6 pounds. The proportion of exhibition birds in comparison with those hatched is said not to be so high as with some other breeds.

Unlike John Alden, the Faverolle breeders are well able to speak for themselves, and to say why they breed their favorites. I asked a number of them, and here, condensed, is what they say of the breed's good points. Let us hear first from the breeders of White Faverolle fowls:

One says that he breeds them because they have the greatest amount of white meat, the smallest amount of bone, and lay the greatest number of eggs during the winter months; are not subject to sickness, are easily raised, grow rapidly, are content to run out in all kinds of weather; are unsurpassed as broilers or roasters, have beautiful plumage, are docile, requiring only a low fence to confine them, and make fine capons. He says, also, that his Faverolles laid eggs all through the severe snow storms and blizzards of 1914, and the severe storm of December, 1915, when other breeds practically ceased laying on account of bad weather.

It is said that the Swiss government has officially adopted the Faverolle as the national fowl after years of scientific experimenting.

The following weights are given by a breeder as those of chicks hatched March 14th: five weeks old, 1 pound; nine weeks, 2¾ pounds; fourteen weeks, 3½ pounds; eighteen weeks, 6 pounds 10 ounces. This man says that his birds have slight feathering on the legs.

Another says that the White variety possesses points that should appeal to any one who wishes the most in one variety, being very good layers, especially in winter, very tame, easily penned, very quiet, strong and healthy, and for the table will be found more than satisfactory in every detail.

Edward Brown, one of England's best known judges and poultry writers says: "The people around Houdan and Mantes, France, believe that the Faverolle is the best kind of fowl for their purpose, and it evidently grows quickly, fattens easily, and has fine flesh, which, to them, are the chief aims in view."

M. Rouillier-Arnoult, Director of the French Poultry School, says: "The chief point is their size, the amount and delicacy of their flesh, which, in these days, makes the fatted Faverolle esteemed. The breed is, therefore, to be highly recommended from a commercial viewpoint as a profitable breed. The chickens are exceptionally hardy, which breeders have not failed to appreciate."

The White Faverolle Club, in making up its Standard, eliminated disqualifications, and Judge W. H. Card, in speaking of this, says that it is a step showing the progressive, up-to-date spirit of its sponsors.

The nine-pound White Faverolle hen, Dictoress, winner of first at the last Madison Square show. Bred and owned by the Dictograph Farm, from whence King Phil also hails

One of the leading breeders of Salmon Faverolles says that he breeds that variety because "They are the kings of utility; they are heavy layers; they develop into broilers at eight weeks, roasters in four months, and layers in six months. They are hardy and docile, non-sitters, and unsurpassed as table fowls. Salmon Faverolles are the result of crosses between the French Houdans, English Dorkings, and one or both of the Asiatic breeds, Brahmas and Cochins. To combine the good qualities of several of the best and most profitable breeds required many years of patient and intelligently directed experiments, but the thrifty Frenchmen accomplished this, and the fame of this great utility bird spread first to England, and about twelve years ago to America. Since then, many varieties of Faverolles, obtained by crossing with Orpingtons, have bid for American popularity, but the Salmon stands preëminently in the foreground as the premier variety. Nor is this all, for the bird is a 'fancy' as well, the beard and muffs, fifth toe, feathered legs, and beautiful coloring offering plenty of opportunity for the fancier."

The Faverolles are not the first breed of fowls that English fanciers have taken from other countries, whipped

A pair of Salmon Faverolles at Doughoregan Manor Farm. The hen, Victory, laid 64 eggs in 64 consecutive days, at the 1915 Storrs egg laying contest; and 229 eggs in 268 days

exhibition shapes and passed on to American fanciers.

Are these so-called improvements made by the fanciers an advantage, or otherwise? The strength of the Faverolles, as well as of other foreign breeds in their native place lies in their strong utility qualities. Their hardiness, their rapid growth, ease of keeping, abundant flesh of good quality, fecundity in the production of eggs, all are reasons for their existence in their original homes. Possibly these are the reasons why these new breeds find such enthusiastic admirers here. If so, it is well to breed for the perpetuation of these traits rather than for some special shade in feathers, cut of comb, or stereotyped style.

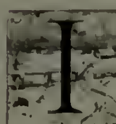
Some may wonder why the White Faverolles are not in the American Standard of Perfection. They are not there because their sponsors do not want them there, and will not have them there if they can prevent it. The contention is that the restrictions and requirements as to exact points, color, shape, carriage, under color, etc., have ruined many a breed for utility purposes. The White Faverolle is, par excellence, a utility breed, and they wish to keep it so.

There is a club standard by which breeders are governed, but it gives great latitude. One fine cockerel exhibited at several shows, and taking several blue ribbons, had five toes on one foot and four on the other, yet won in spite of this defect, which was insignificant from the utility standpoint. The White Faverolle Standard calls for shanks slightly feathered, but I predict that a few years will bring a strain with smooth shanks to please those who object to birds with boots.

It has been suggested that one reason for the excellence of the Faverolle as a table fowl is that the French and the Swiss are such good cooks. But they not only know how to cook, but know, also, how to produce something worth cooking. A large, heavy-breasted, soft-meated fowl is much more promising from the cook's standpoint than a lanky, thin bird whose energies have mostly been expended in hustling for a bare existence. Yes, the French are good cooks, also good judges of what's worth cooking, and adepts in producing it. F. H. V.

Contrary to the generally accepted meaning of the word, the Runt is the largest breed of pigeons that we have. A White Runt cock, and below, a hen nesting for the first time. Bred and owned by Messrs. Green & Carey, who also bred the birds shown below

WHITE RUNT PIGEONS

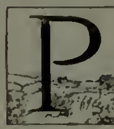


THE RUNT is an ancient breed, just how old it is difficult to say, but certainly centuries old. The name is misleading as we ordinarily use the word, for Runt pigeons are very large birds, four pounds per pair being an ordinary weight, though some specimens have weighed nearly three pounds each. According to available records, the ancient birds were as heavy as are our modern ones, but it is possible that there have been improvements in other directions besides size.

Runts are of many colors, but those represented by our illustrations are of a pure white strain. They are hardy and vigorous, and withstand hardships and varying conditions well. They are of a quiet disposition, easily handled, and make good pets. In wing spread they measure usually from 34 to 38 inches, and sometimes 40 inches or more. For squabs, the large-sized bodies are of more importance than spread of wings. For this, the bird should have a broad back, a deep, full breast with plenty of flesh. The White Runts produce fine-grained, white-meated squabs, which, at killing time weigh a pound and a half or more. They are good breeders, and often give seven to eight pairs per year. They are said not to reach their full size and weight until about two years old. Still they start breeding young, long before they have attained their full weight. F. H. V.

Illustrating the enormous size attained by the Runt. A White Runt cock tipping the scales at nearly three pounds and a pair of four-weeks-old squabs weighing about the same

WHY MEAT SCRAP, FISH SCRAP, AND SKIM MILK PAY



IT IS generally conceded by progressive poultry raisers that some form of highly nitrogenous food, such as meat scrap, is a valuable constituent of every good ration. But in a number of instances this fact is accepted, and passed along largely on faith. A good many who adhere to the practice more or less consistently do not know, and others may be said not to care, whether or not it really pays; they "understand" that it is a good thing, and that is reason enough.

There is, however, no longer need for this blindly virtuous credulity. The Indiana Experiment Station has pursued a series of investigations that settle the question beyond the shadow of a doubt, and the summaries and conclusions, as recently published in Bulletin 182, provide a veritable Gibraltar of justification and a gold mine of convincing proof for the man who practises and preaches this doctrine.

The experiments, which extended over four years, involved several flocks of high class Leghorns, twenty-five in each, which were housed and cared for in the most up-to-date manner, but always with reference to practical considerations. Modern colony houses with shaded and sodded runs, and standard trap nests were employed; and with the exception of the rations, conditions were kept as uniform as possible for all the flocks. In addition to grit, charcoal and pasture or cut green feed, which were supplied to all the pens alike, the check flocks received only the daily grain and mash rations as follows:

10 pounds corn — 5 pounds oats
10 pounds wheat — 5 pounds bran
5 pounds shorts

The grains were fed in the litter morning and evening and the dry mash kept available at all times. Other pens received each day in addition to the above, 3.5 pounds meat scrap, 3.6 pounds fish scrap, and from 50 to 62 pounds skim milk respectively.

Passing over the lesser details of the investigation the conclusions worth noting are:

1. The check (no meat food) pens averaged 32.5 eggs per pullet per year; the meat scrap pens 135 eggs; the fish scrap pen 128 eggs and the skim milk pens 135.4 eggs.

2. The average annual food consumption of these pens per fowl was, respectively, 57 pounds at a cost of $.722; 70 pounds at a cost of $.984; 74 pounds at a cost of $.995; and 157 pounds at a cost of $1.10.

3. But the cost of producing a dozen eggs averaged in the no meat pens 30 cents; in the meat scrap pen 8.5 cents, in the fish scrap pen 9.7 cents, and in the skim milk pen 9.7 cents.

4. The average profit per pullet per year was, in the no meat pens, $.09; in the meat scrap pens $1.55; in the fish scrap pens $1.56; and in the skim milk pen $1.62. E. L. D. S.

EGGS—NOW LOW—NOW HIGH

PROBABLY no food product varies more in price throughout the year than eggs. A village neighbor, tired of paying high prices for eggs in fall and winter, purchased a quantity in spring and "glassed" them for winter use. But the bringing forth of her hoarded eggs was disappointing in the extreme. They weren't half-bad—they were all bad, and about as bad as it was possible for eggs to be. And the reason? While it is probable that most of the eggs were good when put away, it is quite likely that some of them were not, and there were enough of the latter to contaminate and spoil the whole. This story points a moral if it doesn't do any adorning.

There are many methods of preserving eggs, but the prerequisite in each case is that the eggs shall be fresh. For the small-number man, water-glass (sodium silicate) is the best method. Most drug stores sell the liquid form. This varies in strength. One quart to fifteen to twenty quarts of water is the usual proportion. The water must be pure. Boiling makes sure. The eggs are covered fully with this in well-glazed jars, weighted down, and kept fully covered in a cool place. A water glass in powder form is on the market which is claimed to be better than the liquid, and to be uniform in quality. F. H. V.

HERE AND THERE

Stimulating Agricultural Zeal

In stimulating the back-to-the-land sentiment among the people of America, perhaps the most useful single agency is the instruction of our youth in the advantages and returns of agricultural activity. Many communities have set aside open spaces to be used by their school children as gardens. This makes a sort of competitive game of gardening, and the pecuniary gains realized impresses on youthful minds the fact that the modern farmer is probably the most prosperous individual in America to-day. Out in Oklahoma City they have hit upon a way of stimulating still farther the enthusiasm of the school children for this form of practical agricultural education. Mayor Overholsen has announced that he will give as a prize to the boy or girl among the city's 14,000 school children who produces the greatest profit from his vacant lot garden during the coming summer, a five-passenger motor car, fully equipped. Other prominent citizens have agreed to present the driver's license, gasolene, and other supplies, and to pay the repair bills on the car for one year. At last reports the Oklahoma City portion of the brown bosom of our patient Mother Earth was being torn open in a fury of enthusiasm by 14,000 youthful agriculturists.

The Elk's New Stamping Ground

Wapiti has gone traveling. In response to a very urgent invitation to change their home from the vicinity of Jackson's Hole, Wyo., to Colorado, an even hundred went by baggage car *de luxe* to the latter state. In other words the Department of the Interior gave permission for the capture of two car loads of elk at their winter feeding grounds in the Yellowstone Reserve, and their shipment to three sections of the Colorado Rockies.

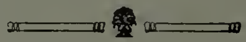
The animals were accorded the honor of going by fast express, and reached their destination as quickly as if they had been human passengers.

Of the one car, twenty-five were secured by citizens of Pueblo for location in the Greenhorn Mountains thirty miles southwest of that city, and the other twenty-five went to the hills around Idaho Springs, forty miles west of Denver.

The remaining fifty are to be one of the attractions of the Pike's Peak region. Through the enterprise of Mr. Tod Powell, a sportsman of Colorado Springs, and as a result of his campaign of agitation and solicitation, a fund of more than $1,000 to cover the expense involved was secured. Residents of Cripple Creek, Victor, and the towns up Ute Pass, as well as those of his own city participated.

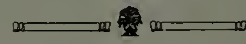
The range selected for this herd is on the north and east slopes of Pike's Peak, along the route of the new automobile highway to the summit of that mountain. It is pronounced by the representatives of the U. S. Biological Survey, who recently examined it, as ideally suited to the elk.

The animals were unloaded from the car at Cascade, a few miles west of Colorado Springs, and hauled in big motor trucks to a point two miles west, where a corral enclosing three acres had been erected. Here they were fed until May, when they were liberated. It is expected that they will not wander farther than the higher hills for their summer feeding grounds, and when the snows compel their return to the lower levels, if they need care and feed, it will again await them at their corral.



Two Great Engineering Feats

Among the engineering wonders of America, the great Roosevelt dam, which harnesses to useful service the waters of the Salt River in Arizona, is certainly entitled to a place. Just below this immense masonry structure, there has recently been completed another engineering feat, quite as interesting in its way, and again it is a dam. This latter structure, however, is the work not of man, but of a colony of beavers, and the remarkable part of it is that the dam lies within a few yards of a main traveled highway. The beaver unfortunately is rapidly becoming extinct in this country, and this Arizona colony is attracting visitors from all over the state. Under the laws of Arizona the beaver is not protected, but the Roosevelt colony has found private protectors among the neighboring ranchmen, and the visiting "sportsman" who tries to molest the interesting little animals will get a taste of Arizona justice that will be poetic even if it is not strictly judicial.



What Do You Suggest?

What we believe to be an almost universal problem throughout rural America has been brought up by a COUNTRY LIFE correspondent, who writes regarding a New England County Agricultural Society in which he is interested, as follows:

"The Society owns a fairground about three quarters of a mile from the centre of the village, beautifully situated, with fairly good soil, and quite well supplied with buildings and sheds. Its investment is, therefore, a good many thousand dollars, and the returns from it must be obtained during the three days of the fair. The question is, how can the Society secure some return from the land and buildings at other times of the year? The cultivation of the ground enclosed, save to a slight extent, is impossible. What can you suggest? What have other organizations done under similar conditions?"

Frankly, we are "stumped." We don't know of any fair association that has solved the problem. Nor have we any suggestions as to how it can be done, in view of the usual location of the grounds, nature of the buildings, and time at which the area is needed for fair purposes. Yet there may be a way out—a solution that would mean a great deal to hundreds of communities. Who knows and will tell us of such a plan?

Avian Architecture Exhibit

St. Paul, Minn., recently held the largest exhibit of bird houses on record; wherefore the feathered folk of that part of the country are the richer by some 4,700 commodious domiciles. The exhibitors and contestants for the several prizes offered were, with one exception, school boys, fifteen years old and under. The exception was a dauntless young advocate of feminine rights and ability, who won attention and commendation both by her energetic spirit and for the originality of her entry, which consisted of a cheesebox body with a chopping bowl roof. The exhibit, which lasted a week, during which all the houses were offered for sale and most of them purchased, aroused considerable interest, the Garden Club of the city coöperating. The size and success of the affair have set a high standard for other communities to attain to, but is it not possible that some will set about attempting to reach and surpass it? Which will be the first to report such an achievement?

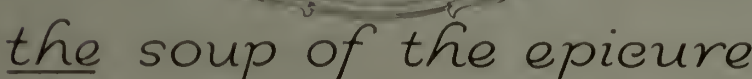
A Great Year For Fish

With the completion of its present fiscal year, it is expected that the U. S. Bureau of Fisheries will have broken all existing records for the distribution of fish in inland and marine waters, by handling more than 5,000,000,000 specimens, including pollock, cod, flatfish, blueback and other salmon, trout, etc. Although actual fish farming has not yet assumed commercial proportions—as, it is to be hoped, it will ere long—nevertheless such Governmental activity as this will go a long way in helping to restrain the upward trend of the cost of good living.

The Birds As Beneficiaries

It is reported that Commodore E. C. Benedict, the octogenarian bird lover, is planning, as a crowning achievement of his many years of labor in their behalf, to bequeath to his feathered friends the entire 300 acres of his Greenwich, Conn., estate. Already his land has become known as one of the first created and most valuable of the many private bird sanctuaries in the country. The further step now contemplated, which involves the enthusiastic support of the Greenwich Bird Protective Association, and the enlistment of Mr. Ernest Thompson Seton as outdoor architect, will insure its maximum development and permanent maintenance at the very highest stage of its efficiency. With acres of woodland, meadow, and thicket, a long stretch of beach and marsh on the salt waters of Long Island Sound, and lakes and streams to provide inland, fresh-water conditions, the estate has been endowed by nature with the best possible setting and materials. Now the generosity and genius of man are providing the inspiration and support that will make it a veritable boon for the birds, and an imperishable, beautiful tribute to him who conceived and created it.

Some of the designers and builders of model tenements for St. Paul's birds, with the houses they exhibited. All but 450 of the 4,700 odd houses were sold to individuals, the 450 being taken by the city and distributed among the public parks. The attendance at the exhibition was estimated at 25,000



Soups that fit your summer program

Be your program elaborate or simple, be it staged in the fashionable watering-place, the sequestered cottage, or deep in the heart of the woods, you will find Franco-American Soups delightfully apropos.

Hostesses appreciate the exclusive French deliciousness which makes these soups so acceptable in homes where the *haut ton* prevails.

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Could you do better than order today a variety of the Franco-American light soups, hearty soups, consommés, and broths?

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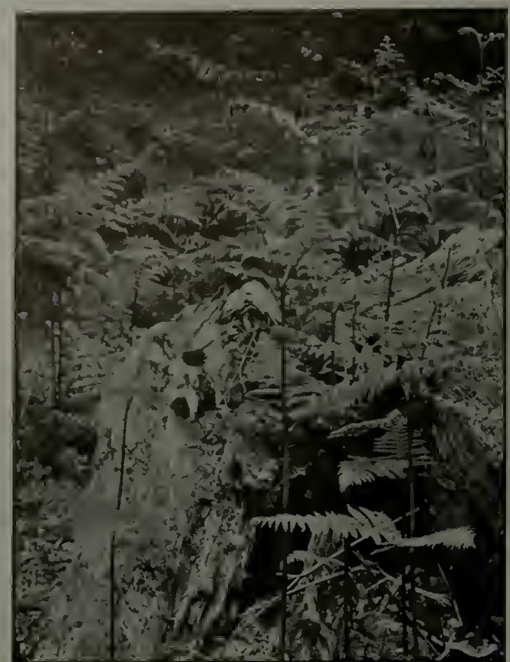

The bracken, *Pteris aquilina*, is widely distributed. The young fronds are bipinnate, becoming ternate later

The common polypody (*Polypodium vulgare*) spreads by means of branched root-stock, hence its name polypody—many feet

Hartstongue (*Scolopendrium vulgare*) is not a common variety; found in central New York, Tennessee, and limestone districts

Enlarged view of back of bracken fern frond. The arrangement of the sori around the border of the frond is typical of the Pteris

Back of polypody frond, enlarged. The globular sori, without indusium (covering) is the polypody's distinguishing feature

Sori of hartstongue, in rows, elongate on either side of midrib. The indusia of the spore cases fold over to meet in centre of case

~ SOME OF ~ OUR FERNS AND HOW TO IDENTIFY THEM

Photographs by S. Leonard Bastin

Captions by Ellen Eddy Shaw

The wall rue spleenwort (*Asplenium Ruta-muraria*), a little fern growing close to walls and rocks. Its sori are borne on the upper side of veins and are covered with indusia attached to the same veins

The maidenhair fern, *Adiantum Capillus-Veneris*, luxuriates in rich soil; look for sporangia at the ends of veins on reflexed portions of the margins

Woodsia Ilvensis, the oblong woodsia, has stalks covered with thin scales. Do not confound this with the hairy lip fern, whose stalks are covered with hair

The bristle fern, *Trichomanes radicans*, is not a common genus—mostly tropical; the sori are in urn-shaped indusia which are two-lipped at the mouth

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Preserves Roads
Prevents Dust—

Executive Avenue, Washington, D. C. Constructed with "Tarvia-X", penetration method in 1911.

Lake Shore Drive, Chicago, Ill. Constructed with "Tarvia-X" in 1909. Surfaced with "Tarvia-A" in 1915.

Dustless, Durable Tarvia Roads at Low Cost—

TARVIA roads are to be found all over the country—hundreds of miles of them!

Those who have motored, driven or walked over these roads know the comfort of their smooth, resilient surface and their freedom from dust and mud.

Many of the parkways of New York, Chicago, Philadelphia, Boston, Cleveland, Detroit, St. Louis have beautiful Tarvia roads.

State roads in many States, branching from the great cities have been treated or built with Tarvia. Here you'll find no dust and no mud.

Countless small cities and towns have Tarvia roads because the taxpayers have come to realize their durability and appreciate *the low cost of building and upkeep.*

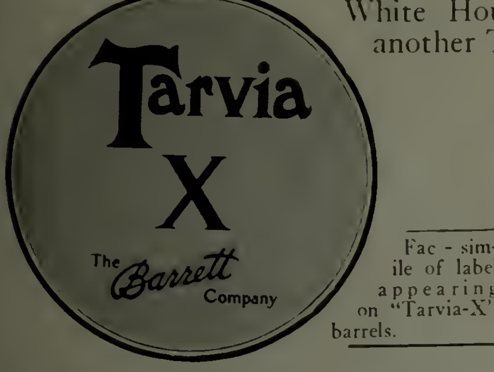
Perhaps it never occurred to you before that many of the easy-traction roads which seemed to give speed to your car, ease to your vehicle and comfort to your horses, were treated or built with Tarvia.

Many of the most famous roadways in America are Tarvia roads.

For instance, Riverside Drive in New York, north from 157th Street, one of the parade avenues of the nation, is treated with Tarvia.

The Lake Shore Drive of Chicago is another. You may know its national fame for it is one of Chicago's famous roadways.

Executive Avenue in front of the White House in Washington is another Tarvia road.



Fac-simile of label appearing on "Tarvia-X" barrels.

Riverside Drive, New York City. Treated with "Tarvia-B"

Even 'way up North, at Chicoutimi, on the Saguenay where the thermometer drops to 40 degrees below, you will find Tarvia roads. Tarvia is as unbreakable by Canadian cold as by boulevard traction.

Tarvia roads represent the maximum of durability at the minimum of cost. They are an asset to any community because they reduce taxes, increase property values, decrease haulage charges and end the dust nuisance.

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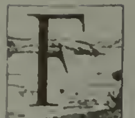
FENCING THE ESTATE

By W. H. Butterfield

ENCING the large estate is not a great problem if cost is a minor factor. You simply pick out the style you wish and order the erection. But to meet all the requirements and yet have the bill within reason takes a bit of study, more so now than ever for there are many varieties on the market, each one claiming its own superiority. The following discussion covers metal fences of the type to enclose large areas, and deals principally with prices.

It is wise first to determine definitely just what your fence is to do. It may be a mere boundary or division, three or four feet in height, consisting of several strands of horizontal wire held by posts. This is the simplest form. It does not keep out intruders and has no decorative merit. The low fence may be elaborated to stop all intruders except the climbing kind, which is done by substituting a mesh of one form or another for the wire strands. Again, if the fence is to have a heavy load of vines it is made strong enough for this extra work. A real barrier fence is 6 feet high or more and may be made unclimbable by a device described later. All manufactured fence wire is now of steel galvanized with zinc, and the best makes are galvanized after the mesh is formed.

Woven mesh fence, with top rail. The rounded wires make an attractive finish

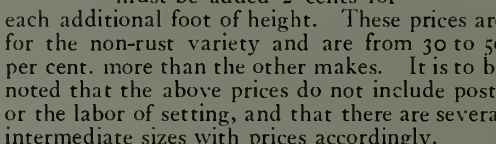
A 5-foot close mesh fence costing about $1.10 per foot, set

A 6-foot unclimbable fence with barbed wires carried on steel arms

About the simplest and cheapest fence that can be built is one of chestnut or locust posts 6 feet apart, with three strands of wire. This fence would be about 3 feet high and would cost between 80 cents and $1 per running yard. Five feet high with five strands brings the cost to $1.15 or $1.20 per yard, the weight and character of the wire making the variation in price. Wood posts should have the ends in the ground treated with hot creosote and be carried below the frost line.

The all-steel fences—posts, wire, gates, and braces—are manufactured products. They come practically rust-proof for the best and non-rust proof for the cheaper makes. Posts may be of wood, iron, or steel; the latter two are either set in concrete or anchored in the ground with special devices. All posts should be of the rust-proof kind. The variation is great in the kind of wire or mesh used between the posts, what the fence is intended to do deciding this element. There are square, rectangular, woven picket, chain link, and close mesh fences. Poultry netting also is used and sometimes pickets and railings.

A plain square mesh 6 x 6 inches, 2 feet 6 inches high, costs 12 cents per running foot. A rectangular mesh 24 x 6 inches (the rectangles placed horizontally) goes as low as 6 cents per foot. A very close mesh, 2 x 6 inches, is as high as 20 or 24 cents for each foot. And for these must be added 2 cents for each additional foot of height. These prices are for the non-rust variety and are from 30 to 50 per cent. more than the other makes. It is to be noted that the above prices do not include posts or the labor of setting, and that there are several intermediate sizes with prices accordingly.



The woven picket, chain-link, and close mesh may be bought with the posts included, the cost depending on the height and the post spacing. The following table quoted from the catalogue of a leading manufacturer gives an idea of cost for woven picket, including the posts and a top rail.

HEIGHT OF FENCE	SPACING OF POSTS	COST PER FOOT
3 feet 2 inches	8 feet	$.57
3 " 2 "	10 "	.52
3 " 8 "	8 "	.60
3 " 8 "	10 "	.55
4 " 2 "	8 "	.64
4 " 2 "	10 "	.59
4 " 8 "	8 "	.68
4 " 8 "	10 "	.63

The cost of erection varies, but for most cases the total cost for a fence in place would be 75 to 80 cents per linear foot for a fence 3 feet high; 95 cents to $1 for the 4-foot height; $1.10 for a 5-foot fence; $1.20 for the 6-foot, and from $1.30 to $1.40 for a 7-foot one. A chain link runs a bit higher—8 to 10 cents more per foot—and the close mesh about the same.

To make the fence unclimbable it should be at least 6 feet high, with a small mesh which gives no foothold. At the top of each post is an arm extending at an angle of 45 degrees which carries three strands of barb wire.

An exceedingly strong fence fabric is the chain link. This runs from 28 cents a linear foot for the smaller size wires and a width of 4 feet, to $1.70 a foot for a heavy wire and a width of 9 feet; these prices include the fabric only, no posts. As for strength, the fence that has some diagonal bracing is the strongest, and for this reason the chain-link is to be especially noted. Horizontal bars or heavy wires are helpful in giving stiffness.

A picket and railing fence is more attractive than most mesh fences and has a more substantial appearance. However, it costs more. The simplest consists of a top and bottom rail with posts and square pickets which are sometimes set diagonally to increase the apparent size. The cost varies so much that it is difficult to give exact figures. Here are two fences known by the author. One has a heavy bottom rail and light upper rail, the pickets being set diagonally. The cost was $2.50 a running foot complete, including labor of setting. This fence is about 5 feet high. The other was 6 feet high with medium weight top and bottom rails, pickets set square. The posts, with small finials, had their ends set in concrete. The cost was $3 per foot.

The gate and corner posts are not included in the fence when bought, but are separate items. Corner posts, rust proof, run from $9 for a 3-foot fence to $20 for a 6-foot one. End posts are about half these prices, while gate posts cost per pair $11 to $26 for the above heights. The corner posts come with braces, the style varying with the manufacture.

The cheapest single gate is 3 x 3 feet and costs $5. A large gate 5 feet wide and 6 feet high runs to $12; these are for a woven mesh and are rust proof. Double gates cost more, bringing $14 for an 8-foot width, 3 feet high, and $42 for a width of 16 feet and a height of 6. The treatment of the large, ornamental gateway is a different affair, as it is mostly a matter of design, and the cost may be anything you care to pay.

A bit of decorative feeling can be obtained in the choosing of the mesh. Sometimes the top has the wires curved to form semicircles, while extra wires are woven at the bottom. This helps to break the rigidity of the design. Small urns as finials on the tops of the posts add a pleasing touch, and the intelligent use of vines breaks the monotonous horizontal lines.

Iron picket and rail fence, the posts set in concrete, costing about $3 per foot

A 7-foot chain link fence without any frills, that will keep intruders at bay

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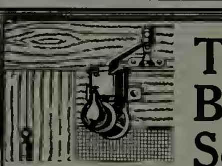

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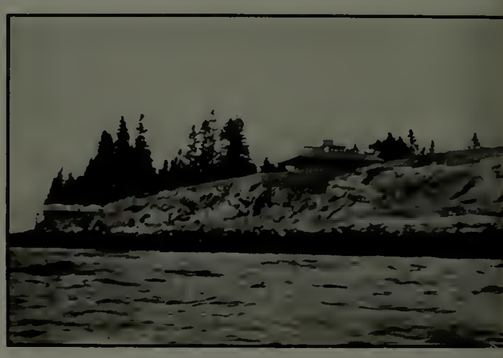
AN ARCHITECT'S BUNGALOW

THE construction of the bungalow shown on page 30 is of white spruce on cedar posts down to the rock; the trim is white pine, painted on the exterior and oiled on the interior, where it is gradually turning to a golden-brown. The exterior walls and roof are covered with clear white pine shingles which are now a silver-gray. The flooring of the first story is double, the top being laid in maple and finished in wax. The partitions are of beaded sheathing, the chimney built of ledge stone with common brick hearths. All doors and windows are of the casement type, opening outward, and are glazed with small panes. Screens open inward. The hardware is of cast bronze. The piazza flooring is quarter-sawed hard pine treated each fall with a coat of paraffin—a good preservative—which is turning it to a walnut color. The ceiling is of beaded hard pine, showing the grain, and finished with spar varnish.

With a saw, hammer, and plane, I built, in white pine—which could be got from the local yard cut to any size—cupboards, tables, talking machine stand and rack, writing desks, shelves, etc., merely of finished boards of proper sizes, all very ship-shape and characteristic of the interior.

The bathroom has a tub for women and shower for men. The floor is cemented and drained to a central outlet, and the walls are enameled with waterproof paint. The toilet room is separate.

The central space of the second story is partitioned at night by folding glazed doors, forming



The bungalow's roof line harmonizes with the contour of its site

the owner's bedroom and a hall. During the day these doors remain open, making one large room.

A large ice box is placed on the north piazza convenient to the kitchen; it is zinc-lined, with walls filled with charcoal. One half of the space is used for ice.

For water supply, I was saved blasting and installing a force pump and gas engine, since the nearby village ran a main over one end of the island to supply the adjacent point. To this I connected; and by laying a four-wire cable to the mainland, the telephone company connected its service. The wire was brought on the trees, and into the house through an underground conduit. A covered cesspool is provided for the plumbing.

For cooking and lighting we use kerosene; but such rapid improvements are now being made in small electrical generating plants, that for a nominal sum one may have electricity for these, and other, purposes.

By building a large fireplace on each floor, and using three layers of felt under the shingles, the place has been made habitable in the coldest weather, with some of the windows battened up. With woolen blankets and proper clothing, we have been down there in February and comfortable, with the thermometer at five above zero and a sixty-mile gale blowing. At such times landing, of course, is difficult, and we keep ashore.

The servant's building is similar in arrangement, with a central room for sewing and laundry, and a bedroom at either side connected by a piazza, with storage space beneath. This is placed back amongst the trees, but within sight of the house.

A sequestered, sunny clearing was made in the trees for drying laundry.

Having built the bungalow, placing it with due regard to the southwest view of the open sea and oriented to give sunlight to all bedrooms at least a part of each day, I set about treating the site with planting, approaches, and a terrace to give an agreeable transition from the uneven contours of the surrounding landscape to the rather rigid lines of the building; and locating a wharf landing, garden, and flag standard.

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The objection to the lee end of the island as a location for the landing, while it had advantages of protection from the sea and a floating stage was possible, was its inaccessibility from the bungalow to which supplies must be brought. It seemed better to have it in sight from the piazza and at as short a distance as possible. To construct a floating stage on the sea end, however, was impracticable, not only on account of the rise and fall of the tides, but because an ordinary summer sea would keep it awash.

With the swinging steps of a battleship in mind, I built a T-shaped pier with the floor planking well above the highest sea—so that only spray could go over it—and projecting far enough off shore to give a depth of water for the draft of a cruising launch. At the T-head were swung the steps, alongside which a landing could be made in the usual summer weather regardless of the level of the water. They are painted white and are hoisted each night by a small windless to keep them clear of moss, which soon grows on wood continually under salt water.

The wharf was supported on oak spiles with bottoms bolted into the ledge and sway-braced with rods and ring bolts, giving a minimum resistance to the sea. Fresh water was piped to the pier end for a shower after the morning plunge, with also an outlet to a shelf on the rail for cleaning fish.

In winter the steps are hauled up and lashed far above the highest sea, and, contrary to the prediction of disaster to this rig in the first heavy winter sea, it still stands without repair, excepting

The floor of the T-shaped pier is well above the highest sea

an occasional new ring bolt. Boats do not lie alongside but are taken out to a near-by mooring reached by a skiff on a "haul-off", one end of which is made fast to the pier head. The floor planking continues on the ground, forming a walk up to the house.

The knoll on which the house is placed, being of an irregular grade, was leveled, to form a terrace, retained by a rubble wall where the land fell abruptly toward the wharf approach. Steps of ledge stone were built in the wall, and a flag walk made across the terrace to the piazza step The terrace was finished off with loam, and rolled and seeded.

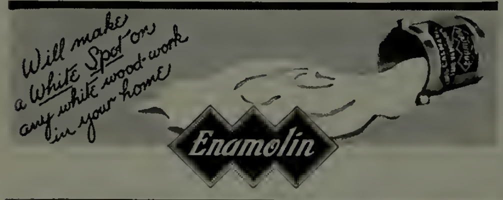
Between the posts at the corners of the piazza diagonal lattice was built for a hardy native woodbine which climbs to the projecting eaves and esthetically ties the house to the ground. This vine also covers the terrace wall, and flowering plants fill concrete pots at each side of the steps.

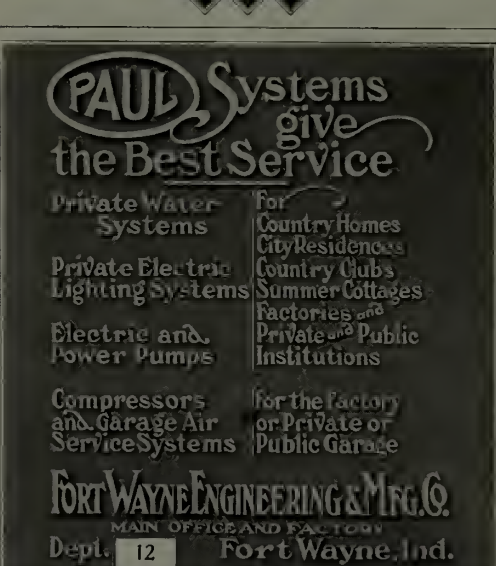
A space at the rear was cleared of rock to a depth of four feet and filled with loam, and here the usual table vegetables are grown.

Young spruce trees of a size that one man could conveniently handle were transplanted at the sides of the walks in conventional rows, care being taken to get the tap root intact. The roots were covered, after transplanting, with loose earth well soaked with water, and the trees were then stayed from being swayed by the wind.

All along this coast wild flowers are rife—violets in May, wild roses in June, daisies, everlasting, and many transient blooms unnamed—thistles, too, both Canada and Scotch. These latter may be eradicated in three or four years by preventing them from seeding.

A coastwise dwelling is, of course, incomplete without a flag standard and flag, and much too little attention is given to their proper proportion. The pole should be eighty feet high with top-mast and cross trees, and the hoist, or vertical dimension of the flag, five feet. These proportions, if the standard is placed in a free and commanding position, will increase the scale of the house and environment. ALBERT RANDOLPH ROSS.





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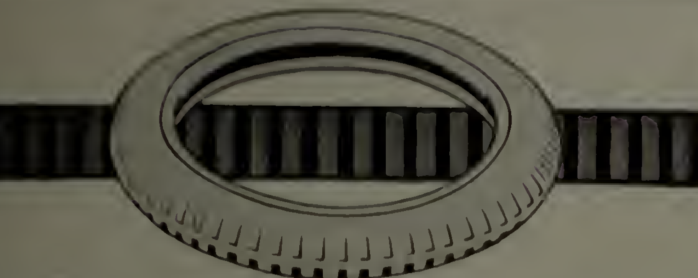

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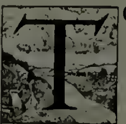
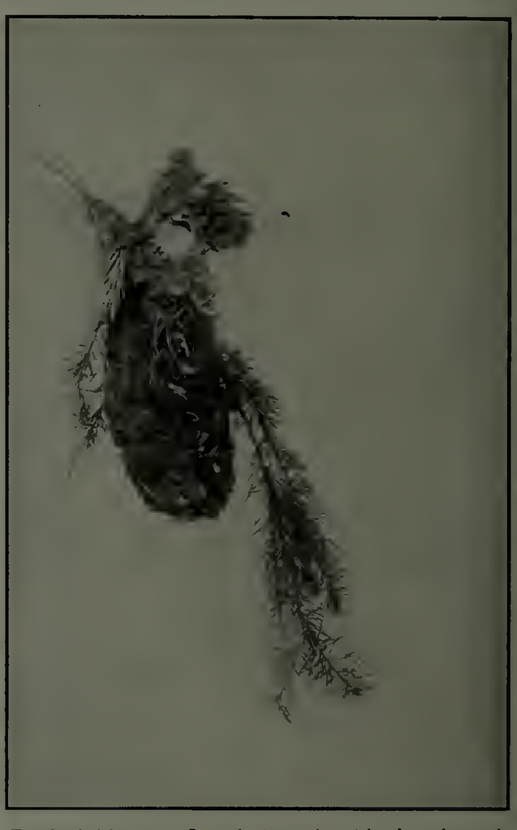
AMONG THE WINGED BUILDERS WITH A CAMERA



TO GAIN a familiarity with the haunts and habits of our wild feathered creatures during the nesting season is a delightful and profitable way of spending one's leisure time. A camera taken on every excursion into the bird world reveals, with successful operation, secrets of bird life that can be obtained in no other way. Pictures taken in the field give the nests in their completeness—how they are saddled to a limb, lashed to a tree-trunk, swung in the air; show the chiseled opening, the excavated tunnel, or how the mud daub is cemented to wall or rafter. Every picture taken will require a different method of procedure, and the book that contains them will be a source of stories of adventure in the open that will be recalled with pleasure.

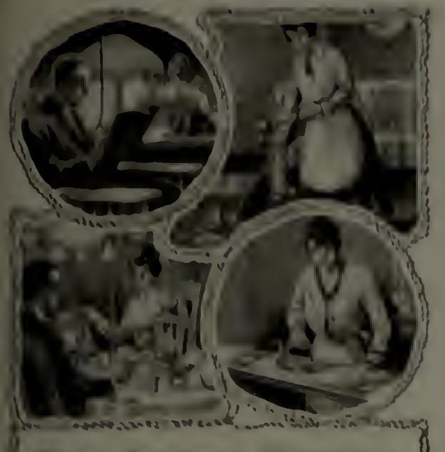
No definite way for the beginner to proceed in starting this pleasurable pursuit can be pointed out, but success will never follow the one who is unsympathetic with bird life. The only rule that can be laid down with certainty is never to hurry.



The bushtit's nest. It took six weeks of hard work on the part of the birds to build this nest

I am convinced that few birds will desert their nests after the first eggs are deposited. During the season of 1914, fifty-four nests on the campus of the State University of Washington were visited daily and from them but two broods failed to reach the fledgling state. One was a robin's nest. It was destroyed by some person, as the whole branch was cut away from the maple in which the nest was lodged. The other nest belonged to a towhee. It was on the ground and the young were missing from it when three days old. The nests visited included those of wrens, jays, flickers, towhees, robins, flycatchers, warblers, rails, swallows, chickadees, thrushes, meadowlarks, kingfishers, juncos, red-winged blackbirds, and California quail.

When seeking these nests there was no thrashing about in the grass or among the shrubs, and no one accompanied the regular visitant to the nests after they were found. Birds are easily convinced of one's friendship if one is really friendly. The best way to do this is, first, to learn the places frequented by certain birds. Few of them are lagging workers. If one sits or stands quietly near where a pair are seen flitting back and forth during the building days he will soon discover that there is one spot to which they repeatedly return, and not always are they loaded with building material. Birds are clever deceivers, and building operations may suddenly cease if they become suspicious of the loiterer. Sometimes, then, it becomes an endurance test between the birds and the person in the matter



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of waiting, but usually, after a song or two from the male, whether singing be his sole duty or his happy privilege while his domicile is being erected, the female, or both, will resume operations.

Even after the locality of the nest is discovered it may take keen observation and pardonable deceit to find the exact location without alarming the birds, for each variety has its own method of approach to its nest, some flying directly to it, some darting beneath the thick overgrowth for a considerable distance, and others stealing along a devious path, the entrance to which is far from the nest. Disturb the route, and in a day or two the discovery will be made that the birds have sought another building site. After a nest is found, one's daily presence in the vicinity allays suspicions of sinister designs.

Little difficulty is experienced in getting good pictures of ground-builders' nests or of those that

Stellar jay's nest. All colors of string and cloth were put where the birds could get them to decorate their nest, but they selected only the white

favor low shrubs. All situations must be studied. If there are obstructions that can not be drawn back for right light conditions, a gradual removal of them will not be noticed by the bird.

The stellar jay's nest shown was in a dead fir overshadowed by drooping boughs of a living tree. By trimming the dead tree the protecting boughs were easily withdrawn, and after the snap were allowed to fall in place again.

It is worth a full morning's labor to get a perfect specimen of a bushtit's nest, for these inde-

It was a day's adventure to secure this picture of a glaucous winged gull's nest

fatigable little workers, who combine the highest art of the weaver, the feeling of a cathedral architect, and the skill of famous bridge builders in the construction of their wonder bags, swing them from the drooping ends of fir trees, usually at impossible heights for the camera worker. The picture shown happened to be on a branch that could be brought into an unobstructed view by one person operating with a wire hook on the end of a string from one tree and the camera operator working from another position.

It was a day's adventure to secure the picture of the gull's nest. These beautiful birds of the sea love its bleak, wind-swept rocks. On Gull Island, one of the San Juan group, no difficulty is

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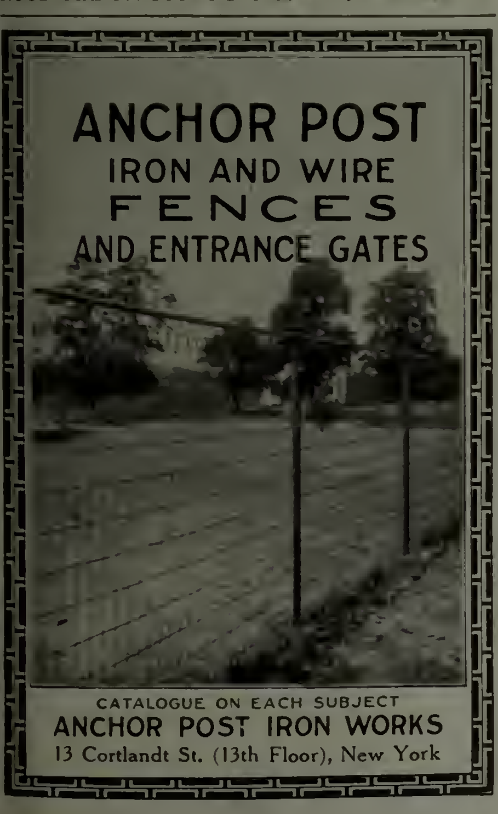

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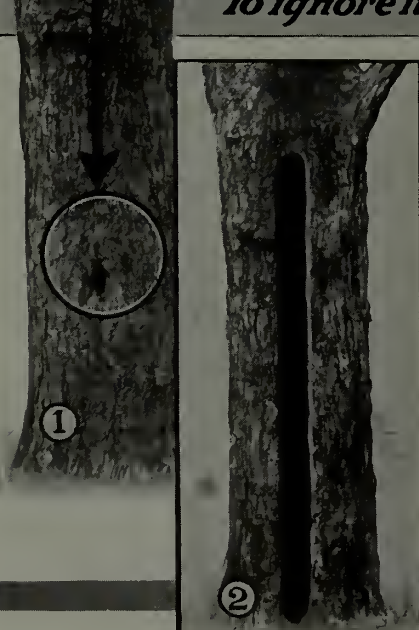

If you were to examine closely the trees on your place, you would probably see on some of them a tiny crevice in the bark. To you perhaps it would look very innocent. To the trained eye of a Davey Tree Surgeon it would mean d-a-n-g-e-r!

The tree in the picture was sound and healthy—apparently—except for a little hole in the bark (photograph No. 1). But note what the Davey expert discovered after a little chiseling (photograph No. 2)—a condition of hidden decay so serious that the tree was but a mere shell, an easy victim for any severe storm! What is the real condition of YOUR trees? Have them examined NOW—by

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Have your trees examined NOW!

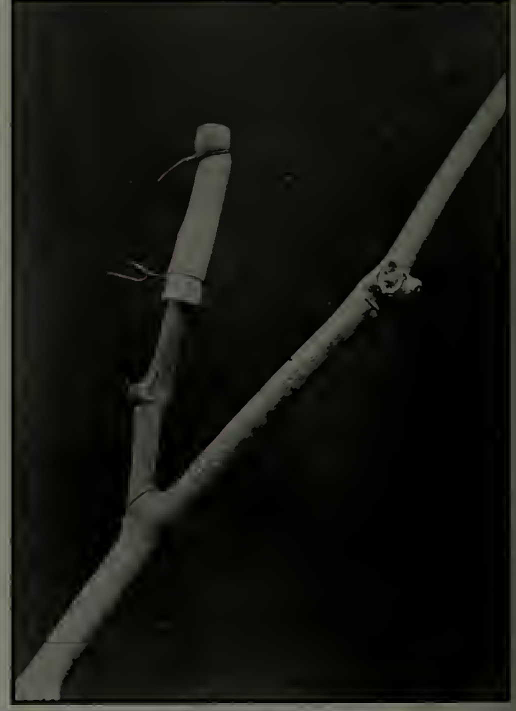
experienced in finding gull nests. It is quite another thing to get in a position to make a picture of one. Not a single nest was to be found on the accessible side of the island, and where the nests were lodged on ledges of its towering pinnacles they were even more barren and precipitous than the others. Not a nest was sheltered, and often they hung on the face of rocks so abrupt that the gulls had built retaining walls two feet in depth and eighteen inches thick to support them.

Some birds will accommodatingly sit and give you time to set up your tripod and respond graciously to your "Look pleasant, please," but the ground birds, as a rule, will slip away, leaving, however, something quite as attractive for a camera subject in the deserted nest full of eggs.

Not every location of a bird's nest is a choice subject for the camera. But the bird world is so full of wonders that the student of film subjects who will get on a certain scale of intimacy with its bird inhabitants will never lack for the time, the place, and the bird with its nest and eggs, or young, to furnish desirable subjects and situations for photographs ranging from the tragic to the grotesque. SUSAN M. KANE.

A REMEDY FOR BLEEDING GRAPEVINES

LAST spring I pruned from a choice grape an undesirable shoot that had been overlooked in the regular pruning. It was rather late and the sap had started to move, although the buds had hardly begun to swell. It started to bleed and bled so freely for a few days that I became anxious. I asked a number of men with vineyard experience, but they could suggest nothing that would stop it. After spending several hours at the library looking over all the books bearing on the subject, without result, I started to tinker. I improvised a tourniquet of wire, placing a number, one above the other, but to no avail. I then tried to seal the end, using hot wax, paraffine, paint, and a number of other things, but the pressure of the sap kept the end wet and nothing would stick. I then tried to cauterize, applying a bare flame to the end, and although the sap boiled, it was no better.



Showing how the grapevine was finally successfully bandaged

Finally, I slipped a piece of stout rubber tubing over the end that was bleeding, bound the lower end tightly to the shoot, and sealed the open end. The bleeding stopped at once and later, when the leaves were all out, I found on taking off the tubing that the end was dry and sealed.

The tighter the tubing fits the better, and it must not be too thin nor old, worn-out stuff, as the pressure is remarkable. The first piece I put on was old and the sap burst forth in a tiny stream as soon as it had filled.

WILLIAM SWEIKERT.

A Bundle of Goodly Glass Garden Suggestions

HERE are four greenhouse suggestions; and one of a conservatory. Every one is thoroughly practical. Any one can be promptly erected for you.

That small one in the upper left hand, is 18 feet wide and 33 long. We erected it for Mr. Henry E. Woodman, of Overbrook, Pa. It is just a nice, compact, one compartment little layout that will harbor for you a surprising number of general plants. For growing those for early Spring setting out in your garden, and the protecting from the frost of your late garden favorites, it is ideal.

The one at the right of it, is 18 by 50, divided in two compartments and connected to the stone garage by a glass passage, which makes another compartment. This is an admirable subject giving room for roses and carnations; or fruits and vegetables. Linking it to the garage, admits of one boiler heating both. Mr. W. S. Duling of Mt. Airy, Phila., Pa., is the satisfied owner.

That conservatory interior in the centre is a creation of Hoggson Bros., which we carried out for them on R. R. Conklyn's residence at Huntington, L. I. It is known around our New York offices as a "semi-conservatory;" because of its being part in the residence; and part under glass. It's a unique idea well worth adapting.

The long house below it, with a central entrance, is 25 by 100 feet with three compartments, each about 33 feet long. A house this size, will come pretty close to covering the needs of the average place.

The one with the massive gateway, is just a glimpse of the extensive glass gardens erected several years ago on the Larz Anderson estate at Brookline, Mass.

Here then is a goodly bundle of suggestions. Which one do you want to talk over with us; or have us send you an approximate estimate on?

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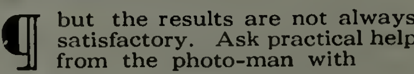
¶ but the results are not always satisfactory. Ask practical help from the photo-man with THE READERS' SERVICE

THE GASOLINE AUTOMOBILE. Prepared in the Extension Division of the University of Wisconsin hy George W. Hobbs, S. C., Instructor in Mechanical Engineering, University of Wisconsin, and Ben. G. Elliott, M. E., Associate Professor of Mechanical Engineering, University of Nehraska. McGraw Hill Book Co., Inc., New York. Illustrated; 259 pages; 6 x 9 in.; price $2.

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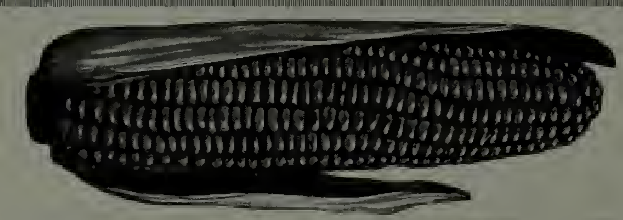

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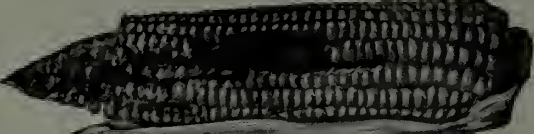

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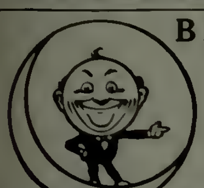

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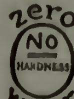

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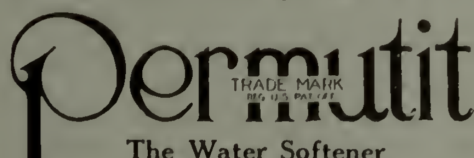

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A YEAR'S DEVELOPMENTS IN THE ACCESSORY FIELD

By ALEXANDER JOHNSTON

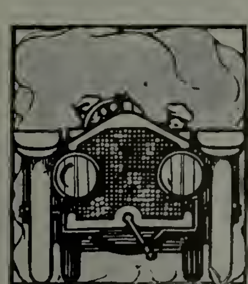
LOST indeed is that day whose setting sun has seen no new automobile accessory launched upon an already brimming market. Many of these devices show real ingenuity; some of them have that inevitability of application that causes us to wonder why they have never been thought of before. Most of them are born to the accompaniment of sobs by the press agent, who weeps to think of the pitiful state of the motoring world before his particular device came into being. And most of them linger with us for but a few brief weeks before passing on into the oblivion that always awaits the unnecessary.

In the great flood of ephemeræ, however, there appear from time to time a few devices that really have a legitimate function. Each year a few of these essential utilities are added to the list already existing of what we may call standard accessories, devices that really contribute something to the efficiency of the car and the pleasure of motoring.

In the divisions of the accessory field that have to do with devices that are actually vital to the running of the car, it is only natural that standardization should have made considerable progress. Every magneto resembles every other magneto in its fundamentals. There is a plainly recognizable kinship among carbureters, and battery ignition systems certainly differ more widely in name than in construction. We make this statement with all due apologies to the individual manufacturers, who will probably agree only in differing from us. It is undoubted that the essential accessories are to a considerable extent standardized. The improvements in these lines will, in the present era, be rather refinement than actual change. But in the way of devices intended as auxiliary aids to motoring comfort or pleasure, there is no limit to the ingenuity evidenced by inventors and manufacturers alike.

In the ignition field the outstanding development has unquestionably been the progress in popularity achieved by the battery system. For many years the magneto has reigned supreme in the ignition field. Only last year some 60 per cent. of the cars in the national shows were equipped with magneto ignition. This year, however, the tide has set unmistakably the other way, and more than 50 per cent. of American cars are now equipped with battery systems of generating the vital spark. The real reason for this drift toward battery ignition is the simple fact that it is cheaper, which naturally makes a distinct appeal to the quantity manufacturer of cars. The battery certainly cannot make any comprehensive claim to greater efficiency than the magneto, which is nearly 100 per cent. efficient in its modern form.

It is rather a peculiar fact that in the selection of the ignition system the owner, the one most interested when all is said and done, has little to say. The vast majority of motorists accept without question the ignition system that is installed on the car when they buy it. The seeming popularity of the battery ignition system may not, therefore, represent the opinion of the majority of American motorists, but may simply be the preference of the manufacturers, into which pecuniary considerations have certainly entered. In the ultimate analysis, however, the preferences of the individual car buyers will make themselves felt, and will determine the type of ignition as well as every other part of the car. It would be premature, therefore, to say at this time that the battery will oust the magneto from the ignition field or even that it will permanently usurp its position of paramount popularity.



At the other end of the ignition system we have, of course, the spark plug, and in this field there has been little change during the past year. The time-honored porcelain plug is still the leader. Various types of patent stone plugs, the composition of which is made to withstand great heat and to be very durable to ordinary wear, are making considerable headway. There is also a noticeable drift toward multiple sparking points. In summing up the ignition field, we can only call the past year a period of refinement and adjustment. It has certainly not been characterized by the launching of any startling innovations or revolutionary ideas.

In the carbureter field there has been just one recent outstanding development, and that is the activity among designers and manufacturers of kerosene carbureting devices. This was, of course, inevitable the moment the price of gasolene passed 20 cents per gallon, with every indication of a permanent residence above that mark. A number of kerosene carbureters of proved efficiency are now on the market and there is more than hope that developments in this line will give us an alternative fuel, which should have a salutary effect on the gasolene situation. There are no essential obstacles to the production of a carbureter that will handle kerosene just as effectively as our present devices deal with gasolene.

The gasolene carbureter manufacturers have contented themselves with minor improvements and refinements of their familiar products. The popularity of the eight- and twelve-cylinder motors has made it necessary to turn out carbureters specifically adapted to service with these engines. There seems to be a drift toward the plain tube type of carbureter, which is the simplest type, consisting merely of a tubular mixing chamber without the familiar adjustment features. There is also a tendency to use dashpots in connection with auxiliary air valves. The dashpot is a device for controlling the action of the auxiliary air valve, making the admission of the air gradual, even when the valve is suddenly opened to its full extent. It consists of a small chamber to which gasolene is admitted. In this chamber rests the bottom of a double end valve, and the resistance of the gasolene prevents the too sudden lowering of the valve, the action of the upper end of which controls the admission of air. Manufacturers generally favor simple adjustments for the carbureter, which is obviously the way of safety, since permitting the average car owner to tinker with a lot of screws and valves is an invitation to endless trouble. Taken all in all, the carbureter field is well standardized, and revolutionary announcements from manufacturers in this line are not to be looked for in this era of motordom.

While it is one of the newest standard accessories on the car, the electric starting and lighting system has already achieved an efficiency and perfection that place it in the standardized class. Undoubtedly the outstanding development in the starting and lighting field during the past year has been the drift toward two-unit systems. Some manufacturers have dropped their one-unit systems altogether, while practically all of them are offering a two-unit system, even though they may have retained their one-unit system from last year. And indeed there is a legitimate field for both types.

There is a noticeable tendency among starting and lighting system makers to lessen the weight of their products and to make it easier to get at the various parts. There is also to be observed a decided movement to make the systems foolproof. One manufacturer, for instance, has arranged his system so that the starting motor gear-shifting device automatically disengages as soon as the engine starts firing, no matter whether the driver takes his foot off the pedal or not.

In the speedometer field there is practically no change to record within the past year. The three familiar types, centrifugal, magnetic, and air, are still in use, with the centrifugal by far the most popular. This branch of the accessory field is dominated by some ten or twelve concerns, which sell practically only to the manufacturers of complete cars, so that the preference of the motoring public is not indicated by any percentage figures that may be given. The speedometer is an entirely efficient instrument and it would be rather a surprise to see any very radical improvement introduced at this stage of the game.

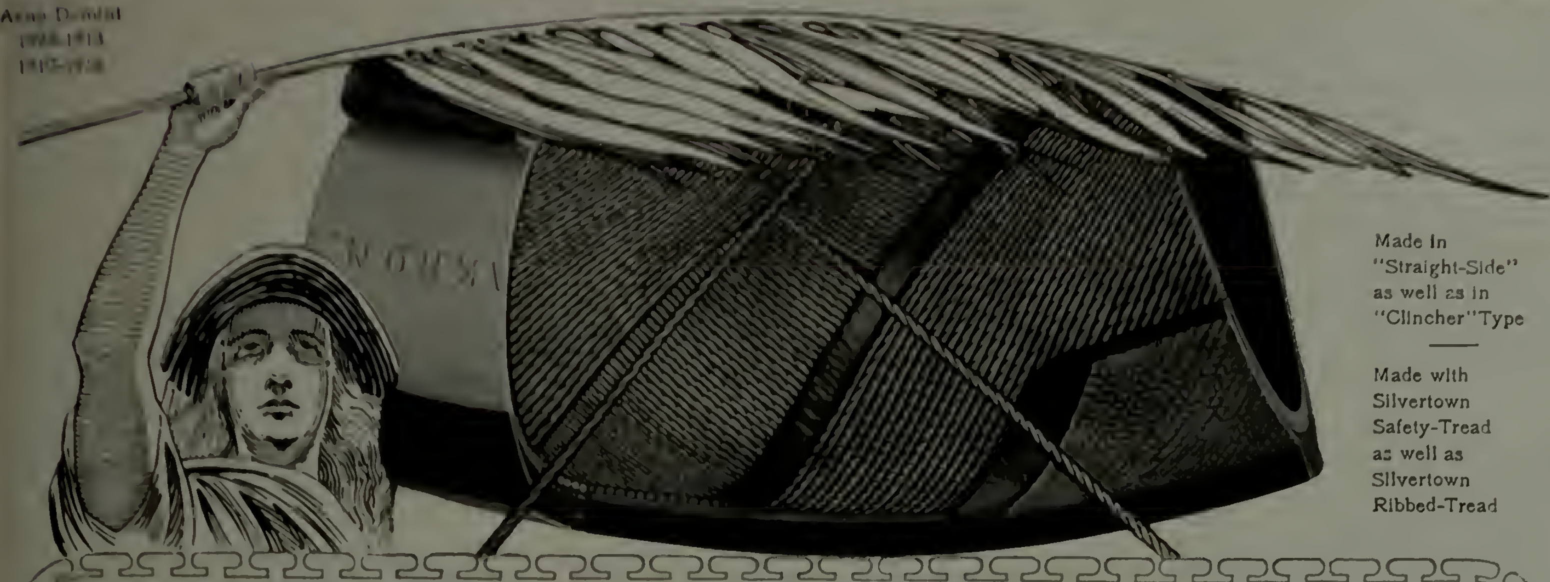
Manufacturers of warning signals for motor car use have been extremely busy during the past year. Their efforts have been directed more toward improving existing types and turning out greater numbers of them, than to developing new ideas. The low-priced motor-operated horn is now with us in great numbers, and the hand operated horn, in handsomer finishes than ever, has largely increased its following. Exhaust horns of all sorts, bells, and other unusual signals have certainly not gained any ground and are apparently losing some of their hold on the general motoring public. The choice of a warning signal is something that gives the owner a chance to voice his individual preference, and we may take the drift toward definite types as a fair indication of public opinion.

There is certainly nothing radically new to record in the recent history of the tire branch of the accessory field. A few new patterns for non-skid tires, introduced by new companies in the field, a tendency toward distinctive appearance by coloring the rubber of the casing red or black or blue—these are about all the developments in the tire line. There seems to have been an increase in popularity of the cord tire these past eight or nine months. At least three companies are making and, what is a different matter, selling this type of tire in considerable quantities. The cord tire has achieved an enviable reputation on the track, and on the strength of its racing efficiency it seems to be gaining a hold on the general motoring public.

In the motor-driven tire pump field there have not been any revolutionary innovations. In the actual construction of the pumps themselves there have been no developments at all, but there has been an interesting innovation in the manner of mounting the pump on the engine. This consists in installing the pump in front of the radiator, taking the place of the starting crank, supplanted by the self-starting system. This location for the pump means that the drive is transmitted from the end of the engine crankshaft to the pump crankshaft.

Undoubtedly the most prolific branch of the accessory field is that which devotes itself to the manufacture of shock absorbers, which are offered in every imaginable variety of mechanical construction. The spring type of shock absorber is still the most popular, but a very noticeable gain has been registered by the absorbers employing the pneumatic principle, sometimes in combination with the spring. Liquid, liquid and air, and liquid and spring types are still popular. There have been numberless combinations and adaptations of existing types in this field but no new types have been brought out.

Falling in a general way in the same category with the shock absorbers are devices designed for lubricating the springs. One of



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—The Goodrich "Palmer-Web" Automobile Tire,—1906 to 1913.
—The Goodrich "Silvertown-Cord" Tire,—1910 to 1916.

—In all this Breed of Tires the strain ran true,—each generation being distinguished for maximum Speed, Resilience, Far-Coasting, Power-saving and,—in the Motor field,—wonderful Fuel-saving.

But, "the Flower of the Flock" is the Silvertown *Cord* Tire.

In this alone has been developed the great *strength* of actual and individual CORDS,—as contrasted with "*Threads.*"

These giant Cords,—each capable of lifting a man's weight,—are what now give the marvellous ENDURANCE, and *multiplied Mileage*, to that famous strain of fleet-winged Tires, bred up (through Goodrich perfecting of the "Palmer-principle") to the SILVERTOWN CORD apex.

So, it comes to pass, that Motor-Cars when equipped with "Silvertown Cord" Tires have not only *distinguished bearing*, but also obtain about 17% *increase in Net-Power* from the same Motor.

This, with a *Saving on Gasolene of about 25%*, per mile, which soon pays for the higher cost of these bona-fide CORD Tires.

There is a *luxurious* sensation in riding over "Roads of Velvet," on these highly-developed Tires that absorb all minor vibrations, super-cushioning each disturbing contact with ruts or obstacles on the road.

Silvertown Cord Tires are *not* "plentiful,"—but can *now* be had through Goodrich Dealers and Goodrich Branches.

Silvertown Tires are Standard Equipment on the following high-class Cars:

GASOLENE CARS

—FRANKLIN
—LOCOMOBILE (Optional)
—McFARLAN
—NORDYKE & MARMON
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—STANLEY (Touring)
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—WHITE

ELECTRIC CARS

—ANDERSON ELECTRIC
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THE B. F. GOODRICH CO.
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Silvertown

TWIN-CABLE **Cord Tires**

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The First Real Anti-Skid—And Still First

'Nobby' Tread was the first successful all-rubber-tread anti-skid tire made.

It is still the first—still in a class apart,

Still the first as a real anti-skid.

Still the first as a high-traction tire.

Still the first in low cost per mile of service.

Still the largest selling very high-grade anti-skid in the world.

The 'Nobby' is one of the five United States 'Balanced' Tires which meet every motoring condition of price and use.

Ask the nearest United States Tire Dealer for your copy of the booklet, "Judging Tires," which tells how to find the particular tire to suit your needs.

United States Tire Company

'Nobby' 'Chain' 'Usco' 'Royal Cord' 'Plain'
"INDIVIDUALIZED TIRES"

'Nobby' Tread
One of the five

United States Rubber Company — US Rubber System — and Associated Companies

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is the final achievement in the six-cylinder motor. A radical advance. Fundamental patents have been granted on it. Delivers 76 horse power. Attains a speed of 74.67 miles per hour. Eliminates vibration. Wonderful flexibility, silence, and ease of control. Combined with a new body of resistless grace, beauty and comfort.
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Firestone Non-Skid TIRES

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LOCOMOBILE

these consists of strips of perforated metal, designed for insertion between the leaves of the spring. The perforations are filled with lubricant, which oozes out as it is needed by the spring. This year there has been brought out an adaptation of this idea which consists of little flat containers to be filled with lubricant and snapped on the spring leaves. The construction of these little devices is designed to regulate the flow of the lubricant to the amount actually needed by the spring.

No one whose business compels him to follow the trend of the accessory field can have failed to note, during these last few months, the number and variety of devices intended to promote comfort in touring and camping. Automobile tents, designed for rapid and easy raising and lowering, and for being carried in a minimum space, are offered in innumerable forms and materials. Folding cots, especially gotten out to meet the limitations of storage room on the car, may be had in endless variety. Portable kitchens of ingenious design will give the motor camping party the wherewithal to prepare the most elaborate *al fresco* meal, and yet this cooking kit will pack into a container that takes up little of the valuable space in the car. Dining kits and luncheon baskets are being offered with refinements over even the attractive sets of last year. Refrigerators and food containers may be had in a number of ingenious forms. All these various conveniences, moreover, may be had in very simple form for a comparatively small price, or they may be elaborate and costly enough to test the mettle of the most plethoric pocketbook.

Among the new touring devices is an automobile bed which is erected in the car itself, the bows of the top being utilized as posts for this airy couch. These swinging beds turn the car into a sort of temporary pullman, and really make very acceptable sleeping quarters. They are greatly in favor with ladies having a constitutional objection to snakes and field mice.

In cross-country touring in America one is certain sooner or later to have trouble with the roads. Mud and sand are as inevitable as taxes and old age. It is practically always necessary to have in the car a stout tow rope of some sort to be used in extricating the vehicle from any predicament into which it may get. A number of specially fashioned tow ropes with hooks for attaching to the car have been on the market for some years. There is a new adaptation of this idea out this spring, which consists of a stout towline with three steel stakes fastened to one end. By driving these stakes into the ground, it is claimed that enough purchase may be obtained to enable a stalled car to pull itself out of the deepest sand or the most affectionate mudhole. An ingenious little device and simple enough to be worth trying, in any event.

One of the novelties brought out within the last year is the adjustable searchlight for mounting on the windshield. This lamp is small in size but throws a powerful spotlight for as far as 200 feet. The lamp is mounted on a universal swivel joint so that its light may be thrown in any direction. It may be directed upon road signs or upon house numbers in city driving. Also it may be used for picking out an uncertain bit of road ahead, which may then be avoided. Its uses are so many that it seems likely to stand the test of time.

The multiplying of ordinances against glaring headlights has naturally produced a countless flood of devices for dimming the offending lights. When the accessory inventor gets the law as an ally he is exceptionally well placed to cash in on his device. In this line there is a notable trend toward simplicity of design and action in the dimmers on the market. Many of them call into play extremely ingenious methods of eliminating the dangerous dazzling effect of wholly unmasked and powerful lights. The dimmers of to-day give the driver instant and perfect control over his lights, so that there is no excuse for the ill manners that used to be so common on the road in this respect.

Another accessory line in which there has been a noticable increase in efficiency of design is in rim removers. The almost universal use of detachable rims of various types has naturally brought out a number of devices designed for use in removing these rims from their tires. Those who remember the prying and hammering of a few years ago will marvel at the simple and yet effective tools of to-day, which make the

School Department

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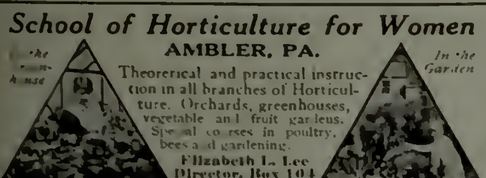

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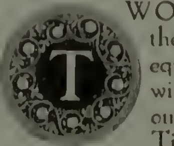
Motoring Masses Coming to Cords



TWO-THIRDS of all the new cars being equipped by the makers with cord tires are going out on Goodyear Cord Tires. But a growth even more striking than that is taking place.

Goodyear Cord Tires are standard equipment on the Franklin, the Packard Twin Six, the Locomobile, the Peerless, the White and the Haynes Twelve.

But you will also see them widely used now on cars like the Hudson, Stutz, Velie, Buick, Hupmobile, Chevrolet, Apperson, Dodge Brothers, Kissel, Oakland, Jackson, Oldsmobile, Chandler, Paige, and so on.

Simply because owners have learned that any good car gains in looks, in power-saving and gas-mileage, and in smooth riding, through Goodyear Cords.

Oversize, flexibility, and resiliency combine in these tires to produce real riding luxury by absorbing most of the jolt and jar of travel; to give unusual freedom from tire trouble; and to work economies by giving long service, and by saving power and fuel.

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The oversize is very marked, and provides an increased cushion of air, which serves to emphasize the easy-riding and the other good qualities built into Goodyear Cord Tires.

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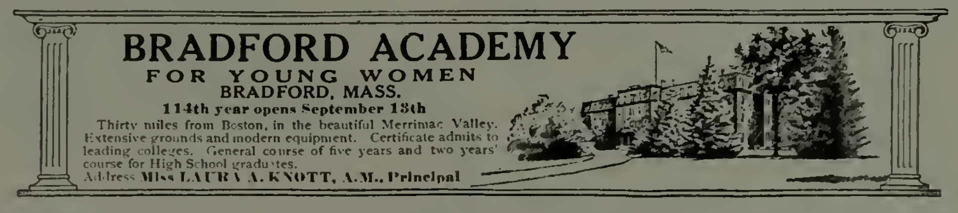

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is a good story, but when the light fails in your own home—when suddenly the electric current gives out and you're left fumbling for matches—that's a different story.

You can prevent that kind of trouble by using the

SIX-IN-ONE
FUSE PLUG

the greatest improvement in electric lighting since the invention of the incandescent lamp.

You need never be without light in your home. Simply pull and turn—every turn's a new fuse.

Safe—economical—convenient.

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Do you know what a Fuse Plug is? You should. There are several of them in your home.

A Fuse Plug is an electric safety valve that "blows" when the current overloads the wires in your house.

The old fashioned kind is a single plug. When it blows, some part of your house is immediately in darkness and you have to send for an electrician to come and insert a new plug before you have light again.

The **SIX-IN-ONE** PLUG does away with all that. It saves you time, money and discomfort. You give the **SIX-IN-ONE** Fuse Plug a slight turn and your lights are instantly burning as before—no fuss or bother when a blown-out fuse has left you suddenly in the dark. No groping about for candles or oil lamps, while your guests and family sit in unrelieved gloom waiting hour after hour for the lights to flash on again and restore brightness and comfort to your home.

Also invaluable in office buildings, factories, apartment houses, hotels, theatres, etc. Approved by the National Board of Fire Underwriters.

Ask your nearest electrical dealer to install **SIX-IN-ONE** FUSE PLUGS in your house *before dark today.* Each SIX-IN-ONE Fuse Plug contains six fuses. If he hasn't got them, send us his name and address, or order from us direct. We publish a little folder called

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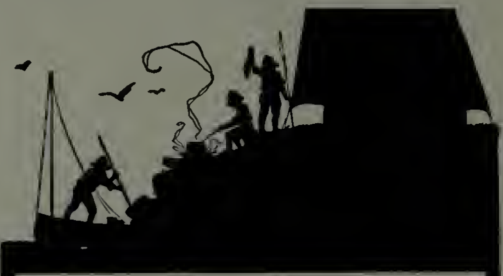

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The announcements of the best camps can be found in Scribner's Magazine. If detailed information is desired, address

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separation of the rim from its tire, even if the two are rusted together, a matter of seconds.

The manufacturers of vulcanizers seem to have taken to heart the injunction "increase and multiply." Not only are the numbers of makers engaged in putting out this type of equipment rapidly increasing, but the different manufacturers are adding constantly to their lines. Of greatest interest to the individual motorist are the small portable vulcanizers that may be carried in the tool box and used in the home garage as well. It is possible now to get these little devices to operate on gasolene, kerosene, alcohol, and even by electricity drawn from the source of supply already mounted on the car. By the use of hermetically sealed water compartments, portable vulcanizers are now made in the steam type, operating on the principle of their big brothers in the repair shops.

The fuel economizer in almost innumerable types is with us still and apparently going strong. There have not been any startling developments in this sort of device. The basic principle on which all of these inventions act is that of breaking up the fuel into a finer and more homogeneous mixture than that in which it leaves the carbureter. There have this year been placed on the market certain economizers which add to the fuel mixture a small percentage of water vapor, which surely ought to aid combustion and discourage the formation of carbon.

While the bumper field seemed to be already pretty well covered, there have appeared within recent months some new designs. Among these the most interesting are those that embody a spring action in the entire construction of the fender. Pretty broad claims are made for these new devices and they certainly have the merit of a businesslike appearance.

There have been several ingenious ideas in cushions of various sorts put on the market this year. Some of these are in the form of a triangular section, intended to fill the space between the ordinary perpendicular cushion and any well regulated back. Others may be used in different ways, but all of them serve a useful purpose, as any motorist will testify after a long ride on the ordinary seat.

Another device intended primarily to minister to the comfort of the passengers in the car is the tonneau windshield, which may be had in a number of different types. This device is not new this year nor even last, but the past few months have seen a number of inexpensive adaptations of the idea. Until this year the shield for the back seat has always been a rather expensive luxury.

The tremendous growth of motoring in this country has made car stealing a very profitable business. Many millions of dollars' worth of motor cars were stolen last year, and the light-fingered gentry have made a good beginning for 1916. Naturally the owners of motor cars eagerly purchase locks of many varieties in the hope of circumventing the wiles of the brigands. There are locks to be placed in the ignition line, locks for the fuel line, locks for the gears, chains for the wheels, and goodness knows what else. Unfortunately no device has yet been discovered that the car thieves, who are unusually skilful in their chosen profession, cannot eliminate in a very short time. If they cannot get their prey in any other way, they will tow it away behind a service wagon as if it were on the way to a garage for repairs. The only device that will give the car owner absolute peace of mind is an insurance policy covering theft.

There have been a number of improvements made in the tops intended for especially quick and easy putting up and down. Some of them are now really capable of rapid raising or lowering by one man. The curtains of the type designed for rapid adjustment have also undergone a considerable refining process. In this connection we may note the great popularity achieved by the different kinds of removable tops to be placed on the ordinary touring car body for winter use. There was a perfect epidemic of these adjustable tops last fall and winter. They would seem to be so logical a development that there is little question of their continued vogue with the refinements that will come with experience.

Some three years ago there was launched in this country a campaign that was vitally needed to call people's attention to the necessity for exercising care in modern traffic. We called this "Safety First". During the past year, with

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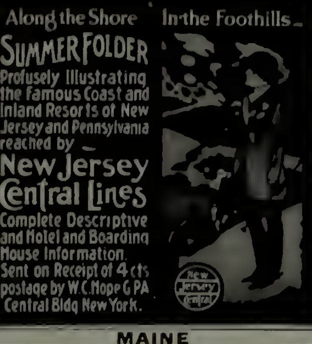

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is good is a
mark of dis-
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The host watches his guests with interest as they sip the 1820 Brandy that came out of the cob-webbed bottle.

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this Safety First movement in full swing, there have been placed on the market numberless devices designed to aid in the work. There are the semaphores for the use of traffic policemen at the intersections of streets; these signals have two crossed arms at the top, on one of which the word "Stop" appears and on the other "Go." The policeman on duty simply turns a handle to change the graphic command above.

Falling under the same general head are the direction signs for installation on the rear of motor cars to indicate the movements of the car to vehicles following it. These devices usually take the form of arrows or hands, which point the direction to be taken by the vehicle in turning and show the word "Stop" when that operation is to be consummated. These devices are rather useful, but they are still a trifle expensive and many of them are extremely crude in design.

The past year has seen the advent of the usual number of preparations intended for the beautification of the car. Some of them are good but most of them are rather useless. There have been one or two compounds brought out which are to be sprayed on the varnished surfaces of the car and which have the faculty of working their way under mud or dirt there present, making it easy to complete a very satisfactory cleaning job.

No student of the motor car industry can have failed to notice the increased use of trailers in the last twelve months. This was inevitable when the average owner of a car came to realize that his vehicle had a considerable excess of power over his ordinary needs. The manufacturers were wise enough to see the same thing, and supplied the need even before it was realized. There are now twelve or fifteen trailers of different sizes and sorts on the market, all of them intended for use behind pleasure cars. For the farmer or any dweller in the rural districts the trailer is almost unescapable. Many of these powerless vehicles are just as carefully built as are the cars that pull them. A dozen trailers have been in use by the United States Army officials in Mexico, where they have given sterling service under conditions that are almost unbelievably bad.

Taking it all in all, the period of refinement and improvement rather than of innovation and revolution rules the automobile accessory field at the present time. There will be many interesting devices brought out from time to time, but the broad principles have been laid down and the work of standardization has begun.

THE WHY OF RIPPLE MARKS

SCIENTISTS have long sought, in vain, a satisfactory explanation of the formation of ripple marks—those beautiful, evanescent, mysterious phenomena of sandy beaches with which even the most casual visitor to the seashore is doubtless familiar. At length, however, the problem is apparently solved, for a report of the Smithsonian Institution contains the translation of a paper by a M. Ch. Epry in which he constructs an exceedingly plausible hypothesis upon the following conclusions: (1) Ripple marks are due entirely to the action of water [wind has frequently been suggested as an important contributory agency]. (2) They are never formed on the upper [or steeper stretch of] beach nor on entirely muddy bottoms. (3) They appear on all parts of the lower beach, where, on the sandy bottom, a transverse current cuts across the normal current of the ebb. (4) They are aligned in the general direction of the transverse current; any deviation indicating the relative strengths of the two forces. (5) Their dimensions depend upon the nature of the bottom, the size of the grains of sand, and the velocity of the water.

In other words, even the slight movement of the minute waves of a receding tide on an almost level beach is sufficient to move some of the sand particles. If this movement or current, in passing down or across the beach shelf, meets any obstruction or inequality—a depression, a rock, an eddy—its direction is swung more nearly parallel to the beach and, its course being somewhat checked, part of the sand burden is strewn along its new path. Constant repetition of this action by simultaneous rows and successive ranks of wavelets is sufficient to create the striking result in a remarkably short time. The study of this practical application of this theory offers a delightful bit of semi-scientific recreation for nature lovers.

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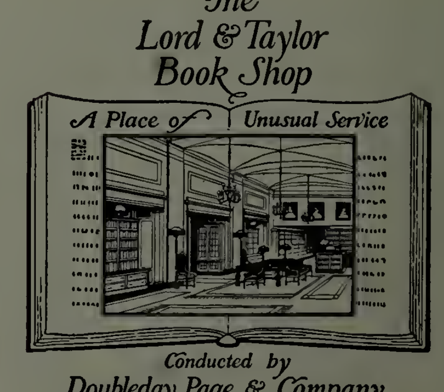

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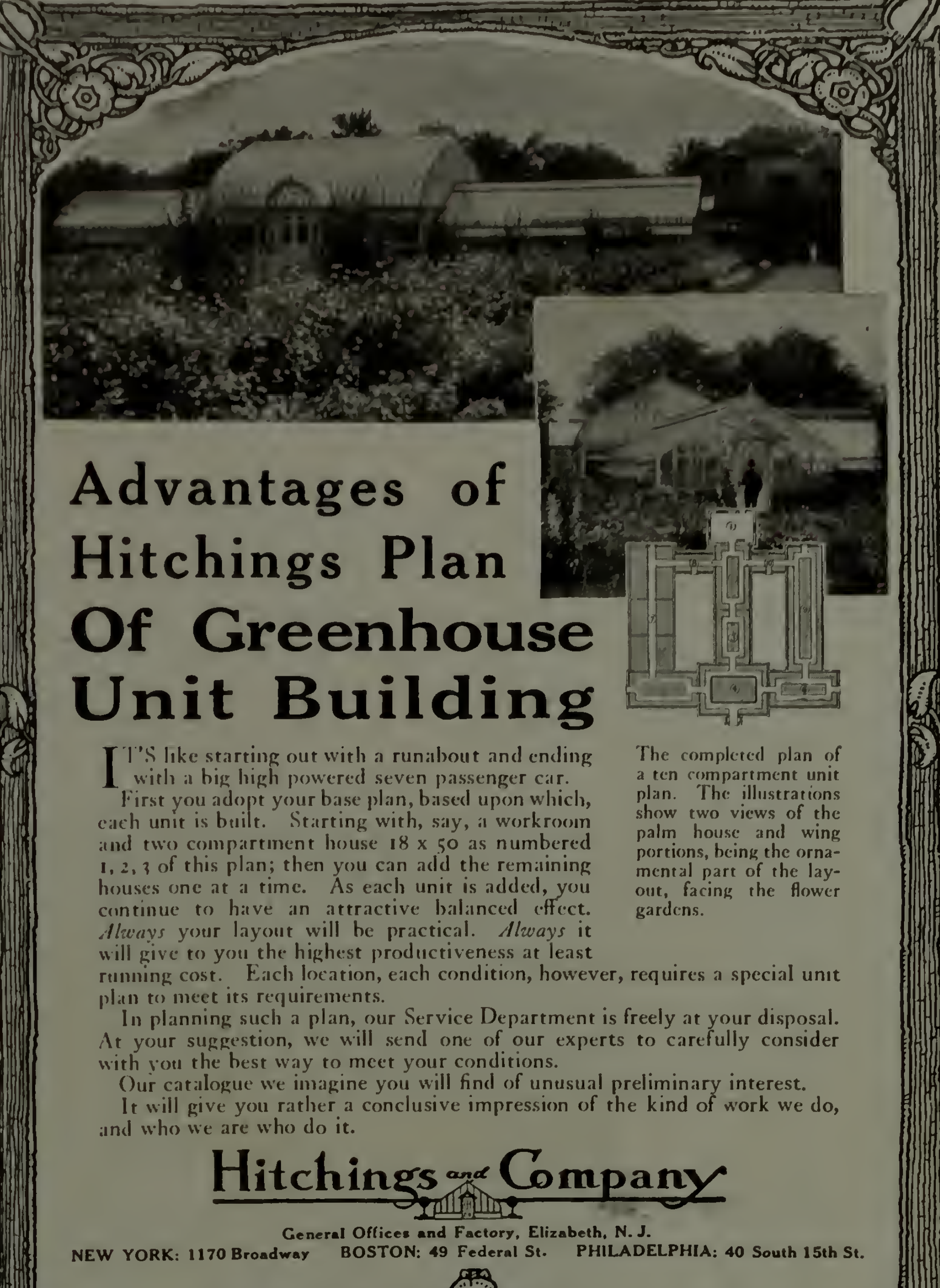

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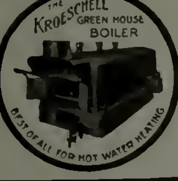

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THE sleeping porch has become so important a factor that to-day no country house is built without one, if not more, of them, and their comfort-yielding qualities are as fully considered in the architects' plan as are those of the living room. But it must be admitted with regret that, generally speaking, the wide possibilities for their artistic decoration and furnishing have been overlooked.

There is no hygienic reason why sleeping porches should not be decorated, and many psychological reasons why they should be, provided, of course, it is done properly. One must consider from the standpoint of sanitation every article to be used. Nothing should be employed that will catch and hold dust, or that may not be washed conveniently and as frequently as is necessary.

The chief eyesore in the usual porch of this description are the hangings, which, because of their need to be weatherproof, have been left plain and rough, exerting a depressing influence on all further decoration. Fortunately, this need no longer be suffered, since an easy method of weatherproofing of all materials has been discovered and one may choose what one pleases for hangings, have it weatherproofed, and then decorated to order. This permits the working up of a color scheme that will harmonize with the room or apartment from which the porch gives out.

It is not practical, however, to use only one shade in the open sleeping porch, as no amount of tieing down will hold it firm in stormy weather; hence an outer and heavier one should also be provided. Frequently such shades are sold in combination. One of the best on the market has an outer curtain of wooden splint fabric tinted a dark green, and an inner one of canvas that may be had in any color, weatherproofed and decorated as one desires. These curtains may be hung either at the top or the bottom of the opening and rolled separately, thereby allowing the free passage of air with only the splint shade unrolled, and entire privacy and protection from drafts when the canvas one is free. This canvas curtain may also be buttoned tight all around its edge to keep out rain and snow and prevent flapping by the wind. It comes in four lengths of eleven widths each, and in the plain green and khaki is very reasonable.

Dignify this white iron bed with line decorations of sky blue or apple green, drape it appropriately (this cretonne set costs $5.75); add the white enameled table, $9., add the dainty glass lamp with cretonne shade, $3., and your sleeping porch is nearly furnished

'Washable flax rugs in beautiful plain colors, herringbone, and plaids, are ideal for the sleeping porch, and they wear excellently

The sleeping porch bed, which not unfrequently outrivals a soldier's camp cot in looks and discomfort, will, through the use of attractive curtains, take on an agreeable appearance through similar decoration and artistic draping. Iron beds are the most practical for this use, and may now be had in many different varieties other than the plain hospital type so commonly employed. Those of the largest size tubing, either round or square, with plain rods, can be so charmingly decorated that their original condition is lost sight of, and their sanitation is thereby in no way affected. By decorating the bed frames agreeably, only a satisfactory rug is required, for, of course, the necessary tables and chairs will be finished to match the bed, and the cushion covers will match the bed drapery.

The question of covering the porch floor fairly well with a large rug, or of using only a small one at the bedside, is more or less an open one, depending on personal taste and the kind of rug used. In either case it must be a rug that can be cleaned, preferably washed, often, and those weaves that can withstand the latter process are likely to be too heavy for easy handling.

There is, however, a new flax rug in the market that fills all these requirements perfectly and comes in seventy-five different color combinations of such charming tints and patterns that they are sure to be very popular for porch as well as interior use. The plaid pattern illustrated is of this weave and is tremendously effective.

Imagine the charm of a man's sleeping porch with white woodwork, dark green shades, a moss and sage green plaid rug with a salmon cross thread to brighten it, a white iron bed and side table with green line decoration, draped in white, and some comfortable white wicker chairs cushioned in a green and white striped material. Could anything be more attractive?

Or consider for a woman a semi-enclosed sleeping porch. At the casement windows are hung two pair of shades, the inside white ones decorated with an inch wide stripe of sky blue, three inches from the edge, and a quaint floral basket in the middle, these decorations being reproduced on the white iron bed, which should be draped with a pink flowered, blue barred cretonne; the hardwood floor being nearly covered with a washable solid toned, flax rug of the same heavenly blue. Nothing more is needed to make this scheme perfect but a couple of white wicker chairs cushioned to match the bedspread, and window boxes painted and freighted to correspond.

Does not this chair invite you to lounge a moment before retiring? It costs in natural color but $9

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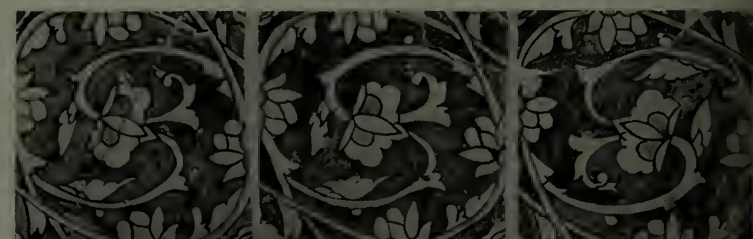
Has the East ever produced anything that we can use to better advantage than this exquisite fountain of soft tinted tile?

Indeed, one of the most perplexing problems the architect has to contend with in house building is the proper introduction of color into the building itself without making it obtrusive. This is usually accomplished in frame houses with paint, in stone or brick buildings by the use of the one with the other, but for theconcrete houses, so practical and popular in this country to-day, there is nothing so satisfactory as tiles though it must not be understood that these are successful only in concrete or stucco buildings. They are adaptable to any setting.

Made and tinted by hand in the exact method of the ancients, these tiles are copies of the superb specimens unearthed in old Carthage. Their colors, usually green, blue, yellow, and rich red, on a pork fat ground, have all the soft depth of fine enamel and, as will be seen in the illustrations, their designs, excellently balanced and drawn, are of a character to please the most conventional taste. In fact, their graceful, intricate patterns and rich, soft colors intrigue one's interest and imagination as completely as does an Oriental carpet, and their uses are manifold. They may be successfully employed as trimming, as fireplace facings, as inset wall panels either in hall, portico, enclosed porch, or loggia. They are charming for flower pots or boxes in either house or garden, but their wonder-working charm is seen to best advantage in wall fountains, in one of those limited spaces in the intimate walled garden that need color and interest other than that supplied by flowers.

Who would not hang this splendid panel of rich tinted tile in his hall or porch or on his garden wall?

Imagine the fascination of the fountain pictured here when set up in a quiet nook in the walled garden or in a sequestered angle of the house itself. And what better decoration for the blank wall spaces of the enclosed porch or vestibule than this exquisite floriated panel that seems more Italian than Arabic?



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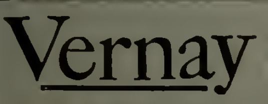

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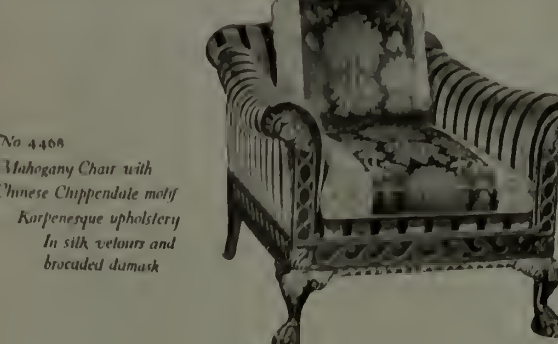

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Cool Things for Summer

EVERYTHING is painted and varnished this summer—to quote a saleswoman's criticism on the subject, "Nothing seems safe from paint these days!" Be that as it may, the effects are cheering, and cool as well. An instance of this is the flat bamboo basket for fruit with a small design of fruit or flowers painted in the centre of the natural ground, the stout bound rim painted bright red, blue, or green, and the whole thing under a high varnish glaze. This bright rim gives great point and smartness to the whole design, making the basket most effective. These

sell at $3.50, and others finished with loop handles of patent leather in colors matching the rims, come at a slightly advanced rate.

Not less interesting is the painted glass bedside set illustrated, where dainty flowers in pastel tints are made more decorative by linings of black. With a black lined, twisted or square pink candle in the stick, this would be ideal for a young girl's room. It sells complete at $6.50.

Among the many smart new things that aid our comfort, the gaily decorated black tin bucket with a stout, straight handle, pictured here, will make a wide appeal to the devotees of tennis and cricket, since it is intended for transporting and holding conveniently bottled ginger-ale and soda, packed in crushed ice. Large enough for twelve bottles it sells at $5.

Apropos of the tennis court, there are some stunning looking folding chairs, having plain khaki colored seats with framework painted either a bright blue, red, green, or yellow, with a delicate linked-rings design on their flat cross-slat backs, the whole being finally varnished. These are very effective and sell at $5 each.

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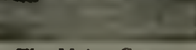
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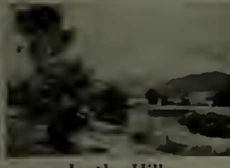
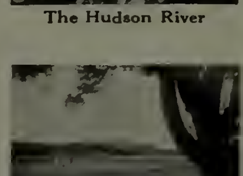
The Swimming Hole

The Hudson River


In the Hills


Golf in Maine

"THE LIGHTNING CONDUCTOR" IS ON THE ROAD AGAIN

¶ How would you like to tour New England with the "Lightning Conductor"? No hotel bills, no dust, no tires to change—but plenty of adventure, excitement, and some of the most beautiful scenery in America.

¶ The lure of the Open Road isn't the only charm to this new Williamson book. There's a story—romance and mystery too. "Mystery," as one reader says, "not of the common, every-day kind, but mystery of such mystifying mysteriousness as to characters and plot as to rob the reader of the faintest clue."

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The Lightning Conductor Discovers America

By C. N. and A. M. WILLIAMSON

The Authors of "The Lightning Conductor," "Set in Silver," Etc.

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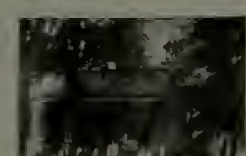

Tarrytown

South Shore, L. I.

TABLE DELICACIES

Tea, Sandwiches and Salads

ANN REMSEN

IT HAS been said man cannot live by bread alone, and this perhaps is the subtle excuse for adding so many delicious touches to the leavened loaf and calling it by the baffling name of sandwich. Tea and sandwiches seem to have a wide appeal, especially in midsummer and if served in the garden. Tea is delightful cold if it is well made, but not every one can brew a pot of tea successfully; much of course depends on the quality of the tea, yet more on the manner of brewing it.

ICED TEA

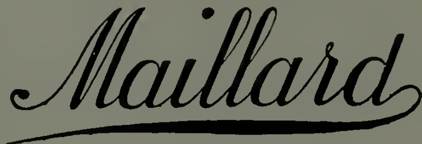
The tea should be made the same as if it were to be served hot, and should be prepared several hours before it is to be used. The quantity depends, of course, upon the number to be served and should be three times the quantity that would be necessary if it were to be served hot. The best blend for serving iced tea is equal parts of Orange Pekoe and English Breakfast; this blend does not lose its strength in standing, but softens and gives out a delicious aroma. The secret of success in cold tea is to have it *cold*; a large bowl of crushed ice is a necessary adjunct to the proper serving.

With iced tea a sandwich is most appealing and, whisper it low, is said to do duty as a complete midday repast for the slender beauty at this season.

Maillard's Breakfast COCOA

Have *you* tasted Maillard's? If not why not try it *today*. Its deliciously refreshing flavor, its palatability, its nutritious qualities and its economy are only to be fully appreciated after an actual trial.

Easy to make—delicious to take.



At good stores

A Cook Book for Every Home

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By JANET MACKENZIE HILL

Editor of "The Boston Cooking School Magazine

In this book recipes are given for simple, every-day dishes, and for such as are in demand for the most formal occasions.

A special chapter is devoted to garnishing and serving. Another to the art of hospitality and the etiquette of entertaining.

What makes this the most up-to-date and dependable book of its kind yet published, is that each recipe has been tested and found excellent by the author.

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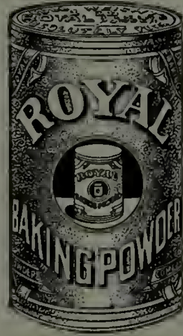
DOUBLEDAY, PAGE & CO. Garden City, N. Y.



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Made from Cream of Tartar

Absolutely Pure

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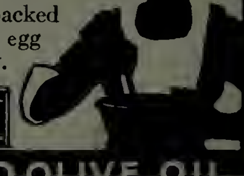
ALWAYS FRESH

The belief that Olive Oil can be packed like peas, corn, tomatoes, etc., and kept indefinitely, is wholly erroneous.

You will find that there is the same marked difference between fresh olive oil and olive oil packed months ago as there is between a newly laid egg and an egg months old. Insist on POMPEIAN.

FULL MEASURE TINS

½ Pint—Pint—Quart—½ Gallon



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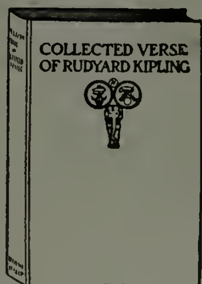

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IT is safe to say that the best verse Mr. Kipling has written is in this volume, because he has selected for this edition the poetical works by which he wishes to be represented.

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Every Woman Should Have The New Housekeeping

By CHRISTINE FREDERICK

Every Woman should read this book and put into practice its ideas of broader and *less drudgifying* home-making. *Every man* should read this book and buy it for some woman. It contains what Editor Bok of the Ladies' Home Journal says is the "best solution of the servant problem ever offered."

Mrs. Frederick is a housewife and mother, Consulting Household Editor of the Ladies' Home Journal, and the National Secretary of the Associated Clubs of Domestic Science. *Illustrated. Net* $1.25.

Garden City Doubleday, Page & Company New York.

FURTHER information about the products mentioned in this article will be sent upon request, address Miss Ann Remsen, care of Country Life in America, 11 W. 32nd St., N. Y.

CLUB SANDWICH

A club sandwich is a veritable *petit souper* in itself, well made, nothing is more delicious, but badly made, nothing is more formidable to contemplate. Cut the bread thin, remove the crust, and toast, then lay a crisp young lettuce leaf on a slice of the toasted bread, place over it a spoonful of mayonnaise, then a thin slice of ham or a bit of the breast of chicken; a crisp piece of bacon gives an added touch which is delightful. Cover this with another crisp lettuce leaf, add a small quantity of mayonnaise, place over the whole another thin slice of the toast, and cut in two diagonally.

CAVIARE SANDWICH

Caviare is an acquired taste, but if liked makes delicious sandwiches. Mix well one half can of caviare with a touch of onion juice and paprika; stamp out rounds of bread, spread evenly with the caviare, taking pains to keep it clear of the edge, and sprinkle with a small quantity of finely chopped olives and celery; put the two slices together and press gently.

BOSTON BROWN BREAD SANDWICHES

Boston brown bread makes delightful sandwiches, one sort, which is called the Bride and Groom, is made by cutting out small rounds of the brown bread with a biscuit cutter and placing in between these rounds a mixture of Philadelphia cream cheese, olives, and Spanish peppers. Press closely and clear the edges of the rounds neatly. These sandwiches are also satisfactory for a hamper for the motor run. Anchovy paste or Rochefort cheese made into a paste with French dressing is delicious as a filling for brown bread sandwiches.

MUSHROOM SANDWICHES

Thin slices of toast with a paté made of mushrooms as a filling are delicious. The filling can be made as follows: mince a jar of mushrooms, put into a small saucepan with the liquor, salt and pepper, and a piece of butter the size of a walnut. Cook until the mushrooms are soft, and thicken with flour stirred smooth in milk; put in a dash of sherry, stir well, and set to cool. Spread the mixture over the toast and press the two slices together lightly.

OLIVE SANDWICHES

Chop fine one bottle of pin olives and mix with some very thick and highly seasoned mayonnaise dressing; spread the mixture between slices of thin white bread and butter.

EGG SANDWICHES

Boil hard six eggs, chop fine, and mix into a paste with mayonnaise; spread between thin slices of bread and butter.

SALADS

It is important that all salad greens, such as lettuce, endive, and celery, should be most carefully washed, crisped an hour in ice water, put in a cheesecloth bag, and kept near the ice until needed; or if ice is not accessible, wash the greens, shake gently, put into a covered stone jar and set in a cool place. Cover the jar with cloth before putting on the top. Salad materials should be thoroughly cold and the made salad kept cold until served.

MALAGA SALAD

With a sharp knife slit one side of large Malaga grapes, take out the seed, and fill with blanched pecan meats. For each plate, put two leaves of romaine side by side, pinched together, and a row of grapes in each leaf resembling peas in a pod. Put one half teaspoonful of green mayonnaise on the ends of each leaf.

RADISH SALAD

Peel firm young radishes, cut in small pieces, and soak in ice water one half hour. Drain and mix with broken blanched pecan meats. Serve on crisp lettuce leaves with mayonnaise dressing.

BANANA SALAD

Cut lengthwise a firm, perfect banana and remove the inside, carefully forming a boat-shaped case. Slice ripe strawberries, mix with the sliced banana meat, and sprinkle with a little sugar. Pour lemon dressing over all and carefully fill banana cases without mashing the fruit. Place cases on strawberry leaves. This is dainty served with grated cheese toasted on crackers, and hot Russian tea.

Don't Live in the Kitchen

Intelligent regard for the health and happiness of the family has led to a closer study of foods and hygiene—and this has made the kitchen a brighter place than it used to be. But you don't want to live in the kitchen. Serve

Shredded Wheat Biscuit

the ready-cooked whole wheat food—a food that contains all the body-building material in the whole wheat grain prepared in a digestible form. Two of these Biscuits with milk or cream make a complete perfect meal, at a cost of five or six cents. The ideal summer food for the home or the country bungalow.

Whenever possible it is best to heat the Biscuit a few moments to restore its crispness; then pour over it milk, adding a little cream; salt or sweeten to suit the taste. Deliciously wholesome when served with berries, sliced bananas or other fruits.

Made only by

The Shredded Wheat Company, Niagara Falls, N. Y.

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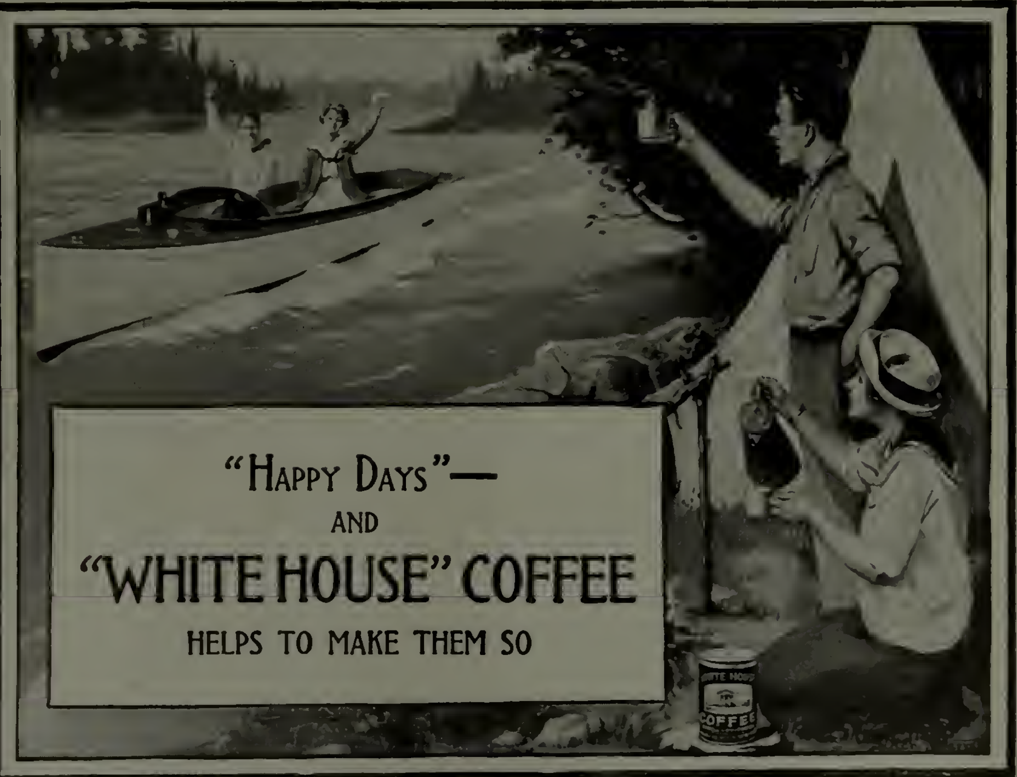
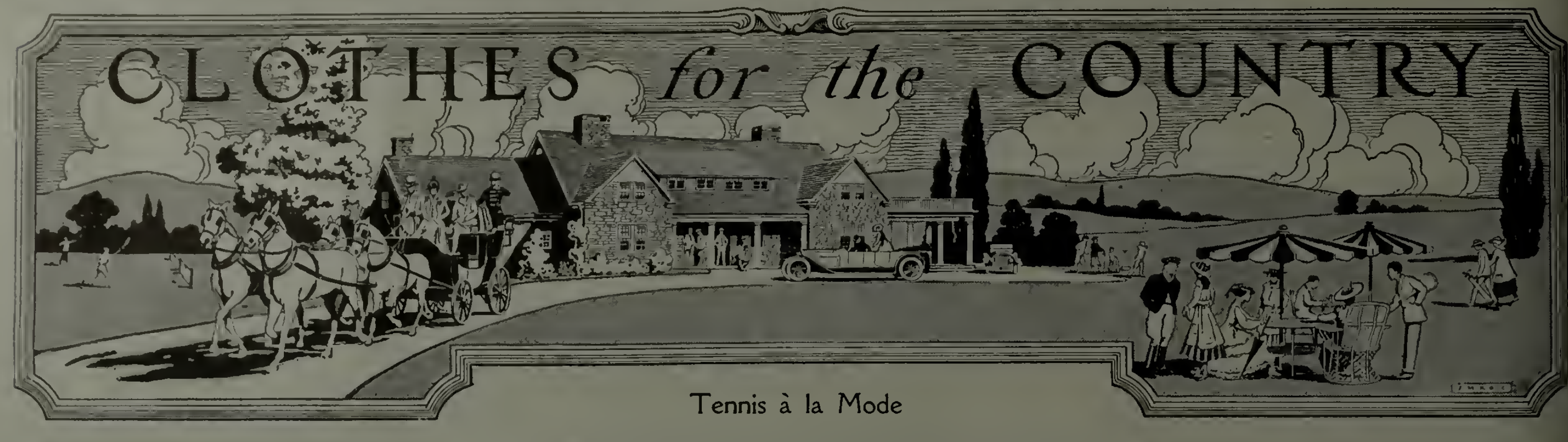




Tennis à la Mode

LINDSAY GLEN
Of Country Life in America Advertising Department's Service Bureau will be glad to furnish further information or purchase any of the articles mentioned.
Address 11 West 32nd St., New York

THERE is no tyranny comparable in a man's mind to the tyranny of things. To be obliged by the fear of Mrs. Grundy to carry a wardrobe in good order to and from one country club to another quite does away with the interest or pleasure of the game, from his point of view—yet a locker in every country club, filled with tennis togs, would be out of the question. Especially if his game becomes known, he is flying here, there, and everywhere, which makes the tennis bag not a luxury, but a necessity.

A new model in tennis bags has been imported from England. It is long enough for a racket, and quite narrow and flat. The bag is in soft brown leather and lined in light silk. The bag holds, besides the racket, all the tennis clothes a man is apt to need. A pair of trousers in white serge or French flannel, a dark blue serge coat, white silk shirt, stockings, and white shoes. The hat is a soft white felt one. The bag with its contents is very complete and admirably adapted for being stored away in a motor en route to the game.

Gray flannel trousers are quite popular with the older men, and fine white flannel with a tiny stripe of brown or black is also much seen. With these trousers are worn the Innsbrück knitted coat which comes in blue, gray, green, and heather mixture. Coats in white serge or flannel are made to match the trousers. A sweater is absolutely necessary—light weight wool in gray or white or the heather mixture being the smartest.

The socks for tennis are very gay this season. It is possible for a man to indulge his sense of color in this way. If he is a radical by nature, the brilliant colors will appear in the fancy cuffs of his tennis costumes, or in the bright colors of the socks themselves, which are seen in blue, gold, brown, or the new greens, and in the two-toned effects, which are very attractive. With these socks the tennis shoes are in white with black leather trimmings, or white canvas with tan trimmings. The hat, from a man's point of view, is only for protection and is seldom, even if new, a thing of beauty. Many tennis experts, in place of wearing soft silk hats, use colored glasses which come in wonderful effects of rose-colored with white rims, or in yellow with the tortoise shell rims. These glasses are light and are said to be exceedingly comfortable. Another necessary adjunct to a man's tennis outfit is a coat to throw over the shoulders while resting on the line. It is made in a soft woolen material, and has five large pockets and a rolling collar. It is made large and loose and is seen in shades of brown, tan, and white.

The light rain-proof coat is not as necessary for tennis as for golf, as the players are never very distant from the club house, but the coat is serviceable in a locker bag if one motors to and from the tennis courts. "The beauty of tennis is that the needed exercise can be had on a spot near home, and we do not have to traverse the whole country in accomplishing it," was a remark by a crusty sportsman, overheard the other day.

A silk sweater in a new model. Upper half in a solid green basket weave, sailor collar and deep cuffs. The lower half is in a ribbon stripe in green and white. This model also comes in an old rose and peppermint stripes, with Shantung silk skirt to match

THAT fashion wears out more apparel than the woman is no doubt true, for every woman who appears on the tennis court is not there to play the game.

The sports clothes this season are seen in two distinct models, and both are practical: One is for rough-and-ready use, and the other for club and gallery wear.

To-day it is conceded to be more sportsmanlike to appear well put together and to emerge from even a swiftly contested match with every hair in place. The useful model in white linen or piqué, and white linen shirt with a rolling collar, white canvas shoes trimmed in white leather, and white stockings, is still the proper apparel for the tennis enthusiast. But to many women linen is not as satisfactory for sports suits as are the new Shantung silk materials.

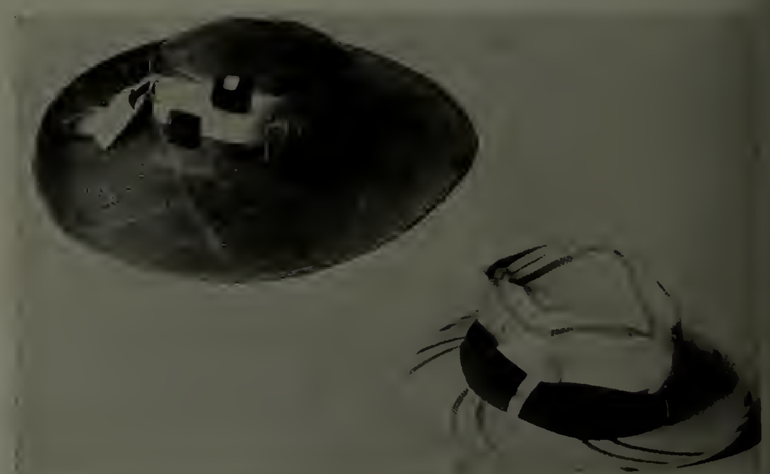
These silk suits are durable, light in weight, and effective in design. The skirts have a double stripe in green or peppermint shades. A striking sweater to be worn with this skirt was seen in a silk woven net, the upper part being in the plain green or peppermint shade while the lower part of the sweater rippled slightly and was striped in the tan and green, or tan and peppermint, to match the skirt. With these suits are worn soft silk hats in gay colors which blend with the colors in the sweater and skirt. They are sometimes elaborately stenciled or may be simply corded and finished with a perky little ribbon with bow ends. The picture hats are in double straw design with colored figures. Other models in light straw Leghorn are most becoming.

A light weight cover coat to protect the sportswoman from the dust and dirt while motoring home from the courts, or to throw on while watching the games, is the new punjab coat in blue and black ribbon stripes, faced in blue satin, with cartridge plaits on the sides and a postilion cape. The coat is most useful and in good style.

Another sports coat which appealed was in gold Georgette satin with soft rolling collar and full rippling back; the color was gorgeous, and with a white Shantung silk skirt and gold and white silk and straw hat would surely appeal to the woman who wishes to combine beauty with practicality.

Sports coats for the onlooker's games come in a marvelous and appealing variety. A white wool Guernsey coat, which is an original model of Chanel, of Paris, is most effective; it is quite long and has a band of moleskin on the edge of the coat, with a broad, square mole-skin collar and cuffs. Most of the summer coats have a touch of this fur. White wool Guernsey is soft and clinging, yet the fullness of cut make the lines long and graceful. A white silk jersey coat was also trimmed in moleskin, and an oyster white Shantung silk coat had the bands and collar of moleskin.

A tennis bag in English leather with complete outfit for the player. A place for everything and everything in its place. Compact and convenient. Built for comfort by a man who knows


Large hats are popular for the sportswoman this summer. An unusual model is in a double straw in a picturesque shape—green with an old rose stripe—the ribbon is old rose, with small blocks of worsted appliqued at intervals around the crown. Hats in soft white Shantung silk with colored stripes and loose pongee scarf folded around the crown and worn with the Shantung silk skirts and silk sweaters. Practical and comfortable if less effective than the larger hats

Country Life in America

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Fact is that no improvement yet made in other types reveals a single instance of all-round performance which equals the sleeve-valve motor.

Everyone knows that no other motor is so *quiet*—that no other motor *stays* quiet as the sleeve-valve motor does.

And not only does it have this great advantage of *permanent quietness* but the sleeve-valve motor is so *abundantly* superior in power and direct drive range (flexibility) that no other motor yet produced can stand against it—once the truth is known and realized.

Sleeve-valve construction makes four cylinders perform like six.

There is more sheer joy in driving a sleeve-valve motored car, new or old, than can be had with any other motor equipment.

And the sleeve-valve motor constantly *improves with use.*

All other motors lose power and flexibility, must be regularly "tuned up" and "cleaned up", and after a while no amount of "tuning" and "cleaning" will make them fit.

But the sleeve-valve motor, after the same work that utterly unfits any other type, is better than ever and good for thousands of miles of extra service at highest efficiency.

With all the thousands of Willys-Knight cars now in service, giving unprecedented satisfaction, you have every opportunity to verify these claims which we assert with flat-footed positiveness.

Motor car satisfaction, more real and tangible than any thing else offers, is enjoyed day in, and day out, with little or no interruption, by those who own and drive Willys-Knight sleeve-valve motor cars.

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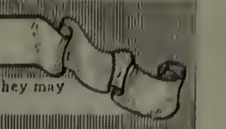

In this department are printed the advertisements of reliable stock farms. The Live Stock Department will send to readers any information about stock which they may desire. Address LIVE STOCK DEPARTMENT, Country Life in America, 11-13 West 32d Street, New York

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Lightning, by Dilham Prime Minister, out of Sweet Lavender. Fee $40.
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List of Animals for disposal on application with details. Orders for purchases will be executed at Bloodstock Sales held in August at Dublin

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IRISH BLOODSTOCK AGENCY
COYLE & CO. (BROKERS) LTD.
7 Anglesea Street Dublin
Wires: "Insurance Dublin" Bankers: Bank of Ireland

Ponies from the Bunn Herd

still [illegible] harness pony and [illegible] *Champion* saddle pony at Panama Exposition were both shown from this herd. At same show the [illegible] single harness and *First Prize Shetland Pair* defeating the first prize winners same classes, Madison Square, 1915, were bred from this herd. *Shetland—Welsh and Hackney Ponies.* Over 200 head for sale reasonable
CHAS. E. BUNN Peoria, Ill.

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Best bred Morgan in Vermont. One year old last May, Chestnut color, sound and clever. A rare chance to secure pure blood. Send for photograph.
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EDWARD A. STANFORD, Manager

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GUERNSEY CLUB, Box C.L., Peterboro, N. H.

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Pure Bred Guernseys
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Registered Berkshire and O. I. C. Swine

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Spending Money to Reduce Selling Prices

If you were going to give a large entertainment, you wouldn't go out personally and deliver a hundred or so invitations verbally, would you? Of course, you would have them engraved and mailed to your guests.

You would in this way spend money to save money and time, which is also money.

Any man who has anything to sell has the problem of getting his invitation to buy before the largest possible number of prospective buyers.

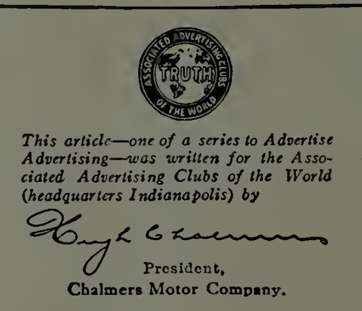
The larger the number he interests, the more units he can make, and the lower his producing cost descends. So he takes the quickest method of reaching a large number of people—printing advertising.

If anyone tells you he is able to sell you his goods at a lower cost because he had no advertising expense, laugh at him.

Advertising reduces sales expense, because a single ad calls on thousands, while a salesman can call on one or two. Advertising reaches an individual at less than 1% of the cost of telling the story to that person in any other way.

Advertising increases the keenness of competition so that prices are forced downward.

It would not be possible to produce a lead pencil for two cents, a tube of paste for ten cents, a collar for twelve and a half cents, were it not for the force of advertising in creating a wide demand, permitting quantity production and labor-saving machinery, thus cutting costs.



This article—one of a series to Advertise Advertising—was written for the Associated Advertising Clubs of the World (headquarters Indianapolis) by

President,
Chalmers Motor Company.

There are other reasons why you should insist on the advertised product.

The purpose of most advertising is to establish the reputation of a name. In order to live up to that reputation, definite standards of quality must be maintained in the product. It must live up to the claims of the advertisement. Faking or misrepresentation cannot stand the light of publicity.

Advertising is your protection and safeguard. It points out the lines of goods of whose quality you can be sure.

Write us for free booklet. This is written for buyers like yourself and every man or woman who buys any kind of commodities will find it profitable reading.

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For Wrens and Blue birds are the most artistic made in this country regardless of price. 3 for $1.00 free to third zone.
Write for Circular
IDEAL BIRD HOUSE CO., New Windsor, Carroll Co., Md.

KEWANEE Smokeless Firebox Boilers Cut Coal Costs

De Laval Cream Separator
The original and the best
NEARLY 2,000,000 SATISFIED USERS
The De Laval Separator Co. 165 Broadway NEW YORK

For Sale—Surplus Nursery Stock
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A PLEA FOR THE BLUE JAY

I HAVE long been a stanch friend and defender of the blue jay, having sought his acquaintance summer and winter for some years. The fact that in our vicinity such birds as rose-breasted grosbeaks, orioles, scarlet tanagers, and even catbirds and thrushes besides numerous robins, successfully rear their broods each year in close proximity to the blue jay, impressed me as pretty good evidence that he, in common with other birds, is chiefly intent upon his own business and the support of his family, and is by no means either generally vicious or bloodthirsty.

I determined to seek a censensus of opinion from the writings of bird students in the hope of justifying my own observations and relieving the blue jay of some of the opprobrium so long cast upon him. The result of my search proved gratifying, since I found little actual evidence against him, while many close observers of birds and their ways testify more or less strongly in his favor. Major Bendire and Mr. Wm. Dutcher affirm that they have "never caught a blue jay in mischief," and Mr. Wm. Lovell Finley thinks "we give blue jays more blame for nest robbing than they deserve." But perhaps the strongest and most conclusive testimony on this point is found in a pamphlet by Mr. Beal, assistant biologist of the United States Department of Agriculture, wherein he states that "the examination of

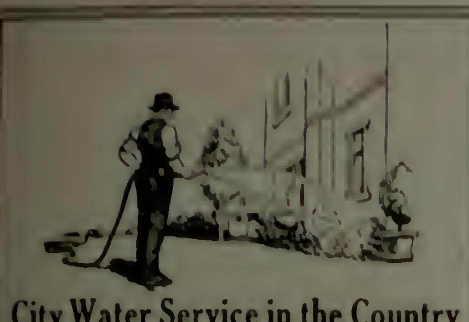
Perhaps the popular conception of the blue jay needs to be revised. Is he the malefactor that we have so long thought him?

292 stomachs of blue jays revealed but three containing egg shells and two wherein the remains of young birds were found." Of the former, one specimen was taken in October, therefore, since the nesting season was long past, it follows that the birds had but appropriated an empty shell and though the other two specimens were secured earlier in the season, proof cannot be shown that the shells they contained were other than broken pieces when swallowed. Too hasty conclusions by casual observers may lead to injustice. For instance, if a blue jay is seen during the nesting season carrying a small egg, is it fair to infer that he is guilty of theft? May it not be an addled egg from his own nest, which he carries to be dropped at a safe distance from home, even as many birds are known to carry broken shells and excrement? Mr. Beal's examination shows further that the blue jay actually destroys an immense number of pernicious insects daily, and since we have seen that but an infinitesimal amount of harm, if any, is done to other birds, is it not time that something be said in favor of the blue jay through the medium of books and magazines?

Ceasing to regard the blue jay as a murderous villain, we find him an interesting individual worthy of acquaintance and study, and here I would like to ask a question of bird students concerning his domestic relations. Is it not true that in many instances at least, the blue jay retains the same mate through life? From the fact that I have so often found them in pairs during the winter I believe this to be the case.

Each winter I spread a table for the birds outside an upper window, from which many varieties feed. Among them is always one pair of blue jays claiming special rights, and together they feed daily in perfect amity. As early in the year as February these two birds begin to manifest a growing affection for and interest in each other.

The blue jay possesses a keen and ready intelligence which he evinces in numerous small ways. Having hidden a nut at the foot of bush or plant, he will fly to some distance to procure a fallen leaf or a bit of paper with which to conceal



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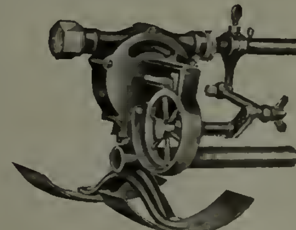

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it from prying eyes, if none such chances to be within easier reach. One September day following a windy night, the basin of water which stands in our garden for the use of the birds held many fallen leaves. The water, not yet replenished that morning, was low and facilities for bathing not of the best. Robins came, eyed the pool dejectedly, and retired. The blue jays, on the contrary, grasped the situation and its remedy instantly and at once set to work to throw out the obstructing leaves, thus freeing sufficient water for their needs.

It has been said that blue jays do not respond to friendly overtures as do other birds, but I have found that those who accept my daily hospitality show an ever increasing confidence in the quality of my intentions. Though they do not become sociable to the extent of eating from the hand as do the chickadee and nuthatch, they do remain fearlessly within three or four feet of the open window while food is being arranged, and alight and eat freely when I sit quietly just within. More regular in their habits than the other birds, they loiter about calling loudly if their food fails to appear at the customary hour each morning.

But even with so much confidence, the blue jay is too alert, too eager to be off, to furnish an easy opportunity for the photographer. Though able to obtain several good pictures of the individual birds, an attempt to reproduce both together as they daily appear, resulted in the use of a dozen plates with nothing to do the birds justice.

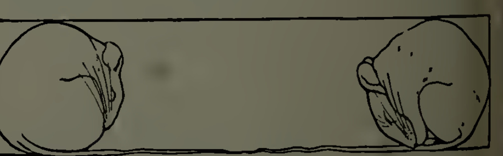
Granting him a brief, impartial consideration, we find that the blue jay is brave, useful, intelligent—reasons sufficient, surely, for his defense—but after all, one who has seen this bird of brilliant plumage flash through a snow laden pine grove on a keenly cold winter morning, his note ringing clear as a bugle call, will find sufficient argument for his preservation in his splendid vigor and magnificent beauty. E. H. T.

LITTLE GARDEN TROUBLES

THE small garden is as much of a study in its way as the large one. I do not know but that it is a greater problem to plan and plant the bits of ground that many of us have under city living conditions. The lack of air and sunshine is the greatest drawbacks to the success of the city garden. If, instead of high board fences about the city back yard we could substitute wire fences, then the air problem would be solved in a measure. Think of the long lines of city back yards with such fences and the free circulation of air which the wire fence would permit. It is very difficult to solve the sunshine problem. Perhaps it can only be solved by facing it, admitting the difficulties, and working with rather than against them.

The first thing to consider always is the matter of soil. What kind of soil have you in your back yard? Is it heavy and wet and full of clay? If so, you must lighten it up, because an over-plus of clay means sure death to young seedlings, since clay in soil prevents a free circulation of air within the soil, so necessary to plant life. Lighten this heavy soil with sand and with rotted manure and work it over thoroughly. Even though the soil be heavy, if sunshine is there, do not be discouraged. The shady garden, so often found in the city, is the really difficult problem. Even then lighten the soil, and if it be sour add lime to it. Plant in the shady garden pansies, begonias, ferns, bluebells, fuchsias, phlox, feverfew, aspidistra, and a cover of myrtle.

If you have a sandy or a rocky bank in your yard, try sedums, portulaca, nasturtium, candytuft, zinnia, and poppy mallows. Fig marigolds or mesembryanthemum planted all over a garden of poor soil will do well. These plants you must buy. If the plants are small, say of a size sold in three-inch pots, then place them eighteen inches apart. They will look forlorn and straggly at first, but by August they will be big, bushy plants, always, of course, low growing. In the fall take in a half dozen of the plants, and later make cuttings from these and you will have young plants enough in May to plant all the poor soil gardens on your block. E. E. S.



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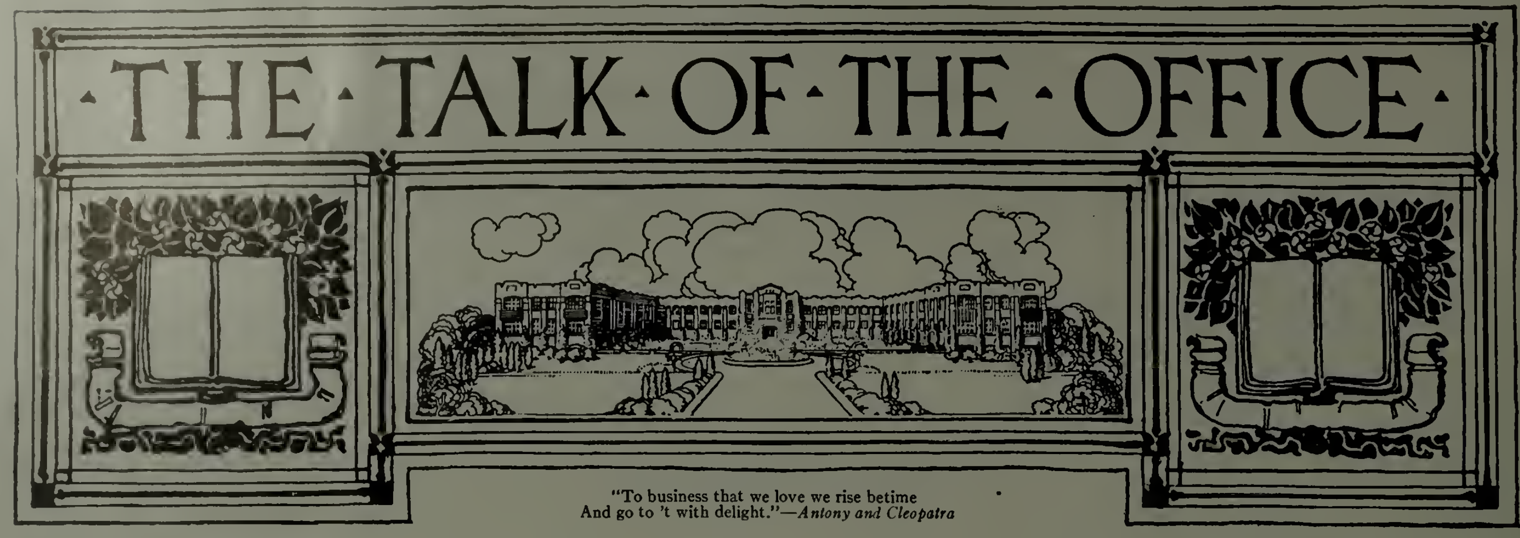

"To business that we love we rise betime
And go to 't with delight."—*Antony and Cleopatra*

Some Remarks on the Subject of Rising Costs

MAGAZINE SUBSCRIPTIONS

A NUMBER of new conditions have arisen from the fact that paper and the other materials which go into the making of magazines have gone up in price to an unexampled and unexpected extent. Doubleday, Page & Company for years have believed and worked upon the principle that if a magazine was worth anything to a subscriber, it was worth a reasonable price; but a great many periodicals in this country have been printed with the idea that the advertiser should carry most, if not all, of the expense, and the reader should get his magazines for next to nothing—often less than half the cost of paper alone.

It is interesting to see that one of the results of this possibly widespread belief among publishers has led the Association of National Advertisers, an organization which includes among its membership the great advertisers in the country, controlling millions of dollars in advertising, to take up a campaign to find out how subscribers are secured and what they pay. The Circulation Audit Committee of this Association has just issued a bulletin from which we quote, with permission, the following:

The quality of our copy has improved mightily in the past decade. We have learned coöperation with the Sales Department, we have learned about intelligent follow-up. Our merchandising methods have improved to a marked degree. But advertising is not as profitable as it used to be.

Why?

Because the publications, in a perilously large number of cases, are not *building up subscription lists;* they are scrambling for names. Picture contests in which the lottery law is cleverly evaded, the installment plans, certain classes of subscription agencies, the premiums to the subscriber, the subscriptions from solicitors who are authorized to *keep all the money they collect* (and often collect but a small fraction of what the printed slip says they collected), mean waste, waste, waste.

There are 250,000 farms in Illinois. The personal investigation of a member of your Circulation Audit Committee shows that only 80 per cent. of these take a farm paper. The circulation of farm papers alone in the state of Illinois is more than 1,000,000 copies per issue, or an average of more than five farm papers to every home into which any farm paper goes. Fine for lighting the fires!

These conditions are by no means confined to the farm field and the women's paper field. There are magazines that are gross offenders—and they don't really want to be. They realize that their auriferous goose is in danger of decapitation, but they feel that they must have circulation. Nevertheless, when *we* wake up they will soon be in the proper frame of mind to work for quality rather than for quantities that are beyond the possibility of assimilation.

Audited circulation statements as to the "how much" are now readily obtainable. When carefully read, they give something of a hint as to how the circulation was obtained—enough of a hint to enable you to go further with your investigations in the suspicious cases.

To the proper use of premiums and subscription agencies there is no objection. Their *abuse* should be given wide publicity. In future Bulletins from this Committee and through the weekly News Bulletin, we shall show some of the things that are being done by publishers in the way of forcing circulation. These must not be considered attacks on any publication. They are not to be anything of the kind, but they will be shown simply to indicate to you the methods that are now in use.

Waste circulation, millions of papers that never come out of their wrappers or that receive but slight attention, papers that are sold at so low a price that their *published* subscription price gives no hint as to the "well-to-do-ness" of their readers—these are among the things that are making advertising unprofitable.

When advertisers learn to discriminate between "readers" and "circulation" and demand readers rather than mere circulation, then and then only will the conditions improve.

This bulletin is signed by the following very competent experts, who form the Circulation Audit Committee:

F. G. Eastman (Packard Motor Car Co., Detroit, Mich.)
O. C. Harn (National Lead Co., New York)
W. E. Humelbaugh (Genesee Pure Food Co., Leroy, N. Y.)
B. M. Pettit (J. R. Case Co., Racine, Wis.)
E. M. Simons (James Manufacturing Co., Ft. Atkinson, Wis.)
Harry Tipper (The Texas Co., New York)
L. B. Jones, *Chairman* (Eastman Kodak Co., Rochester, N. Y.)

OTHER SIDES OF THIS QUESTION

We are far from believing that the paper shortage and its consequent rise in price is an unmixed evil. The waste of paper among American people is beyond calculation. Every one who receives in his mail duplicate circulars and perfectly useless printed matter of all kinds is impressed with this fact day by day. Every indication at the moment is that paper will be scarcer and scarcer until the price is so high that people will be more careful in its use. The natural corollary then develops that people will care more for printed matter because it will be of better quality and more worth reading.

Doubleday, Page & Company who frankly admit culpability in paper waste have instituted many reforms in this direction and have even found it necessary to abandon certain plans simply because they cannot expect the reader to pay as great an increase as the increased cost of paper and printing demand. For instance, for years we have made, we think, a useful manual in the "Garden and Farm Almanac," which has had a sale of 20,000 to 50,000 copies. For the coming year we have abandoned the idea of making this book at all, because the expense is so large that we should have to double the charge.

PAPER SHORTAGE

In addition to the troublesome increase in the cost of paper, the difficulty of getting paper at all is another side. The mills are so full of orders that delays are running to months, and the quality is as difficult to maintain as it is difficult to get the paper. We are reprinting herewith the notice we are sending to all our subscribers as their subscriptions run out:

PLEASE

We are making an unusual request because we are faced with an unusual condition. The war has raised the cost of paper and printing nearly double. This is a very serious matter to the magazines. We are faced with a choice of saving in our expenditures or raising our price. If we save in editorial or manufacturing costs of the magazine, the subscriber will get less for his money. If we raise the price, the result is the same. There is, however, one other expenditure—the expense of sending renewal notices, follow-up notices, circulars, etc., asking our subscribers to renew. Nearly seventy per cent. eventually do renew each year, but only after many thousands of dollars' worth of letters and circulars have been mailed. This is a cost to us and sometimes we fear a nuisance to them. Yet it has seemed necessary because so many people cheerfully renew on the fifth or sixth notice. But if every one who was going to renew his subscription, renewed it on the first notice, or notified us that he did not want to renew it, so that we would send him no more circulars, we would save enough to pay the extra cost of printing and paper without raising the price to the consumer or reducing the editorial or manufacturing expenses on the magazine.

It is to help us save the waste of useless circulars that we ask if you will not be good enough to renew your subscription on one of the plans outlined, or please say you not do want the magazine any more, in which case, while we regret to sever our relations, we will not send you any more printed matter.

DOUBLEDAY, PAGE & COMPANY
Publishers, The World's Work, Country Life in America, The Garden Magazine.

PRIZE ESSAY ON CONRAD

Lovers of Joseph Conrad will be interested to know how the Polish writer's mastery of English prose has become a favorite topic of study in colleges and universities. Under the auspices of the English Department of Northwestern University, Doubleday, Page & Company offer a prize for the best essay on the art of Joseph Conrad written by an undergraduate of this University during the academic year 1916-17.

It is a great pleasure to report a constantly increasing sale of Mr. Conrad's books. We are just completing plans for a limited, signed, collected edition of all of his books from new plates and revised text. It is hoped that the first volumes will be ready this fall, and we shall be glad to send particulars on request.

MRS. KATHLEEN NORRIS'S NEW NOVEL,

"The Heart of Rachael," will be published, we hope, about the first of August. It is a book with a purpose, and we bespeak for it the attention of all serious-minded readers.

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HENRY H. SAYLOR, EDITOR

TO CONTRIBUTORS—While we are always glad to receive and examine manuscripts and photographs, we cannot hold ourselves responsible for them. All manuscripts must be accompanied by sufficient return postage. **TO SUBSCRIBERS—Expirations:** An advance notice of expiration of your subscription will be sent you ten days before actual date of expiration. We enclose an additional reminder in the last magazine of your subscription, if you have not responded to the first notice. By remitting promptly then, you will insure the regular receipt of the magazine.

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THROUGH THE OLD BARN DOOR

Photograph by Jared Gardner

COUNTRY LIFE IN AMERICA

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Lounging room of the 107-foot *Kestrel II*. The transoms at the sides may be made up into berths. This is a flush deck vessel, and the trunk cabins not only give good head room, but adequate lighting facilities

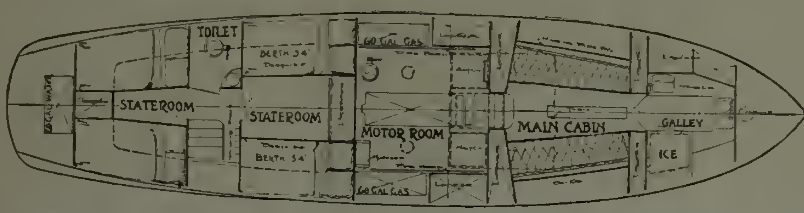
AT HOME ON A MOTOR CRUISER

By Alfred F Loomis

COUNTRY people, and more particularly those who have but recently moved from the city, are inclined to consider with pity the poor unfortunates who are obliged to dwell within the rather limited dimensions of an urban apartment. Nevertheless, there is a steadily increasing army of country dwellers who go the Harlemite one better—or worse—and restrict their living quarters to a space which any well-bred canine would think cramped. And just because they are motor boatists is not sufficient excuse for one to say that they have lost their sense of proportion and have subordinated comfort to a hobby. On the contrary, it is the high development of their proportionate sense, a thorough understanding of the possibilities and limitations of a given number of cubic feet, that enables them to live in closet space and enjoy it.

The apartment dweller with his four or five living rooms—some on the air shaft and some on the elevated—his dining room, bath, and kitchen, may, as has often been stated, have to step out into the hall to change his mind, but how immutable would be his mental processes if he and his wife and their children or occasional guests were obliged to sleep, cook, and eat in an apartment measuring eight by twelve and a half feet, with a little less than room in which to stand upright. Yet one of the accompanying illustrations (at the top of page 20) shows such an apartment—compartment is the nautical word—which is used for all these purposes and which is the delight of its designer and owner and the admiration of his friends.

As this stateroom is a little out of the ordinary it is worth while to explain just how the conveniences of living are incorporated and the inconveniences eliminated or mitigated. To begin with, it is the cabin of a 33-foot motor boat—about the shortest length of hull which can be adapted for permanent living quarters. Forward of the door shown in the photograph, or in the eyes of the boat, toilet facilities are provided, with fresh water on tap for washing. In the cabin on the starboard side may be seen a low chest of drawers in which blankets and clothes are kept, and on the port side there is what appears to be a similar drawer space. Appearances here, as ever, are deceiving, however, for at the forward end of this fixture, covered over when not in use, is a sink with pot lockers under, while next aft is



Arrangement plan of a 45-foot motor cruiser. Full head room is provided in all compartments except the engine room, which is placed under the bridge deck

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Cabin of a well arranged 33-footer. To port are the enclosed sink, stove, and ice box

a two-burner alcohol stove, also covered except at meal times, and nearest the reader is a commodious ice chest, large enough to carry a three-days' supply of ice and food. The total length of these various divisions comes to a little more than six feet, and so, at night, a mattress is procured from the cockpit where by day it has served duty as a cushion, and a bunk long enough for the lankiest is materialized. The chest of drawers opposite serves also for a berth, and the two transoms in the foreground of the picture provide accommodations for two persons more, a stretched curtain separating the owner's "stateroom" forward from the guests' aft.

A little unconventional? Yes, but so is our national institution the Pullman car. Within these quarters, at any rate, the owner and his wife spend a delightful five months of the year, cruising under their own power to a convenient anchorage in the spring and returning to the city to haul out in the fall. The wage-earner goes to town by train like any suburban commuter, but unlike the full-fledged suburbanite is rent-free and foot-loose, ready to slip his mooring of a Saturday afternoon and lie for the night in new surroundings fifty miles away.

A boat of 33-foot length will cost about $3,000 to build, including furnishing and the power plant, and may be operated at a cost per mile not exceeding that of a medium weight two-passenger automobile.

There are many individual craft besides the one described, and in fact it may almost be said that there are as many different types of motor boat as there are motor boatmen. The day will never come on water as it has on land when an owner distinguishes his possession from his neighbor's by the scratches in the paint. But despite the little individualities and eccentricities by which the motor boatman gives character to his cruiser, there is a certain ratio of room to length whereby the motor craft can be classified. Thus, the naval architect can tell you to a man how many can be accommodated in a 45-footer; how many staterooms can be worked into a 65-footer, and so on.

Although there are boats of as many intermediate lengths from 33 to 45 feet as there are inches between the two figures, the 45-footer is generally considered the next size larger. And the 45-foot cruiser is much more of a boat than its additional twelve feet would indicate. Within this length an able designer can give you three separate staterooms, galley, toilet, and engine room, and will provide as well enough unencumbered deck space to accommodate a large day cruising party. The accompanying plan of a "standardized" 45-footer shows an excellent arrangement which has been worked out for this length to a beam of 11 feet 3 inches. In studying the plan it should be borne in mind that all of the staterooms are fully 6 feet long and that the other compartments are in exact proportion. The division marked "main cabin" is used by day as a dining saloon, but at night makes up into sleeping quarters with two fixed bunks and two hanging berths.

Main saloon of the *Roslyn* (54 feet), looking forward toward door to the galley. The two seats are of the extension type which make up into full width berths at night

A 45-footer of standard construction should cost when new something in the neighborhood of $5,500. The owner of such a craft will not be let off quite so easily in operating expense as the possessor of the 33-footer, for he will be obliged to hire a general utility man at about $70 a month; but fuel and oil should not amount to more than $1.50 per hour, even with gasolene at its present exorbitant figure. If this sum were reduced to cost per mile, the man who is accustomed to thinking of his motor car maintenance in such terms would be slightly staggered, but it is to be remembered that a motor boatman reckons his cruises by the number of hours and days he has at his disposal, and not by the miles which he puts between him and home. A leisurely day's run will consume six or seven hours, and hard cash to the amount of about $10; happy would be the motor tourist who could do his daily 150-mile stint for so reasonable a figure.

Arbitrarily taking 65 feet as marking the boat of the next larger size, we can cite *Frances II*, a recent production, as a good example of what can be accomplished in this length. The dining saloon of a vessel of this size yields nothing in point of comfort and beauty to a landlubber's dining room. As we go up in length, the fittings and furnishings of a motor yacht increase in costliness, and in the larger craft we find mahogany and teak finish and furniture, leaded glass buffets, and more than the refinements of a luxurious country home. The owner of a 65-footer is able to afford and keep a hired man and a cook, although the former masquerades as captain or engineer and the latter as steward and general handy man. In *Frances II* these worthies are provided for in the forward part of the boat, which space is also devoted to galley and engine room. From amidships aft the owner makes his home, and he is provided with the saloon above mentioned, which is fitted with two folding Pullman berths, and two private staterooms, each furnished with a full width bed, wash basin, lockers, and bureau. It is possible and even usual

The luxurious dining saloon of a 75-footer. Furniture and trim are mahogany, the ceiling, white enamel. Glimpses are had of the galley and toilet on either side of the buffet

in a boat of this length which is intended for all-year use, to furnish hot water radiators, while in one notable cruiser of 80-foot length the owner installed a serviceable Franklin stove to give his home a fireside.

As we come to the larger motor yachts we find that an added ten or twenty feet does not make the marked difference in accommodations which was noticeable in the addition of a few feet to the smaller sizes. Thus, an 85-foot motor boat may contain but one more stateroom than can be provided in a 65-footer, while a vessel of 100 feet length may have the advantage over the 85-footer to the extent only of separate instead of combined dining saloon and living room. The dimensions of the individual staterooms in the larger vessels are of course increased, and in addition, the 100-footer may have, without crowding other quarters unduly, a bathroom, two toilets, and running water in each stateroom.

Returning for the moment to the interesting study of expense, we may as well prepare ourselves for a bit of a jolt, for when we get past the 45-foot class we can no longer think of initial cost or maintenance as comparative to automobiles, but must get right down to dollars and cents. Thus, a fully equipped motor boat 65 feet in length may well cost in the neighborhood of $15,000, while the 85-footer will reduce a bank account to the tune of $30,000. The amazing difference between these two costs will immediately indicate that the price of a boat cannot be figured at so much per fore and aft foot. Evidently, something more than simple arithmetic must be evoked to make this calculation, and it has been estimated that the cost advances something as the cube of the boat's length. This ratio does not altogether hold in the larger boats, however, and the divergence, happily, is to the advantage of the purchaser. Operating expense also rises in the larger yachts, and it will be found necessary to employ two men at a monthly cost of about $125 for the 65-footer, and three men costing a little more than $200 for the 85-foot vessel. On the latter boat the steward and the engineer do the shore duties of cook, maid, and chauffeur, but the captain, although ornamental, is undeniably an extra expense.

To man the 100-footer it will require a crew of five, and their pay roll will amount to something like $300 a month. The owner must feed these men during the season whether he is aboard or not, so this expense is constant. As if this were not sufficient, his fuel cost is something to shudder at, and may well run up to $15 an hour. This cost may be easily reckoned when it is recalled that the average marine motor consumes one pint of fuel per horsepower hour—which is to say that if the boat is equipped with 200 horsepower there will be 100 quarts, or 25 gallons, of gasolene consumed for every hour that the vessel is under way. This formula is constant and may be applied to the 65-footer with her 65 horsepower motor and to the 85-footer with about 125 horsepower. As an experiment, figure out the high cost of scouting for submarines, when it is known that a 60-foot submarine chaser such as is used by the foreign governments is equipped with 600 horsepower.

By the time we get up into the 100-foot-and-over class we have left the Harlem flat far astern, and the owner of such a craft may be considered to have an estate afloat rather than an apartment. A vessel of 120 or 130 feet will have more staterooms than its lesser sisters, but it will not run to vaulted halls nor elevators. The possessor of a yacht of this size may invite more friends for a week's cruise than he will have at the end of the week, may provide them with fresh and salt, hot and cold baths and showers, may start them dancing on deck with the strains from a piano or music box floating up from the cabin, and will take them to and from the shore in a motor tender larger in point of length and three times faster than the 33-footer we first mentioned. But this owner is not the director of his ship's destiny, for so valuable a possession as his must be entrusted to trained, competent hands. So the poor rich owner may lounge around the deck or go ashore as he pleases and may order the steward to serve cocktails at each stroke of the ship's bell, but he is really little more than a passenger on an ocean liner.

His passage is high, however, and after he has spent $50,000 for his 100-foot yacht or $150,000 for his 150-footer, there are still a few inconsequential trifles to be considered. For in addition to taxes, depreciation, and interest on the investment, he is obliged to pay out each year somewhere between 10 and 20 per cent. of the first cost for painting and general maintenance. The 150-footer will have, too, a complement of ten men whose monthly wages will total about $500.

However, vessels of more than 100 feet in length are rare, and the largest motor yacht afloat measures only 154 feet. Indeed, unless, like the Commander of the Queen's Navee, one has his sisters and his cousins and his aunts to take along, nothing could be more satisfactory in some respects than a 75- or 80-foot boat. But for the pure joy of living, choose the 33-footer.

Main saloon of an 80-foot motor yacht, with a Franklin stove installed. The stove pipe is led up the funnel

Children's nursery in the largest motor yacht afloat — a 154-footer. The picture shows one of the bathrooms, an electric fan run by current generated by an auxiliary lighting set, and a hot water radiator

Engine room of a 100-foot cruiser. To effect a proper distribution of weights, the engines generally occupy the choicest position of a boat. These two six-cylinder motors develop 200 horsepower each

GARDENING THE WATER'S EDGE

By Ruth Dean

WHILE pushing slowly along the border of the wooded island in Jackson Park, with the clumsy oar of the "safety first" flat-bottomed boat which a careful Chicago government provides, one takes wild cherry blossoms and silvery poplar buds and red dogwood stems for granted, as parts of the gay spring landscape which a kindly Providence has furnished to warm the hearts of Chicagoans. New Yorkers, in most respects more sophisticated, regard their rocks and pine trees, along with the Lohengrin swan boat of a Central Park lagoon, as a pleasant variation from the surrounding apartment houses; neither city dweller is aware that the first bit of landscape was entirely created and the second skilfully preserved by man. He takes their beauty as a matter of course because, like much of nature's beauty, it is elusive and unobvious but; the more apparent charms of a formal pool or a grand public fountain he is apt to admire extravagantly.

The water treatment on the Reubens place at Glencoe, Ill., illustrates marsh planting at its best. Most of the plants are native

Of the two ways in which a water's edge may be treated, architecturally and naturalistically, the latter is much the more difficult to accomplish successfully. The border about a formal pool or fountain presents a definite problem in architectural design, to be worked out according to accepted principles; the water, given a certain form, must be framed in brick or cement or stone, and the success of the designer's work depends upon his ability to assemble moldings which shall form a good coping, or to make a plain border the right width, with its brick or stone laid up in some pleasing fashion. But framing a pond so that it will fit into its surroundings, or treating the borders of the stream which runs smoothly across the front lawn, is a task less tangible, less easily guided by rules. A great deal of the difficulty arises from poor and inappropriate planting, but much more from the necessity of having the water's edge free from planting for a portion of its length at least. Just to get down to the water itself and walk along its border—this is something that we like to do from the time we tuck up our clothes around our knees and go wading, until the years when we sit rheumatically on the bank and dream of those days. Without this consideration, the question of what to do with the water's edge would reduce itself simply to one of good planting. We could select the sort of planting best suited to our situation—for there are as many kinds of water planting as there are styles of architecture — and hide the troublesome junction of water and land with cattails and marsh mallow, or black alder and willows.

So many lovely plants grow along the banks of streams or by the still depths of forest pools that it seems unnecessary to decorate the water's edge with garden flowers and shrubs such as larkspur and lilacs, bridal wreath and petunias. These belong in the house flower garden with other hybrids of man's making, and near the water should go iris and cardinal flower, purple Joe-Pye weed and pink marsh mallows. There is no lack of color among the flowers which make their homes in wet places, and the shrubs and trees are an attractive company as well.

Marsh planting at its best is illustrated in the pictures of the Reubens place at Glencoe, Ill., and the Humboldt Park water gardens. Here great stretches of rose mallow are gay through their screen of grasses, and the big leaves of arrowhead bend over the water among spike rushes. Lily pads, always prone to profusion, are cut down to a few groups interestingly spotted, which leave the better part of the water's surface clear to reflect blue sky and summer clouds. Mr. Jens Jensen, the designer of these two gardens, is an adept in this, as in many other sorts of planting. He has studied the prairie landscape of his Middle West until it has become second nature to him, and he reproduces all of its best features in his gardens. It is Mr. Jensen's idea in his water gardens, as in other kinds, to reproduce so far as possible the type of landscape indigenous to a given part of the country—that is, to reproduce it in a glorified way, for he drops all of the bad features and emphasizes the good, and the net result is invariably pleasing.

It is a little hard sometimes to choose a native type of landscape and stick to it, to renounce rhododendrons and hemlocks because one is not planting a rushing mountain stream, but a quiet meadow brook, or to give up the idea of a rocky pool when one is a dweller in Mississippi bottom land; but the suggestion is a pretty safe one to follow, and the artificial pond or stream which adopts the characteristics of its natural neighbor is much more apt to be a success than the one which disregards them. The pool in Mr. Reubens's garden was constructed of artificial rock laid in horizontal stratified layers because the underlying rock of the prairie occurs in this form. And most of the plants about its edge are native plants, ferns, iris, grasses, and prairie roses, with soft, feathery cedars for a background. To be sure, among these are a few plants which are not native, but they mix well with the native plants, taking on their qualities and making themselves at home. German and Siberian iris grow side by side with sweet flag; Eulalia japonica on the bank joins the spike rush of the stream, and the dark, indeterminate mass of Chinese tamarisk fringes the cedars. Each plant, however, is carefully chosen as having characteristics similar to those of the native plants; none of them is inharmonious or exotic in appearance, and they all fit into the existing landscape as if they belonged there.

A happy example of open planting — narcissus naturalized in grass near a water's edge

The pool shown in the picture to the left below that of Humboldt Park is the unfortunate ugly sister of this one, whose defects are all too evident by contrast. A natural stone or rocky border is not easily simulated, and this photograph illustrates the way it is oftenest attempted. Stones all the same size are impossible of arrange-

ment in anything but the most artificial looking border, every size from small stones to big boulders should be used, with a preponderance of big stones in order to keep the border from looking cluttered.

They should not surround the pool in a rocky rim such as that in the picture, but should in places be entirely covered with clumps of shrubbery, water-loving herbaceous plants, and occasional trees. The stone heap in the centre of the pool with its rose spray needs no active censure, but the basic error in the form of the pool should perhaps be pointed out. A pond which is meant to be naturalistic should follow some form which is less obvious than the circle, for this is a formal shape, which carried out in a naturalistic way results in a mixture of two styles just as poor in its way as a Louis Quinze room done in Mission furniture and burlap hangings. If a pool is to be round, square, rectangular, or otherwise regular in outline, it should be executed in a formal way with a coping of stone, brick, or cement, not one of rocks strewn about the edge and covered by planting that is obviously superimposed.

A pool occupying so formal a position as this one should have its border treated architecturally with a coping of material and design to correspond with the house

Sometimes in English gardens a pool of geometric outline is bordered by the velvet of an old lawn, with no other coping visible to bound it. This is one way of successfully leaving the edge free of planting, but such a pool, by virtue of its regular uninterrupted outline, goes into the formal class, although it is somewhat naturalistic in feeling. With it belongs the waterway which has its edge boarded. This expedient, adopted for the most part to protect the land and keep it from washing away, is used ordinarily along the edges of running water or canals where immediate depth is required and there is not space for a shelving shore. Some old streams I have seen flowing between their boarded banks, which had a certain amount of charm and dignity, but it was charm and dignity which arose from the occasional old trees and bushes along the edge, and persisted in spite of their border treatment, for such a method tends to destroy interest in the banks and should be especially avoided in connection with naturalistic waterways.

In Humboldt Park. Note that the lily pads—usually prone to profusion—are interestingly spotted, leaving the better part of the water's surface clear for reflections

It is simplest to arrange an open treatment of the edge where there is no great action of water on the banks. The kept lawn should never extend to the water's edge, except in such a formal or semi-formal case as that mentioned in the preceding paragraph, but should be allowed to grow rough, with herbaceous plants mixed with the grass to soften the edge and give it a quality of interest and mystery, which clipped grass bordering the edge destroys. The narrow stream in Bronx Park has the grassy fringe of a real meadow brook with blue pickerel-weed (*Pontederia cordata*) growing in a cove.

A very happy open planting is that shown at the bottom of the preceding page, where narcissus is naturalized in the grass. Virginia cowslip (*Mertensia Virginica*), which blooms at the same time, is lovely with narcissus, and when their flowering season is over, there are blue asters, purple ironweed, and cardinal flower to follow.

An open treatment of a water's edge will be better for occasional stretches of shrub or tree planting, especially if a path follows the border. To be really interesting such a path needs to wind in and out, through bushes which hide the water completely at times, dipping down to the very brink at others.

Sometimes planting alone is insufficient to preserve the border, although the water's action is not severe enough to demand the construction of a wall. Big boulders or stones placed at the points where cutting is most severe will help matters, and if the borders are shallow one or several rows of stone laid around the water's edge, covered with soil and planted, will often take care of the difficulty. The stones need to be concealed on the water as well as on the land side however, or they will present an unpleasant, artificial appearance, such as that of the water which mirrors the big Italian house at the top of the page. A pool occupying so formal a position as does this one ought to have a coping to correspond with the house.

There is no middle ground in water gardening—a pool must be either formal or naturalistic, or it will be without charm. The gardenesque quality which results when smoothly grassed banks planted with garden flowers and shrubs border the water has neither the interest of a well designed architectural pool, nor the charm of the naturalistic pond.

A naturalistic pond should follow some form less obvious than the circle, and it should not be uncompromisingly outlined by stones all the same size

This narrow stream in Bronx Park has the grassy fringe of a real meadow brook, with blue pickerel weed growing in a cove

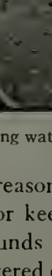
GREEN GRASS IN DRY WEATHER

By F. F. Rockwell

The nozzle-line system of applying water

The circular spray with revolving mechanism

Water distributed from raised circular sprays



THE first reason, of course, for keeping the grounds properly watered or irrigated is for the sake of appearances; few things are more beautiful than a perfect lawn in good color—few more unpleasing than a brown, patchy, or burnt up lawn.

As a matter of fact, however, the question of immediate appearance is really a minor one. The lawn that is allowed to burn or dry out for a few weeks in summer cannot be in perfect condition the rest of the year; it cannot have that fine, smooth texture aptly described as "velvet." Even if none of the grass plants are killed outright, a large proportion of them are weakened, and as a consequence there will be more or less winter-killing, and a chance for weeds to come in. Drought also means surface cohesion, which is deadly to a healthy turf. The question is, how may water be most efficiently and most economically applied? How frequently, in what quantities, and at what rate?

The old system of watering with a hose by hand, or even with lawn sprinklers, is too cumbersome and too expensive to be of practical use over grounds of any extent. Within the last two years the modern systems of irrigation or water application which have been in an experimental stage for several years have been practically perfected.

All of the watering devices illustrated here come under the head of what may be termed "overhead," irrigation systems. The water may be distributed from the ground level, just above it, six feet above it, or over the tops of shrubs or trees, but in all cases the general principle is the same: the water is distributed with considerable force, is broken up by the resistance of the air into a fine spray or mist, and falls by gravity, even as the gentle rain from heaven.

The general advantages of this system of watering are that the water may be distributed evenly over a large area at one time; that the distribution is practically automatic, so that the cost of applying, outside of any expense for the water itself, is next to nothing; and that the time of applying the water, and the amount to be put on, are under absolute control. The several systems differ in the method of arranging the piping to carry the water to the distributing points, which may be from three feet to seventy-five feet apart, and in the size and shape of the orifices through which the water is forced into the air. There is no single device or system which will give the most satisfactory results for all conditions. The requirements, both culturally and as regards mechanical convenience, of the lawns, flower gardens, vegetable gardens, etc., are all different.

The cost of equipment and installation varies from $100 to $400 an acre, according to the system, the market prices of pipe, labor expense, etc.

There are three general systems of applying the water, after it has been distributed through main lines or pipes. The first may be called the "nozzle-line" system. The water is distributed through small nozzles placed two to four feet apart in ¾ or 1 inch pipe. For use about the grounds, the pipe may be concealed or laid along the edges of drives or walks; or there is a very ingenious portable outfit which by means of a minute water motor automatically revolves the nozzle line from one side to the other, so that a strip forty to fifty feet wide is covered. For smaller grounds there is another portable outfit which has three rows of nozzles instead of one, and so waters on both sides and along the line of pipe at the same time, and consequently does not have to be revolved from side to side.

In the second system the water is distributed in the form of a series of circular sprays, so spaced as to secure a fall of water as evenly distributed as possible. The sprays may be set in iron cups, shaped like a flower pot, sunk to the level of the lawn. This makes them practically invisible and permits the mower to be run directly over them. For flowers or shrubbery they may be raised, on the pipes which supply the water, to any desired height.

The third system also applies the water in a circular spray, but unlike both the preceding, has a revolving mechanism. As compared with the second system, each distributing point will cover a bigger circle with the same force and flow of water; but as there are revolving parts there is of course some wear, and if the water is sandy or gritty, the wear may be considerable. The water, while thrown farther, is not broken up into so fine a spray: for many things this would be no disadvantage, but for some it might.

In watering with an irrigating system, as with the hose, the aim should be to give a thorough wetting, and then not water again until the soil begins to dry on the surface. In dry weather, naturally dry soils may require a half inch of water (approximately 15,000 gallons) per acre, twice a week. Under most conditions, this amount once a week would be sufficient. When your system is installed you will know its capacity, and how long to water to get a given amount. Roughly, this will vary from twenty-five minutes to three or four hours. As a general rule, when in doubt, water until the soil seems to be thoroughly saturated down to moist soil below. If water begins to stand on the surface, stop watering.

The portable automatic irrigating device may be wheeled into place, the hose connected, and the miniature water motor supported between the truck wheels does the rest

The river front, restored to its stately grandeur, and looking out upon the James River as it has since 1727. The design of the mansion has been attributed to Sir Christopher Wrenn

WESTOVER RESTORED

Photographs by Leo H. Bock

William Byrd, first of the family in this country, came to Virginia in 1674 and built a home on the site of Westover in 1690. His son, "William the Great of Westover," one of the most cultured and lovable figures of Colonial history, erected the present mansion during 1718-1726, and dying in 1744 left the holdings which remained in the Byrd family up to about 100 years ago. Westover was a veritable principality of 179,440 acres. The estate was acquired in 1898 by Mrs. C. Sears Ramsay (born a Risley of Westover, Maryland), under whose skilful and judicious restoration one of America's most famous and beautiful Colonial country seats has come again into its own.

Looking across the river front. At the extreme left the wall sun-dial may be seen

From the painting made in October, 1864, by W. L. Henry, from the pilot house of a transport. The mansion was being used as a Division Headquarters, and the artist has included the man signaling from the roof

Westover in 1891. Little, if anything, had been done to the place since the last war. At the right the colonnade joining the ballroom to the main house has gone, the ballroom wing having been burned, as the Henry picture shows

One of the bedrooms, its broad extent setting off the magnificent Chippendale four-poster and its carved canopy frame

Looking across the river front from the ballroom wing, which is now restored

The library, a treasure of which is the Adam table in foreground, its top inlaid with garlands of flowers in colored woods

The drawing room mantel as it appeared in the dark ages, partially dismembered

The hall as it is to-day. Throughout the house the ceilings have been restored, the stucco modeling being copied from the remaining bits of the original work

The hall has had its periods of darkness and lack of appreciation, as when the beautiful white paneling was painted and grained to imitate oak. Compare this picture with that to the left

One of the three pairs of eighteenth century hand wrought iron gates, the stone posts surmounted by lead eagles

The ballroom to-day. The mantel and the pair of mirrors are original Chippendales, the former a particularly rare specimen. The house is furnished throughout with genuine antiques from England

Drawing room mantel as restored. The applied decoration is exquisitely carved white marble

Originally the dining room was quite small, so two rooms have been combined. The rug is blue, the hangings brown

The land front, which is the main carriage entrance. Westover, of course, has its own dock, at which the river steamers stop with mail and supplies

The land front as it appeared in 1891. A comparison with the photograph at the right will show the skill with which the splendid gates have been improved by the wrought iron fence

BELT PLANTING

On nearly every country place there is an opportunity for a surrounding belt of native trees and tall shrubs to contribute shelter, privacy, and beauty

By WILHELM MILLER

BELT of trees and tall shrubs surrounding the whole property is more important than any other single feature of a country place. For such a belt performs four invaluable services:

First, it shuts out unsightly objects, and to some extent ugly sounds, dangerous dust, and bitter winds which will cut and burn unprotected evergreens, like Goths slaying with torch and sword.

Second, it secures privacy, the most precious of all domestic possessions, by giving passers-by a pleasant wall of trees to stare at, instead of house, lawn, and guests.

Third, it helps to blend our property with the landscape, so that the lord of three or thirty acres seems as free and independent as the master of three thousand.

Fourth, it makes a pleasant walk around our property by beguiling every step with endless variety of tree, shrub, leaf, form, and color, and reveals no uglinesses of the neighborhood.

The first attempts at belt planting, even in England, were very crude, for "Capability" Brown used to plant trees in double or quadruple rows, producing a deadly monotony and artificiality. There are some old country places in Massachusetts—for instance, the Perkins and Gore places at Brookline and Waltham—which still show these crudities and excesses of the first landscape reformers. And forty years ago it was a common thing to plant double or triple rows of Norway spruce along a country road, as at Annandale, N. Y., where the present-day effect is rather ghastly. For the Norway spruce gets thin, ragged, and gloomy at the age of thirty, and loses its most attractive possession—its lower branches. Consequently all privacy is gone and, since you can see everywhere through the tree trunks, nothing is left to the imagination and all charm has fled.

The artistic type of boundary planting is exemplified by Wodenethe, the home of Mr. and Mrs. Winthrop Sargent at Fishkill-on-Hudson, N. Y.

Fig. 1. To the right is a border of trees and shrubs, all native, about twenty-five feet wide, making an effective screen from the highway. Along the path the bushes have been clipped to keep from infringing on the walk, and this has tended to thicken the screen

Fig. 2. To the left is a border of trees and shrubs to shut off the highway. A walk follows around between the lawn and border and occasionally passes through where it juts into the lawn. The border consists of oak, birch, sweet pepper bush, etc.

The aim here is to reproduce faithfully the spirit of nature at her best. Consequently there are many species of trees and shrubs instead of one; native kinds are used instead of foreign ones; long-lived sorts are given the preference over short-lived poplars, silver-maple, box elder, and the like; and the border is not of uniform width, but thicker in some places than others, so that the ground line is irregular, free, flowing—like the fringe of a natural wood. Everywhere the hand of man is concealed, and the dignity of old trees is supreme. The result is that the shelter belt performs efficiently all the practical functions above mentioned, and in addition it becomes a charming feature in itself, stimulating indoor people to go outdoors and take their exercise in a most delightful way.

To make such a feature enjoyable to the utmost there should be a path, wide enough for two, and dry at all seasons, skirting the shelter belt and occasionally exploring its deeper recesses. In Fig. 1 we see such a path, and are at once struck by the bold and interesting leaf forms that furnish entertainment throughout the growing season. For even when shrubs are out of bloom the best of them have highly characteristic foliage, especially such notable personalities as our native dogwoods, viburnums, sumacs, bayberry, elder, hazel, shadbush—not to mention the vines, as grape, clematis, and trumpet creeper. In winter, when the outdoor stimulus is particularly necessary, there is quiet satisfaction in the outlines of trees, while vivid color is supplied by many twigs and berries.

There is an art in laying out such a walk. It should not be so wide as to be visible from the house, or it will destroy the woodland quality of the belt. At Wodenethe, for example, the walk is hidden from the windows by reason of the ground sloping gradually from the house. Nor should the walk always skirt the belt, or there will be monotony. Whenever the belt is thick enough for one to penetrate the interior without encountering some disturbing sight, sound, or smell, such as shanties, factories, or barnyard products, it

may be well to explore the heart of the wood. Not always, however, for the most perfect branches, freest bloom, and richest autumnal colors are on the edge of a wood, where alone there is plenty of light and room. In short, it is best to enter shallow woods only when there are some particularly fine features which cannot be well seen from the edge. By fine features, we mean large trees, rare species, a huge mossy stone, a boggy spot filled with Jack-in-the-pulpit, ferns, etc. In short, the guiding principle should be to lay out the walk in such a way as to exhibit in due sequence all the noblest and most permanent features. But if the walk ventures too near a high board fence, it is desirable that the latter should be screened by evergreens, for the sight of such a limitation jars upon the sense of freedom.

Fig. [illegible] It is frequently necessary to screen from sight objectionable objects, and this is the border's *raison d'etre*. Evergreens are the logical solution, for they will give permanent form to the border the year round, and provide a satisfactory background for the bloom of shrubs, bulbs, etc. In this case, the border is planted for a succession of bloom; along the edge of the path daffodils and white narcissus come first, and behind them rhododendrons and dogwood, the whole backed by a thick wall of evergreens

In Fig. 4 we see the path turn boldly into the wood and disappear behind an island of shrubbery. The mystery and attractiveness of such a disappearing curve are largely due to the impenetrable screen of shrubbery. Think away that island, and all the charm would be gone, because all the twists and curves of the path would be revealed. Moreover, you would have four naked tree trunks, which are now hidden by the tall bushes, and there would be no unity in the composition — merely a distracting lot of tree trunks. It is good design to leave one or two of the strongest tree trunks exposed and to bind together the others into a group by hiding them amid such an island of greenery. Mr. O. C. Simonds of Chicago is singularly expert in such compositions. And at Wodenethe you will occasionally see a clump say ten to fifteen feet wide and twenty-five feet long, containing perhaps two or three large trees, with thick shrubbery on all sides.

Whether it is right to trim the bushes along such a path is a question. If they overhang the path they crowd you off, but if you trim them, the handiwork of man becomes evident, as shown in Fig. 1. Sometimes, however, the shrubbery is too thin to hide unsightly objects, and then trimming is allowable, for it tends to thicken a screen. The ideal, perhaps, is to remove year by year the old wood, cutting out whole branches, instead of trimming the outside twigs. For the former method produces more flowers and better habit, while the latter sacrifices many flowers and introduces artificial lines.

Fig. 4. Usually the path should skirt the wood, because there are more flowers and better colors there. But this path turns into the wood to reveal some fine trees, and it becomes more alluring because hidden by the island of shrubbery. In planning the border it is good design to leave a few of the strongest tree trunks exposed and to bind the others together into a group by hiding them amid such an island of greenery

CINCINNATI'S INVITATION TO THE BIRDS

By Alden Fearing

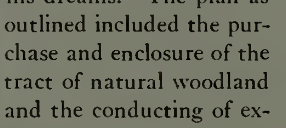
A SONG bird in a cage is an institution as old as the pyramids, but a bird-cage three and a half acres in extent, with no top, and with sides six feet high, is something new. That is the kind of bird-cage that is owned by the city of Cincinnati, and it is full of birds that are not captives.

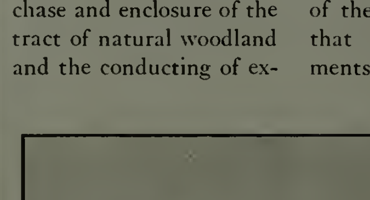
The man who invented this bird-cage and enticed the songsters into it is Professor Harris M. Benedict of the University of Cincinnati, and his full title is Professor of Botany and Lover of Birds.

Now this is, of course, not the only bird reserve in the United States, but there are several unique things about it that are worthy of special notice. In the first place, it is located in a large city which song birds too often shun. In the second place, on account of its connection with the university, it is not merely a bird-lover's hobby, but is given a real educational value; it not only attracts birds but makes bird lovers. In the third place, it is conducted by a scientist who is not satisfied to follow old methods, but who is making a thorough study of the entire subject. Already he has reached a well founded conclusion that the attracting of birds is not so much a matter of patent contrivances as the natural protection and food offered by certain vines and shrubs.

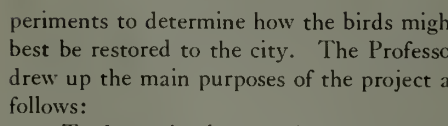
Professor Benedict had long desired to try this experiment, but the means were not at his command. In 1909 he endeavored to persuade the municipality to buy and equip a bit of woodland on the outskirts of the city for this purpose and make it a part of the city's park system, but the necessary bond issue failed to pass.

Then came to the rescue Mrs. Mary M. Emery, benefactress and lover of birds. She approved of Professor Benedict's plans, and through her generosity made possible the realization of his dreams. The plan as outlined included the purchase and enclosure of the tract of natural woodland and the conducting of experiments to determine how the birds might best be restored to the city. The Professor drew up the main purposes of the project as follows:





One of the bird houses constructed for the reserve by a local pottery company



1. To determine by experiments the most practical methods for attracting birds back into the cities. These methods would naturally divide into: (a) most efficient means of protection against enemies; (b) most attractive food; (c) most attractive nesting facilities; (d) most attractive shelter.

2. If efficient methods for accomplishing the return of birds were discovered, to start a national campaign for the establishment of municipal bird reserves in all towns and cities, placing all results at the service of any community desiring them.

3. To enable bird students to carry on researches in connection with the economic value of specific birds to city life.

4. As soon as the birds had increased to the maximum which the reserve could contain, to build within it an observation house into which numbers of persons could be taken at a time without disturbing the birds, and from which they could observe the birds under most favorable circumstances. It is obvious that to permit the public to enter at the start would defeat the primary purpose of the reserve.

The tract had once been a favorite haunt for birds, but the encroachments of city growth and increasing population had almost entirely driven them away. Only three and one-half acres could be purchased, with 150 feet frontage, but it was decided to begin on that, on the theory that if the experiment should prove successful, it would be more encouraging to other cities than if a larger tract appeared to be necessary.

The first and most pressing necessity was to enclose the area with a fence which would exclude cats and human beings. Cat skulls were measured and it was determined that a space of one and one half inches was too small for cats to pass through. On this basis an iron fence was designed and constructed which possessed strength, durability, and an attractive appearance. This fence cost $1.25 per linear foot.

The preliminary arrangements and the equipment of the reserve, which was named the Mary M. Emery Bird Reserve in honor of the donor, occupied the rest of the season of 1910, so that the actual experiments and observations began with the nesting season of 1911.

Entrance to the reserve, showing size and type of fence

The sanitary pottery larder, with compartments for different kinds of food

"I am satisfied," says Professor Benedict, "that the value of putting up nesting boxes has been exaggerated, and that while this should not be neglected, it is even more important to plant suitable food and shelter plants for the great majority of birds which do not nest in holes."

For the birds needing such encouragement

however, a pottery bird home was devised, and was constructed by a local pottery company, which embodies twenty-six distinct features adapting it for bird and human convenience. It is attractive to the birds, resists decay, does not split or warp, requires no care, is inexpensive, and blends harmoniously with the surroundings. The cavities in many of the imported bird houses, it has been found, are not suited to the needs of our native hole-dwelling birds.

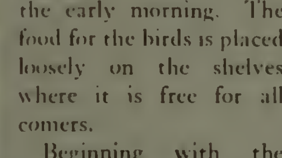
Pottery bird larders have also been developed and used, which have proved to be more sanitary, durable, and attractive than wooden or metal food shelves, though plain wooden ones are also used here. There is very little snow and ice during the winter in Cincinnati, and the glassed-in feeding shelf has not been found necessary. There are now about a dozen feeding places for the birds in the reserve.

A chickadee's nest in the hollow of a tree, illustrating how such places may be utilized by fastening a piece of bark partially over the opening

The relative values of different artificial foods, and of different species of trees, shrubs, vines, and herbs as sources of food, nesting-sites, and shelter, are being worked out with interesting results. Professor Benedict has gathered and planted in the reserve hundreds of shrubs, vines, and wild flowers, many of them bearing berries, and has recently been giving particular attention to vines and shrubs which are not native, in the hope of finding some that are distinctly better than the ones commonly planted. Present evidence indicates that Hall's honeysuckle (*Lonicera japonica var. Halliana*) is the most valuable of all plants in attracting birds, leading even the native varieties.

The artificial food which has proved most useful is suet and whole sunflower seeds. Fresh grated suet and sunflower seeds are placed on the feeding shelves every morning. Watermelon, muskmelon, and other seeds have also been used.

A bubbling water jet in a cement basin provides a pure drinking fountain and bathing pool. A feeding table above it is kept provided with suet, seeds, nuts, and grains, and the spot is a great bird rendezvous in the early morning. The food for the birds is placed loosely on the shelves where it is free for all comers.



Beginning with the nesting season of 1912, results began to be evident.

A young chewink

Professor Benedict takes a bird census of the reserve about once a month during the spring. The numbers then vary greatly on account of the transient presence of migrants. The increase in numbers of birds nesting in the reserve was 5 per cent. the first year, 8 per cent. the second, and 14 per cent. the third year; in 1915 the increase was not so marked. This lack of increase was due chiefly to an invasion of English sparrows which were attracted by the increase in cover produced by piles of brush and the growth of shrubs and vines. Of course, the sparrow is not counted in the bird census.

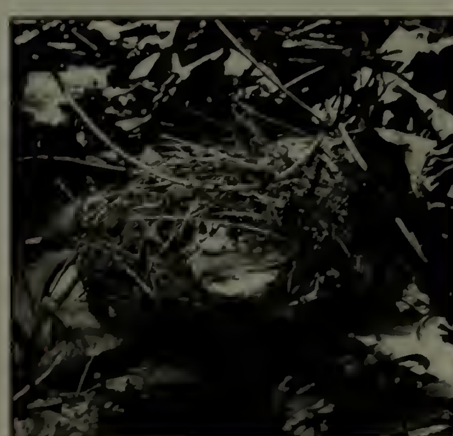
Such shy birds as the oven bird, the chat, and the Louisiana water thrush have been seen in the reserve.

The number of species observed in the reserve has shown a corresponding increase. Professor Benedict has counted thirty-one different species in a single morning and has seen fourteen different kinds at one time.

About a dozen kinds of birds spend the winter in the reserve, including the blue jay, cardinal, Carolina wren, winter wren, junco, brown creeper, tufted titmouse, song sparrow, downy woodpecker, hairy woodpecker, flicker, chickadee, male chewink, and white-throated sparrow. Nuthatches stay here some winters, but not all.

"A female red-breasted nuthatch," Professor Benedict told me, "was one of the most interesting of our residents. She soon learned that the English sparrows were not nearly so dangerous as they pretended to be, and began to visit the feeding shelves even when many sparrows were there. One of the larger shelves was her favorite table, though it was the one most frequented by the sparrows. She not only ceased to fear them but began to pester them. One of her favorite stunts was to fly very quietly to the back side of the tree to which the shelf was fastened, carefully work her way around the trunk until she was directly above a flock of sparrows feeding on the shelf, and then, with wings and feathers fully extended, give a loud squawk and plump down upon them. Each sparrow burned a hole in the air in the direction in which he happened to be pointed when the bomb dropped. Mrs. Nuthatch showed visible satisfaction."

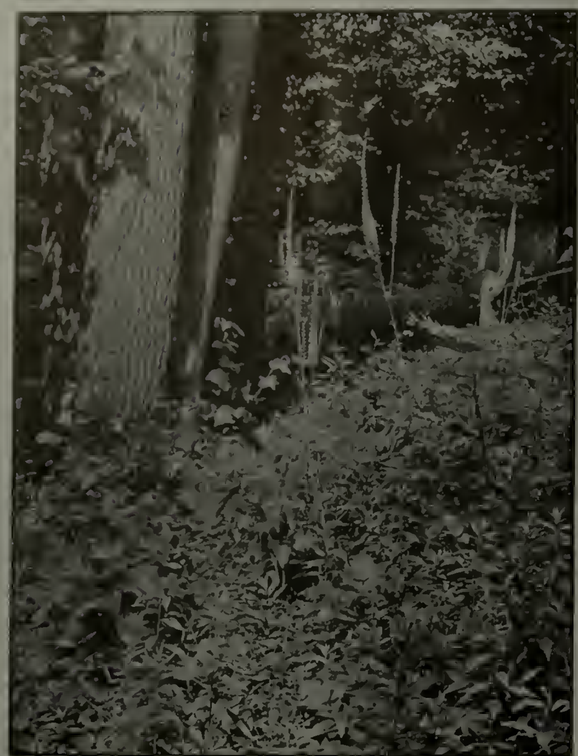
It is planned this year to begin another phase of this work, as originally laid out. An observation house will be built in connection with the main feeding and bathing places, for the use of classes of school children of the lower grades. Regular hours each week will be set aside for the visits of teachers with their classes. The children will be seated in a specially designed room, from which they can see perfectly the birds on the feeding shelves, but in which they themselves will be entirely invisible to the birds. Talks on the recognition, habits, and value of birds, on means of attracting them, etc., will be illustrated by the live birds and by lantern slides, stuffed specimens, and charts. It is planned to make this a regular part of the school work in Cincinnati.



Oven bird on her nest

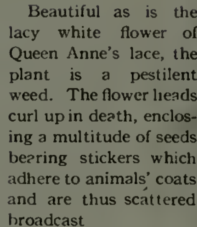
Finally, the Mary M. Emery Bird Reserve will be made the starting point of a campaign for municipal bird reserves elsewhere. Professor Benedict believes that the results accomplished already in Cincinnati make it possible now to standardize plans for planting so that new city bird reserves may be laid out without any risk or doubt of their efficiency. Tall trees have proved to be of less importance than quick-growing shrubs and vines as bird attracters. This fact makes it possible to develop bird reserves within a few years, which is an encouraging factor in the campaign.

A feeding shelf beside one of the bathing pools



Black snakeroot has long spikes of white flowers which open up during midsummer in our woods. They have an unpleasant odor not in keeping with their fairy-like appearance

Beautiful as is the lacy white flower of Queen Anne's lace, the plant is a pestilent weed. The flower heads curl up in death, enclosing a multitude of seeds bearing stickers which adhere to animals' coats and are thus scattered broadcast



Pokeweed, pigeon-berry, ink-berry: this weed grows from four to twelve feet high. The flowers are in clustered, purple-stemmed spikes, which later produce beautiful but inedible, dark, crimson-juiced fruit. Children make red ink from these berries

SOME COMMON

Photographs by Martha Bunting

Handsome Joe-Pye weed grows along streams or on moist, low ground. The flowers make a bit of dull pink or lavender color never to be mistaken. It may be called boneset—but who would wish to?

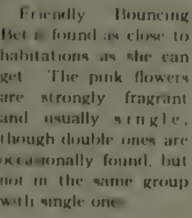
Originally native to Europe and Asia, the thistle is now a thoroughly naturalized American, from Newfoundland to Georgia. It blooms from July to November

Friendly Bouncing Bet is found as close to habitations as she can get. The pink flowers are strongly fragrant and usually single, though double ones are occasionally found, but not in the same group with single ones

Another plant growing beside streams is water hemlock—deadly poison. Its flower heads look something like those of Queen Anne's lace, the whitish flowers forming a wheel of flat-topped umbels

‸LOWERING WEEDS

Text by—
Ellen Eddy Shaw

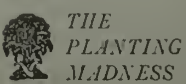


Meadow-sweet (Queen-of-the-meadow, Quaker lady) grows in low, moist places, bearing plume-like clusters of pink tinted flowers from June to August. The stalks, tough and yellow brown, grow from two to four feet high

Every one knows yarrow by sight if not by name, for the ‸ayish white flowers of this commonest of weeds confront us ‸verywhere

Standing on tip-toe in open fields and along roadsides, the evening primrose opens its bright yellow flowers at evening time and stays open into the next morning, then fades, and drops within a few days

FROM A COUNTRY WINDOW



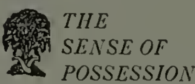
THE PLANTING MADNESS

ALTHOUGH POSSESSED naturally of a temperament which gives no room to lamentations over our past acts, we have sometimes, at this period of the year, "sigh'd and look'd and sigh'd again" at the luxuriance of our kitchen garden. Many truck patches in August are luxuriant with purslane or some of the more upstanding weeds, but such are not the cause of our repinings. On the contrary, it is the unparalleled enthusiasm of our legitimate garden products which gives us pain. Wherefore, we ask ourselves, should we be blessed with eighteen rows of beans of almost as many varieties, when the family recognizes only one kind as edible; why have to pick four dozen ears of corn per diem when our neighbors are even more generously supplied; and why be obliged to gather each morning a peck of choice lettuce to regale the fastidious White Runts with the major portion of it? And having asked ourselves these questions, we seek the answer in our own guilty conscience.

Every year we—and you—go out into the garden plot when the frost is first out of the ground, and with spade or foot turn up a little earth to see how it appears after its long term of bondage to snow and ice. Innocuous in itself, the act looses the shackles of a hundred happenings, for with the aroma of the rich soil in our nostrils we are smitten with the spring mania for planting. Had we a plot one hundred feet square last season? Let us double the boundaries and quadruple the area. Were there enough vegetables to carry us through the summer? Let there be sufficient this year to stock the cold-cellar.

The sight of the fertile ground banishes reason, and with our plow, harrow, and seeds we are like a child filled to satiety who samples the icing of a dozen ginger cakes. With this madness upon us, the factors of leisure hours and future ability enter not into our calculations, and we are insensible alike to dissuasion, argument, and ridicule. The hot flame of ambition, kept smoldering by the winter months, warps our sense of proportion, and only the cold light of reason now engendered by the heat of midsummer permits us to glimpse our spring-time folly.

But, we promise ourselves, it will be different another year. Captivating, tantalizing though the earthy smell may be, we shall curb ourselves and be strong. One garden, the vegetable needs of one family, the work of one hoe—this shall be our motto.



THE SENSE OF POSSESSION

IN ADDITION to the five senses and those two or three others which are severally called the sixth, we may be said to have another, in our sense of possession. This, although made possible by the purely physical sensations, is compounded largely of the better part of pride with a touch of becoming humility. It is more than the sense of touch or of seeing which together make known to us things as they are, because it idealizes those things which circumstance has permitted us to call our own, and reveals them as they ought to be.

The owner of a yacht, inviting you to come aboard, murmurs in humble tones that "it's not much of a boat," but that it suits his purposes; and while his words of deprecation are sincerely meant, they carry with them the owner's unmistakable pride in his possession. The driver of a car admits under compulsion that the brakes and such are a little noisy, but adds that the motor is in excellent condition and that little else concerns him. Although he may have fixed his aspirations on a more elaborate car—for who has not?—he is eminently satisfied that his machine is not only the best of its class, but superior to all others of the same make. Taking another instance, we have the possessor of a dog—speak disparagingly of the animal and he will tell you that it has the wisdom of Solomon, the disposition of a saint, and minor traits and attributes which are little less than human. Yet an impartial judge might declare it to be one part canine and three parts trouble.

But in the possession of property in the country we find this sense developed to its most benign conclusion. These few acres which surround our house are almost as much as home itself, and their cultivation and improvement form one of the greatest joys of living. Work which we do on them is pleasurable enough, but is made doubly pleasant and many times more necessary through the knowledge that the land is ours. This knowledge, this sense of possession, bears also on our affections, and we come to know intimately and to love every tree, every slope, and even the view from the hills. Nor does this love wound the susceptibilities of others, for to every one is given the same extra sense, and to each the rose-tinted spectacles of ownership.

RAG-WEED DAYS

HAVE YOU EVER pulled ragweed in August? Of course, there should be no ragweed, either among the corn or the potatoes, or in the young orchard. But in a season such as was last summer in the East, with rain almost every day and twice on Sundays, it is practically impossible to keep the cultivator going fast enough to get ahead of the weeds. One manages to keep the corn field fairly clean, but by the middle of August the witch grass has got into the strawberry patch, wild morning-glories are wellnigh smothering the young peach trees with their unwelcome loveliness, poison ivy lurks treacherously behind the goldenrod and Joe-Pye weed along the stone walls, and the ragweed lifts its head in lavish exuberance among the berry canes and down the potato rows.

There is nothing for it but hand weeding. Some of this is not at all pleasant. Blisters inexplicably form, and there is much need for subsequent manicuring. Onion weeding seems to require all the patience of a stolid, barefooted Polish family, and the roots of some weeds appear to lay hold upon the very foundations of the earth.

But with ragweed the case is different. Ragweed grows with the luxuriance and rapidity of Jack's beanstalk, and by the middle of August it is elbow high and each plant has become a young tree. But its apparent sturdiness is deceptive. It seeks the lighter cultivated soils and its roots are neither long nor tenacious. You seize the giant weed with a firm grip and pull, and up it comes, heavy with its soft ball of earth, and you cast it down with a thump and reach for another.

Down the row you go, pulling and laying low. There is vast satisfaction in the sport, and a fascination that keeps you at it. For once the accomplishment seems to be proportionate to the labor. The huge quantity of undesirable life demolished appeals to some remnant of brute instinct in a man, and the frenzy of destruction leaves behind it no remorse.

But there is one drawback. If you are subject to hay fever the sport of ragweed pulling is not for you. Because of an absurd but uncontrollable physical disability you must either let the ragweed grow or hire a substitute to go forth against the enemy in your stead.

The SUMMER HOME *of* HOLLIS FRENCH ESQ. AT ANNISQUAM (PART *of* GLOUCESTER) MASS.

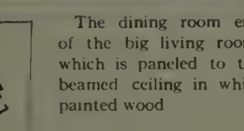
The land front of the house is to the east, where the main entrance is placed

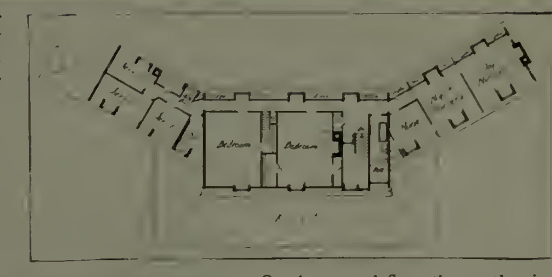
The chambers are finished in white trim, and the owner's room, one guest chamber, and the nursery have open fireplaces

Throughout, the dignified Colonial atmosphere has been preserved in the choice of furnishings

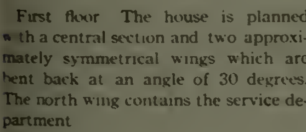
The dining room end of the big living room, which is paneled to the beamed ceiling in white painted wood

The living room fireplace, flanked on either side by built-in closets. To the right is the stairway to the second floor



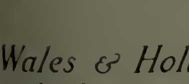


The real front of the house is to the west, and from the piazza a lawn slopes away to a hold ledge of rocks, beneath which lies the bay

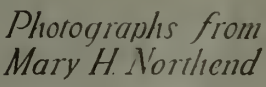


First floor The house is planned with a central section and two approximately symmetrical wings which are bent back at an angle of 30 degrees. The north wing contains the service department

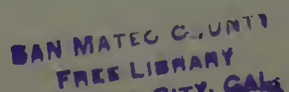
On the second floor the south wing is turned over to the children. A hallway gives access to this wing, as well as to the two bedrooms and the service wing



Wales & Holt Architects



Photographs from Mary H. Northend



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A NEW GOLF CHAMPION?

By Herbert Reed

Photographs by Edwin Levick

AMERICAN golf has reached that sound stage of development at which experiments in prophecy when championships are under discussion are extremely unprofitable, not to say dangerous. Time was in the early days of the game in this country when the finalists were almost certain to be Walter J. Travis and Findlay Douglas, with a chance for James A. Tyng, Herbert M. Harriman, H. P. Toler, and a very few others. In later years Francis Ouimet, Fred Herreshoff, W. C. Fownes, Eben M. Byers, Jerome Travers, the two Egans, Sawyer, "Chick" Evans, and a few others have been the names that stood out. But now a coming golfer not in the reckoning has an excellent chance to come through to the title or at least to the honorable position of runner up. This year any one of at the very least a dozen men has the right to be considered a championship possibility in the battle for the title that is to be fought out the first week in September, over the picturesque and soundly laid out course of the Merion Cricket Club just outside of Philadelphia. And it is extremely improbable that a victory for any one of these men could come about through accident. The finalists of to-day come through a draw that is bound to prove a serious test of a player's mettle under fire, as well as of his skill.

Oswald Kirkby (left) of Englewood, again the New Jersey State Champion, and Gardiner White (Flushing), one of the season's good tournament players

One factor in this year's tournament will be a relief to those who dislike to see a man gain the title through proficiency in any one branch of play, or with any one club—save perhaps, and legitimately, the putter—and that factor is the probable failure of the course and the conditions to put an extra premium upon sheer strength and endurance. That factor was very much in evidence at Detroit last year. There is no attempt here to detract from the 1915 triumph of the present champion, Robert A. Gardner. It is merely necessary to state the simple fact that the Detroit conditions were entirely too stiff in other senses than that of skill and reasonable strength for not a few of the competitors who have shown better golf, by a wide margin, than they did over the Grosse Pointe course. The Western course put a premium on distance from the tee and on the second shot without penalizing bad direction. Thus it was upon many occasions that a player found himself playing the odds against a "swiper" whose ball should have been in trouble. It was discouraging to the true player. The holes, too, were so placed as not to reward the master of the short game, and the greens were more than tricky, actually slippery, to which fact Maxwell Marston and several others can testify even at this late date.

The Merion course will call for sound golf all the way. The mere "swiper" will be penalized as he should be, and the man who is always on the flag, and whose short game is well in hand, will enjoy those advantages to which such play entitles him. All other things being equal, the short game ought to prove of more value than it did last year. Unluckily for the game, the famous Big Three, which consisted of Travers, Ouimet, and Evans, has been broken up because of the fact that the United States Golf Association has declared the famous conqueror of Ray and Vardon a professional and therefore ineligible to compete for the Havemeyer Cup. By virtue of his title Gardner takes the vacant place. It is unfortunate that his addition to the ranks of the favorites could not have made it a Big Four. The dozen or so others, however, are so close to the popular favorites this year, or at least have been so close up to this writing, that there is, after all, no legitimate reason for making the men mentioned the leading choices. Tournament experience in tight places is, of course, in their favor, but some of the other men have played in such remarkable form this year, and have become so seasoned through working their way through difficult fields, that even in this respect there is little to choose.

There have already been some sensational performances by men who a year ago would not have been picked even as semi-finalists, and by the time these lines appear no doubt there will have been even more. We need not wait for the Metropolitan Championship and other prominent events to study the play of the men who have accomplished these golfing wonders. We may be sure that if they care to prepare for the year's great event and do not lose the form they have already shown they will be formidable in the extreme.

Among these interesting figures are Henry J. Topping, Philip Carter, and Reginald M. Lewis. Topping had been almost forgotten by the main body of the golfing world until he surprised every one by winning two out of the three big tournaments in the Metropolitan District, at Ardsley and at Garden City, in both cases coming through first-class fields. Topping is no newcomer to the game, having held the Connecticut State Championship not long ago, but it has remained for the present season to find him at his best. He has an easy style, one indeed of great freedom, but hitherto he has been a prey to attacks of unsteadiness. To brilliancy he has at last added a certain solidity that has undoubtedly raised him a class or two as a tournament player. This year, I think, he will find himself thoroughly fitted for the classy field in which he will be entered.

Philip Carter, of Bridgehampton L. I., the young man who played more than human golf (as one of his opponents put it) at Pinehurst, may well be looked upon as a championship possibility. He is just a little more than twenty and full of the fire of youth, yet with the steadiness of experience. After his return from the South he was obliged to give up the game for a time because of ill health. If he has fully recovered by the time of the tournament he will make a deal of trouble for his elders. He is possessed of every shot in the bag, plays a slashing long game, and is a terror on the putting green. Indeed, his putting alone has won him many a tight match. His Southern records have not earned him the fame he deserves, but prior to play for the Metropolitan Championship he turned in a 69 for the very trying Shinnecock course, and a little later a 30 for the nine holes at Bridgehampton. There is not a man in the country, young or old, who can do any better than that. Carter has a fine pair of hands for golf, and he makes the most of the overlapping grip. When fit, this young man is no uncertain quantity. Those who follow him in his matches will need to get into good condition, for he plays at as fast a gait as any man I have ever seen.

Lewis is another member of the younger contingent who is quite likely to figure in the National Amateur if he holds the form he showed early in the season. He won the Westchester title, in the course of which he had to dispose of such experienced players as Johnny Anderson and Dwight Partridge, and won it by a display of extreme brilliancy, over the none too easy Wykagyl course. Drives of 260 to

John G. Anderson (Siwanoy), runner-up last year, and one of the soundest tournament players

Dudley Mudge (Town and Country, St. Paul), last year's medalist, and a most promising coming player

"Chick" Evans (Edgewater), the "darling of the West," whose golfing form is perfection

Robert A. Gardner (Hinsdale), the amateur title holder, and a wonder with cleek and midiron

Philip V. G. Carter (Bridgehampton), who started the season by terrorizing Pinehurst

280 yards straight down the fairway are proof enough of the calibre of this youngster's play from the tee, and upon one occasion he sent the ball soaring for 200 yards through an uphill fairway. It was a small matter for him, on a long elbow hole, to clear a hill and a clump of tall trees with his niblick, finding the green and getting a 3, two strokes under a hard par. Lewis's play is no flash affair, albeit he needs a little more settling to his game.

Fred Herreshoff has returned to the links, after a lengthy illness, and even a month ago was driving as long a ball as ever. He must be counted in the running for any title for which he enters. In the meantime Oswald Kirkby has been regaining his New Jersey title at Englewood, defeating Max Marston on the fortieth green. This, indeed, was one of the greatest matches ever seen in the East. Just as at Detroit, Marston lost his chance by missing a short putt, but up to that stage the play of both men had been perfection. In fact I have never seen either man in the form he has shown this year. In the match at Englewood the men underwent a test of nerve, and met that test in a manner that a golfer is seldom called upon to do, even in an Amateur Championship. Marston will some day win the chief title, I feel sure, for his play becomes almost weekly finer and more satisfying, and almost every time he goes out—save for one windy day at Garden City when even the best of them were off their form—he shows more of the dogged match play spirit that marks your rrue champion. He is a fine long hitter, having almost perfect direction, and when it comes to pitching up approaches there are not many in his class. Kirkby's long game is of the consistent variety. Incidenrally, any man who can get 195 yards out of a jigger, as Kirkby frequently does on his home course at Englewood, is likely to discourage not a little any but the stoutest hearted opponent.

Jerry Travers is going to be the puzzle of the tournament up to the rime he actually goes into action. His type of play is almost too well known to need extensive comment, and his tournament courage is one of his most valuable assets. Those who find fault with him for occasional lapses with rhe wood too often forget that his driving iron can be counted upon for an average of 230 yards, and that he is one of the most wonderful putters in the country. Travers has won championships even when he could do nothing with his wooden clubs. But Travers is a very busy young man and comes up to his important golfing engagements very short of practice. It is possible, even probable, that last year this was an actual help to him, but it is not at all certain that it will always be a help. Travers at his best is, as we all know, a terror, but at his worst he is far from formidable. There will be no real chance to judge him fairly until the eve of the big event, if even then.

Those of the gallery who wish to see perfect, apparently effortless, golf would do well to follow "Chick" Evans, the "darling of the West"—at least some of the time. He gets fine length and perfect direction from the tee, but there is no amateur in the country who can approach him either in length or accuracy with the irons. In fact, Chick is about the nearest thing to a model for all golfers that I have ever seen in action. The golfing world is fairly familiar, I think, with Chick's chief trouble, the lack of that grim determination which makes a man champion again and again. Almost any golfer in the country would be in the seventh heaven if he could play like this young man. Somehow, perhaps from sheer good nature and a naturally likeable disposition, Evans seldom can seem to take the matter in hand quite seriously enough. There is apt to be a lapse, or, indeed, several lapses, on the green when he is playing an important match. More than once, right after defeat due to that one failing, he has gone out and in a friendly match played golf that would have given him the title easily—golf that even the best professionals have envied. But whatever happens, I say to the duffer, yes and to any golfer who has the chance, don't let the big event pass without following Chick Evans around the course, not once but many times.

The champion driver is, of course, Jesse Guilford. I have seen no one approach him off the tee save Harry Davis, the Pacific Coast star. Guilford has been known to get an actual carry of 300 yards. If he can get the rest of his game working in closer harmony with this wonderful "swiping," as he seems to have done upon occasion this year, he may have a chance to do some execution at Merion, but as I have already said, I believe that the man with the truest and best short game will have the big opportunity this year.

Johnny Anderson, a man rich in experience, a stayer, with a well rounded game and perhaps some added emphasis on the pitched up approach, is always to be reckoned in the account of possible title winners. There is nothing sensational about his play, as a rule. It is a case of sound golf. Give him a well placed cup toward which to work, and it will take a star to get inside his ball. He is another man who is well worth watching in the inrerests of studying all-round golf.

A smashing player is the present champion, Robert A. Gardner. There is no man in the country who can get better distance and accuracy out of a halfiron shot. Indeed I have seen him time and again take his midiron for a green 200 yards away, and this even when there is a demand for plenty of carry. He is not a good man to attempt to imitate, however, for not one in a hundred is muscled as he is, due to some years of pole vaulting consistently well over twelve feet. Dudley Mudge, last year's medalist, doubtless will also be a factor. He is a very powerful young man who gets a straight-arm iron shot that is of the very besr. He has tournament temperament, too, and will come up to the big event with plenty of practice behind him, since he has been a member of the Yale team throughout the season. Gardiner White is a golfer with a consistenr record who is likely to make trouble ar any time.

These seem to be the most promising of the men who will fight it out for Gardner's title, and I have tried to give some idea of their style of play rather than to attempt a forecast that is becoming extremely difficult because of the gradually rising standard of play in this counrry.

My final advice ro the average golfer is: Don't miss it, for perhaps rhere will be something worrh knowing to be picked up ar Merion.

Maxwell Marston and Jerome Travers on the seventh tee at the Detroit tournament

Gardenia rose along the terrace. The results here shown are the outcome of four years' struggle against adverse conditions—a sour, sandy soil full of boulders, the wrong exposure, etc.

Peonies collaborate with roses to make the place a bower of beauty in June. Mrs. Schayer has been her own landscape architect and from the beginning the garden and grounds have been her special care

THE GARDEN OF MRS. JULIA SCHAYER AT LAWRENCE PARK WEST BRONXVILLE NEW YORK

Looking down the central walk to the sundial.

Roses and syringa in bloom. These are preceded earlier in the season by irises, tulips, etc.

Following the roses come lilies, delphiniums, etc., so that the garden is never without its attractions

CONDUCTED BY T. GILBERT PEARSON

Secretary of the National Association of Audubon Societies

[*Mr. Pearson will be glad to answer any questions relating to birds; for convenience, kindly address Readers' Service*, Country Life in America, *Garden City, N. Y.*]

VISITING A NIGHT HERON COLONY

By EDWIN L. JACK

I WAS on the morning of June 10, 1914, in company with a friend interested in bird work, that I boarded the train at Portland, Me., en route to Scarboro Beach, on what was for us a new undertaking. We were going in search of a colony of black-crowned night herons of which we had learned. The birds were new to me, and I was most anxious to visit them. Therefore our anticipations rose high as the train pulled slowly out of the station.

Arriving at Scarboro Beach, we followed a wood road which led directly to the marshes, where at high tide the water flows inland in little channels for many miles. The scene here was exceptionally beautiful—a wonderful panorama of marsh, forest, and hills, while the sea of blue overhead, across which floated a few large, fleecy June clouds, dipped into the real sea at the ocean's horizon.

When we approached the clump of maples containing the heronry the birds discovered us, and the colony was soon in an uproar, frequently the birds would go sailing out over the marsh, their beautiful gray plumage standing out clearly against the dark blue background of the sky.

The clump of maples was almost impenetrable from the marsh side, for owing to the damp, swampy location, the vegetation was almost tropical. It seemed to me that the birds realized this and took advantage of it as a means of protection. It was only by shielding the cameras with our coats and backing against the underbrush that we were able to force our way through.

It was the most filthy, ill smelling place I have ever encountered. The ground was covered with large brakes and ferns which grew waist high, and these were whitewashed with refuse from the nests. Everywhere over the ground were scattered the blue-green egg shells thrown from the nests, every one of which was perfectly broken across in the middle. It would appear that the adult birds broke the shells with their bills to help free the young when hatching. Every now and then we found the decaying bodies of young that had fallen from the nests, and there was also much decaying fish remains. The air was filled with mosquitoes and black flies. We had prepared for this and had anointed our faces and backs with mosquito "dope" without which we could not have endured the place for a minute. The heat too was almost unbearable.

An investigation of the heronry proved it to be a most interesting place. Everywhere above us the trees contained the large, bulky nests of the herons, often four or five being placed in one tree, and frequently they were only a few feet apart. The nests were constructed entirely of sticks, and varied greatly in size. Some measured two feet across, some two and a half, and others nearly three feet. The birds used no lining, the eggs being laid on the rough platform of sticks. So loosely did the nests appear to be put together and placed among the swaying branches of the trees, that it seemed a wonder they ever stood the force of the high winds which sometimes sweep across the marshes.

The eggs, usually four in number, are of a beautiful pale green. They are a little larger than a hen's egg and quite pointed at one end.

Black crowned night herons about three weeks old

The night heron's day begins with the gathering gloom, shortly after the sun has set, but during the nesting season the old birds are kept busy throughout the entire day providing food for the ever-hungry young.

A perfect chorus of "click-click-clicks" came from the nests above us as the young herons called for food. The adult birds were continually flying out over the marshes in search of fish and eels, of which the young birds' diet consists. At the time of my visit the young were being fed on herrings. The parents ate the fish first, and later when it was partly digested, they administered it to the young by regurgitation.

After studying the birds from below, I decided to secure a number of young ones to photograph, so I climbed to a nest which contained four nestlings. At my approach they drew back to the rear of the nest. Their large, pointed bills looked menacing, but as I wore heavy gloves I reached out and secured one of the youngsters. He clung to the nest desperately, but finally I got him to the ground. The moment I released him he started to run, but I tied him up in the focusing cloth, and brought down the others.

Owing to the fact that the nests are constructed entirely of sticks, to which the birds are obliged to cling, the muscles of the young birds' legs early become well developed and very strong; therefore, when only three or four weeks old they can run quite well. When one teaches out toward a young heron, it will draw back its long neck and open its bill, displaying a great pink mouth and throat, and if the hand comes in range, will strike with force enough to cut to the bone.

It is most interesting to watch the method a young heron uses to regain its balance when it falls from a limb. It will hang on by its bill, spread its wings and brace them against the limb, and by dint of much struggling will gradually draw itself back to its perch.

The plumage of the immature black-crowned night heron is marked with streaks of light brown and grayish-white. The feathers on the top of the head when bursting from the sheaths form a large crest, but the black crown from which the bird obtains its name does not appear until the adult plumage is attained. The bill is brown, and the feet are slightly webbed, a common characteristic of wading birds.

The plumage of the adult night heron is beautiful. The breast and wings are light gray; the top of the head black, this color extending down the back of the neck and on to the back. During the nesting season the bird has a number of beautiful occipital plumes, which grow from the top of the head and extend down the back of the neck. The tail is very short, and the bill black.

The night heron's call is a hoarse "quawk;" in some localities it is very common to hear the birds in the dead of night as they fly overhead. If they are not molested, they will return year after year to their old nesting grounds. As soon as they arrive in the spring, they at once begin to repair their old nests, adding much new material, which I think accounts for the enormous size of many of the structures. These birds seemed to be continually repairing their nests, which are frequently weakened by the energy of the young birds.

By midday the clamor of the heronry gradually subsided, the stillness being broken only now and then by the "quawk" of an uneasy heron. This seemed to be a time of rest among the birds, for many settled among the neighboring trees, some of them perching on one foot and apparently sleeping. As the day waned into late afternoon, the birds' activities began to revive. The young started calling for food, and the old ones were continually flying out over the marshes in search of fish.

Soon the sun hung low in the western sky, and the marshes took on a soft, golden-rose hue, while over the distant hills hung a purple haze, warning us that it was time to go. A half hour later found us well on the return trip across the marsh, and just as we rounded a point of land that shut the heronry from view, we turned and took one last look at our birds, which now resembled mere specks against the sky.

The heron's nest is nothing more than a loose platform of sticks, upon which the eggs are placed

The exercise induced by having to cling to his crude nest early develops the young heron's leg muscles

POULTRY AND AN ORCHARD

By H · W · COLLINGWOOD

THINK we may call this the story of a man who made a farm swim back to prosperity by grafting the web foot of a duck upon a White Leghorn hen.

"Thirty years ago I came back to the farm along this very road," said Floyd Q. White, as we turned off the macadam and drove into the side road which runs past Fernwood Farm. We left the station at Yorktown Heights and drove off through the twilight of a cheerless April day. The road which we entered was like a mud pie.

Thirty years ago—that was just before White could vote, yet he had cast his life ballot in favor of back-to-the-landing. He was born on this farm and had worked away from it. After two years in the city he saw that fortune was too wise and gay for him, and so he went back to the farm.

As we came over the hill and saw the farm spread out before us, on that bleak, cheerless day, it did not seem an inviting prospect. To an outsider there was no romance or sentiment in that flat, muddy tract sliding down into the swamp. There was nothing but the light in the farmhouse window. When White comes to tell it all, we shall know that sentiment and filial duty pulled like an ox team to draw this unpromising farm along the road to Eden. At any rate, White went back, and this is about the proposition his father made to him:

"For several years now this farm has not paid expenses. If you will stay here and work it, I will give you half the profits."

This arrangement was started on April 1st. Most young men that I know would have regarded it as a proposition well suited to the day. He started in, and he tells me that the total sales of the first four months came to $128. At the end of the first year, after all their work, they came out just about even, with nothing to divide. Mr. White's father had made a better proposition than you think. He put up the farm and the equipment, and he worked hard himself. The equipment of stock and tools was not quite equal to that of the ordinary farm. Such improvement as they made must first be earned out of the soil. They did remarkably well that first year to come out even. The average back-to-the-lander never could see it quite that way. He would have quit in disgust and spent the remaining twenty-nine years in trying to invent some new names to throw at farming. White pulled his belt tighter, and worked harder. He had a right the other night to hold up his head, for all the world like one of his Leghorns outside, as he told me that the average farm income is between $6,000 and $7,000 gross, out of which must come the expenses.

It was the power of vision which White possessed that put him past that first year. He had no thought of quitting, for he had put earning capital into that soil in berry plants and trees. There was one strawberry patch put in with great care. This came along that second year so that day after day they sold $40 worth of fruit. Nothing like it had been seen before in that neighborhood, yet it was only a hint of what was to follow. At the end of the second year White and his father divided $800 between them.

Shortly after this there came knocking at White's door a messenger, which appears at some time to all—the spirit of education. White will tell you that he had small chance for schooling. As a little fellow he was sickly, so that he was taken from school, and when he went back he was a big boy in size, yet obliged to enter the little boys' class. Coming back to the land, from working in a well conducted business, he saw as never before the need for training and some scientific knowledge in handling the soil. You see the time had come when farm education was dividing farmers into two classes. Some of them must remain hewers of wood, while others would take that wood and make it into ladders, up which they climbed to better things. Some must remain drawers of water, while others would use that water to produce steam which gave them higher power. It was education which made the difference.

White saw this, and he pondered over it until about this time along came Jimmie Rice of Cornell, breezing in from the University to speak at a Farmers' Institute. White and Rice are of about the same age. You can hold up the fingers of your two hands and count upon them the days which lie between their birthdays. They have had about the same life's experience, and are just enough different in temperament to make one act as flint for the other's steel. After the Institute, Rice came to White's house, and the two young fellows sat up until nearly morning discussing education and Cornell.

When Rice went back to Cornell, White followed him, and began the short winter course. The father stayed at home and cared for the farm. I have felt that this short winter course may be called the true glory of farm education, because it gets down to the real man on the farm who lacks the training and the time required to enter the regular college course, and gives him the touch of science which drives him on to graft thought and research upon the hoe handle. Another thing which such a course gives a man is the reading habit. This is the great resource for a farmer. Some of them say that they will wait until they are independent, and then take it up. That would never do. It must be started early, like all other habits, in order to endure.

White spent three months at Cornell, and they say that he got more out of the University than any student who ever studied there. Jimmie Rice was there teaching and talking, and his sister Jennie Rice was keeping house for him. No one would ever have thought of calling them James and Jane—the real combination was Jimmie and Jennie. White proved an apt student, and he found it necessary, in order to complete his course, to make many private visits to the Rice headquarters. You know the rest. Rice suddenly woke up to realize that his housekeeper was being lured away, and not long after the short course ended Jennie White began her long course on the old farm. White might have stayed at Cornell, and with his patient work and thought he would have become a practical and scientific educator, but the girl and the farm and father proved the stronger call.

And then, strange to say, some months later along came Jimmie Rice once more. He missed his sister, and he followed her, and like White he saw possibilities in this wet soil. The result was that these two young men formed a partnership. They rented the farm of White's father at a stated sum, and started to work out their plans from the very bottom, with Mrs. White as housekeeper. Some years later Rice went back to Cornell as a full professor, but the firm name of White & Rice will always come to mind whenever people speak of White Leghorns and farm partnership.

For a number of years, when winter came Rice left the farm and followed the Farmers' Institutes, while White followed the hens. There is a popular story that Rice did this in order to earn capital for the farm business, but that is a mistake. Rice by agreement paid into the partnership $1 a day for each week day of institute work. His going was part of the plan of doing only the more efficient things which each partner could find to do. One of the best things you can say about White is that he is like one of his best Leghorns, while the Leghorns have taken his honest and prompt efficiency. You see the Leghorn does not have to sit down and brood and study about laying. She is efficient, she just lays, and lets the incubator put in all the idle time at warming up the eggs. Can any man warm a chair and hoe corn at the same time? No more than a hen can lay while she is warming up at brooding.

From less than nothing, to a $7,000 gross annual income is something of a jump. How did

Munitions of war—the brooder houses and young chicks

The laying houses in the orchard, and part of the flock

these men do it? We do not discuss methods in these articles, but it is enough to say that the farm rose up and shook off the mud through the power of efficient management of a definite plan. A farmer must first of all have some very dear farm friend, that means that he must put his pocketbook in charge of some faithful animal or plant. White and Rice chose the hen. She, next to Mrs. White, was to be queen of the farm, and other crops must range around her and prove themselves if they were to stay. What hen? The first year they had five breeds on trial. At the end of the season they cut out all but two, the Brown and the White Leghorn. Then they finally drew the color line and decided to roll the mortgage away on White Leghorn eggs.

It was a problem too, because most of the poultry authorities agree that a hen will not do well on wet land, and the more nervous the hen is, the drier should be her footing. It looks as if White and Rice were able to graft webbed feet on their Leghorns, or else have them hatched out wearing rubbers, for these birds are on undrained land, and well know the feeling and the taste of mud. White has a great eye for a hen. He has not trap nested, but year after year he has selected what he calls good looking workers, and used them as breeders. They might not pass as fancy, but they lay big snow-white eggs, and who would not

net income or profit. The grain bill is high, and labor and other things cost, but there is a "nest egg" left in the hen house. Once upon a time a back-to-the-lander wrote White that he wanted a job, and he offered to come to this farm and do the light work and the heavy thinking. White replied that he had no light work at all, and that he always did the heavy thinking himself.

Then they selected the White Leghorn's companions with great care. A queen needs good counselors and strong defenders. As White says, the feed bill is heavy, but the fertilizer bill is almost nothing, and it always comes easier to pay for feed than for fertilizer. You buy a bushel of wheat for $1, and a bushel of corn for 75 cents. When you do that you import about two and a quarter pounds of nitrogen, half a pound of potash, and twelve ounces of phosphoric acid. Feed it to good Leghorns, and you may get as a result 200 eggs. These carry away about ten ounces of nitrogen, perhaps one ounce of potash, and two ounces of phosphoric acid. Now the question is, what farm companion will give the most efficient returns for the remaining plant food?

After trying many crops, White has decided that apples and grain for the poultry will make the best use of hen manure. On this heavy land he grows about 1,200 bushels of corn each year, and considerable small grain for the hens. All the

White Leghorn. White says that the first thing he bought as a result of his course at Cornell was a spray pump. Prof. L. H. Bailey taught horticulture at Cornell then, and from him White learned that efficiency and quality are twin words. You never can have quality in apples unless you have efficiency in spraying. You can make a tree grow with quite ordinary culture, but you can only make its crops beautiful through thorough spraying. White's apple trees are at the top of his highest hill, where they should be. They are young, yet last year they gave some 500 barrels.

They tell us that you must handle a fine apple as you would an egg, and that is about the way the Whites do it. The commission men get very little of White's dollar, for the apples, like the fruit, are sold mostly direct to consumers. Next to spraying, grading and packing are the most important points in selling fruit, and that being so, naturally Mrs. White has charge of that part of it. Every egg that leaves the farm goes into a dark room where it is passed over a brilliant electric light to prove that it is straight. These eggs are fresh and the Whites and the Leghorns know it, but they must be perfect as well. Sometimes there are blood spots in an absolutely fresh egg. It may be merely a small blood vessel that has been ruptured. It would not hurt the egg, but it might hurt the feelings of a fastidious customer,

The ideal combination for profit—poutry and an orchard. The White Leghorns under the blossoming apple trees at Fernwood Farm make a picture worth seeing

prefer to have handsome workers about him if he had the choice? It was no wonder that when they hunted up the breeding of the ten American Leghorns which gave the biggest record ever made at the Egg Laying Contest, they found them tracing straight back to this efficient stock.

But the finest hens on earth would hardly pay for such a farm if you just sent their eggs to some commission man at a distance, and accepted what he sent you without complaint. There must be a part of the middleman's share tacked on to the farm income if you ever expect to pay out. White knows that, and he has organized a system of direct sale to the highest class customers, like the leading hotels and clubs. Every egg is tested and guaranteed, and it is shipped direct. This means at least 5 cents a dozen increase on the net price, compared with bulk shipment to the best commission men. If you have 1,500 hens, and each lays twelve dozen of salable eggs in a year, you see what this means, and it is exactly characteristic of the efficiency on this farm.

For some years it is doubtful if either White or Rice banked a dollar of the earnings. As they took a dollar out of the soil they put a hundred cents right back again. A carload of tile went into that wet land. They planted plums, peaches, and apples, and they tried garden truck and vegetables, and the rich soil responded as the water was taken out of it. And how they all three worked! It looks easy when you subtract 0 from $7,000, but every cent of it meant a sore muscle and tired back for somebody. Let us get this straight about the income. The annual sales run between $6,000 and $7,000, but this is not

fertilizer needed to do this is acid phosphate to balance the hen manure. The soil is naturally rich in potash when you get the water out, but grain needs phosphoric acid.

At one time they grew garden truck and small fruit. With hen manure on that drained land these vegetables grew well, but the cold figures drove them off the farm. This truck was marketed in Peekskill, which meant a long haul and lost time. They figured that a man's time was worth more on the farm working with the hens or with other crops. With the automobile in use, this might have been different. White made use of his car last fall in delivering, carrying seven crates to a load. In one day he delivered $130 worth of produce, but they are working away from most crops except grain and apples, as partners for the hens.

They have made plenty of mistakes in hunting for these hen companions. Peaches pay fairly well on some of the hill tops, yet some of these hills are wet and springy. The Northern Spy apple might do well on such wet uplands, but this is no place for a peach. Plums grow well, but are not a profitable crop. The rule on this farm is to grow nothing which cannot prove its value after fair trial, and which will not interfere with the hen. Then, too, the labor question is considered. White plans to employ efficient humans, the same as efficient hens, and to arrange things so that each will do a full share of profitable labor. As you get beyond that system, your labor becomes too expensive, and it eats up profits.

Thus a good apple orchard on the higher and drier soil comes to be the best companion for the

and when you are working for high-class trade you should pour oil on their feelings rather than acid. Mrs. White's eye is about as keen for the apples as the electric bulb is for the eggs. Wormy apples do not get past her. They would roll off the table of their own accord if they saw her coming, though it is their highest ambition to get into a package and thus put a worm hole in an honest reputation.

You may ask if this income of $7,000 per year can be kept up. Yes, and it will increase as the orchards grow older. I do not feel so sure of the future of the egg business, though the Leghorns will hold their own, but each year brings increased size and power to the apple trees. There seems no good reason now why we should not say that White will live to see his 1,000 trees average three barrels each in a good bearing season. These farm plans, laid so solidly with thought and wise care, and carried on so efficiently with plain, honest character, are working out into great possibilities. He does not pretend to have any model farm. You will find him just a plain, everyday man, who has brought an old farm back by plain, everyday, honest methods, and now has a right to enjoy his prosperity in a plain, everyday manner.

"I suppose those were hard days when you started," I said to Mrs. White.

There was a little sigh beneath her smile as she answered: "They were hard, but we feel that it was worth while now, for we have something to show for it."

"*Something to show for it!*"—something besides the income. I guess that is about all there is to it anyway, when a farm comes back.

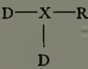
The BREEDER'S COMPASS — MENDEL'S LAW

By Williams Haynes

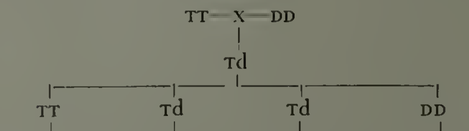
WORKING quietly in his cloister garden, Gregor Mendel, an Austrian monk who taught natural science and whose hobby was breeding peas, discovered principles that revolutionized the scientific conception of heredity, and that furnish practical breeders with a compass to guide their selection. For thirty-five years his paper describing his studies lay hidden in an obscure scientific journal. In 1900 Mendel's paper was rediscovered, and almost simultaneously three famous European botanists published the results of independent experiments that checked and confirmed Mendel's work. In the past fifteen years Mendel's law has been tested by many men working with many different kinds of plants and animals, and it has been demonstrated beyond all doubt. Practical breeders have been surprisingly slow, however, to grasp its significance, or to make practical application of its principles to the problems of breeding better animals.

The very core of Mendelism is its discovery of the fact that heredity works through unit characters or factors. In cross breeding, these factors do not commonly blend, but each acts independently, separating out in a strict mathematical ratio into the two distinct ancestral types.

Mendel made this important discovery by crossing different varieties of peas and observing narrowly just how the distinguishing characteristics of the different sorts behaved. He crossed, for example, a tall variety about six feet high with the dwarf variety only a few inches high. The result was a lot of plants just as tall as the tall parent. We think of hybrids as a combination of the characters of the parents, and one would naturally have expected these plants to be two or three feet high. He also found that varieties with colored flowers crossed with varieties with white flowers produced plants with colored flowers only; yellow seeded sorts crossed with green seeded sorts gave all yellow seeds; smooth and wrinkled seeded plants produced smooth seeds only. In every case, one of the two contrasting characters excluded the other, and Mendel called this character dominant and its opposite recessive. Thus tallness is dominant, dwarfness, recessive; colored flowers dominant to white flowers, etc. This can be expressed in a table, letting D represent the dominant character and R the recessive, as follows:



Remarkable as this dominance is, in successive generations Mendel discovered even more remarkable behavior of these characters. The tall-short, but tall looking, hybrids he allowed to fertilize themselves, which is the usual method of reproduction in peas, and from the resulting seed raised another generation 75 per cent. of which were as tall as the tall original grandparent, and 25 per cent. of which were as short as the original dwarf grandparent. Moreover, these dwarfs, bred from tall looking, tall-dwarf hybrids, were true dwarfs and continued in succeeding generations to produce only dwarf plants. The 75 per cent. talls, however, behaved very differently. Self-fertilized, some produced both tall and dwarf plants, while others produced only talls, and these talls were true talls, which continued to produce only talls. In other words, his plants, produced by crossing talls and dwarfs, when self fertilized, produced in turn, true talls, tall-short but tall looking hybrids, and true dwarfs, after the ratio 1 : 2 : 1. The tall-short hybrids, though tall looking, continued to produce true talls, hybrids, and true dwarfs in the same ratio in succeeding generations. If Td represents a tall-short, in which tallness is dominant and dwarfness recessive, we can express this graphically:



TT TT TT TT   TT TD TD DD   TT TD TD DD   DD DD DD DD

Plainly the units of heredity for tallness and dwarfness remain distinct, or the offspring of their cross would be a blend, and never could there be a splitting off back to the original tall and dwarf forms. It was in his explanation of this splitting off that Mendel proved his original genius. It was common knowledge in his time that the combination of the male germ cell and female germ cell is necessary to produce a new individual. His experiments proved that the individuality of the units of heredity in these germ cells was not destroyed, but remained distinct. To account for the splitting off in the ratio of 1 : 2 : 1, Mendel showed that the units of both male and female must each be double. The germ cell of both the male and the female hybrid contain the factors T and D. When crossed, the T of one cell can combine with the T of the other producing TT, a true tall, or it can unite with a D, giving a Td. The D factors act in the same way, coming with other D's to give DD or with T's to give Td. Each germ cell carries two determinants. These may be TT Td, or DD. On crossing these couples, each acts independently, and but one determinant of each parent will combine with one from the other. TT x DD can only give Td, which is just what happens in the first hybrid cross. But when the Td x Td cross occurs we can get either TT, DD, or Td, and the mathematical law of chance insures the result of Td x Td equals 1 TT, 2 Td, 1 DD. If you tossed two coins in the air you would get either two heads, a head and a tail, or two tails. In five tosses you might get five two heads, but in a thousand tosses you would get very close to 250 two heads, 500 head and tail, 250 two tails, the Mendelian ratio of 1 : 2: 1. Just so, in a few cases, the Mendelian ratio is not apparent, though the character of the plant or animal may be following strictly Mendelian inheritance.

A familiar example will make clear the practical application of these principles. Despite the most scrupulous selection of blue birds, Blue Andalusian chickens continually throw black and white mottled with black. Professor Punnett studied the problem and discovered that on the average half the offspring were blue, one quarter black, and one quarter white. This naturally suggested that the blues themselves were hybrids of the blacks and whites, and experiment confirmed this. The blacks and the whites not only breed true to color, but crossed, invariably produce blues. The Blue Andalusian is therefore a hybrid and will never breed true.

If two characters are crossed, the ratio and the principle of segregation, though more complicated, still hold. Black color is dominant to red in cattle, and the hornless condition is dominant to the horned; so, if a black horned variety is crossed with a red hornless the first generation will all be black and hornless. In the next generation, however, four combinations are possible, black horned and black hornless, red horned and red hornless. Three quarters of the generation will be the dominant black and one quarter the recessive red, while three quarters of the blacks will be the dominant hornless and three quarters of the reds will also show dominance in this character. In sixteen individuals then, of twelve blacks nine will be hornless (both dominants) and three horned (one dominant), while of the four red three will be hornless (one dominant) and one horned (both recessive).

A breeder desirous of getting a red horned animal by crossing black horned with red hornless would, if ignorant of Mendel's law, probably give up discouraged by the black hornless offspring he would invariably get in the first cross. In the next generation, however, he would get one red horned animal in every sixteen and these would invariably breed true, being a double recessive.

The four types of combs in chickens is a still more complicated, but remarkably valuable, case. The single comb is the comb inherited from the wild jungle fowl, the Adam of poultrydom. The rose, the pea, and the walnut combs are fancy variations that have been bred by selection. The rose is dominant to the single, and crossing the two gives all rose combs in the first generation and 75 per cent. rose and 25 per cent. single in the second. The pea is likewise dominant to the single, and the walnut is dominant to both pea and rose. If, however, walnut is crossed with single, while the first generation is all walnut, the second, instead of being three walnut and one single, as would be expected, gives nine walnut, three rose, three pea, and one single. Furthermore, rose and pea crossed give all walnuts in the first generation, and it was first thought that this type of comb was a hybrid rose-pea that would segregate in one rose, two walnut, and one pea in the second generation. This, however, is not the case, for the second generation is again nine walnut, three rose, three pea, and one single. This is the same ratio (3 to 1)² that is gotten from two characters, as the black and red colors and the horned and hornless condition in cattle. The explanation is that the two dominant factors R (rose) and P (pea), both absent in the single comb, can neither dominate the other, but combine to make the walnut comb, thus PR results in W. The ratio of 9:3:3:1 comes from the two factors P and R, acting independently, but when both present resulting in the walnut comb.

Biologists have agreed that a recessive is essentially the absence of a dominant. If the weakest recessive and the strongest dominant can be determined, definite rules can be laid down to accomplish definite results. For example, poultry breeders can now foretell the proportion of the various types of combs to result from any given mating, and they can easily make a new variety with any type comb they may desire. Mr. C. C. Little has been able to lay down rules for mating pointers to produce either black, liver, or lemon color, while Professor Phillips has rendered cocker spaniel breeders similar service. In stock breeding, color, horns or lack of horns, length of wool, etc., can be bred for with mathematical accuracy, as well as many other characteristics in animals, plants, and in man—in fact, many biologists claim that, if the different factors could only be isolated, all inheritance is Mendelian.

The single comb (left), the type inherited from the wild jungle fowl, and its pea and rose variations

THE NEW BUSINESS OF FARMING

CONDUCTED BY F. D. COBURN

[Mr. Coburn will be glad to answer any questions relating to farming. For convenience kindly address Readers' Service, Country Life in America, Garden City, N. Y.]

BIG CROPS VS. NORMAL CROPS

A MAXIM of the ancients, quoted by Pliny, says: "Nothing is so disadvantageous as to cultivate the land in the ghest style of perfection."

Modern theorists advocate intensive cultivation. They have raised 200 ushels where but 100 grew before, and felt that ey were teaching a lesson in agriculture.

I remember the elation with which I compared 200 yields with the shrewdest farmer in the ighborhood. I can see the twinkle in his eye as nodded his head in approval and said: "Pretty od yield, that." The next year his potato eld remained at the same old figure of 100 shels. He did not profit by the lesson, but I d, for I began to figure costs.

I raised 200 bushels and sold them for 75 cents a shel. My receipts were $150, the costs $148, y profit $2. My neighbor had 100 bushels, for ich he received $75. His expenses were $66, d his profit $9.

Neither of us had the best possible return. If had used better seed and a little more fertilizer obably his returns would have been higher, hile it is quite possible that I could have cut my tilizer bill and my spraying costs to advantage. t the point is not what might have happened, t what did. The way to make money on potatoes is to have the cost per bushel less than the ice at which they are sold. My neighbor's rming experience was a better business asset n my imported ideas of big yields.

The next year I increased my yield and incidently the costs. I had 300 bushels of potatoes, but established a market at a higher price than my ighbor could command. And I did it because the confidence which the good yield gave me. I came a salesman. I sold to the best stores at a gher price and held a quantity for sale as seed at price determined by the quantity produced per re in my field. My neighbor was the better rmer, but I was the better salesman. Each on out in his own specialty.

Ours is not a potato region, neither soil nor ysical characteristics being adapted to economical potato production, and so the cost figures ive no value save to illustrate a concrete instance of Yankee shrewdness *vs.* undigested book arning.

The beginner is sure to overestimate the importance of large returns per acre. He cannot nish from his mind the image of the big crop as badge of success.

Here are some of the figures taken from New York farms:

	POTATOES	OATS	HAY
Rent of land . . .	$ 4.42	$ 4.09	$ 3.78
Cost of man, horse, and equipment labor	42.19	11.15	4.49
Other costs . .	22.00	6.28	3.44
Total costs	$68.61	$21.52	$11.71

Use of the land is about one sixteenth the cost of growing potatoes, less than one-fifth the cost of the oat crop, and a third that of the hay crop. If the farmer is troubled about the cost of land for the potatoes he may overlook some other figures. A man cannot plant more than an acre a day by hand, but a man, a team, and a $50 machine can plant five acres in a day. A man cannot dig an acre of potatoes in less than six days, and he will be mighty tired at the end of the sixth day even at that. But a man, a four-horse team, and a $100 digger will put the potatoes from six acres on top of the ground inside of ten hours. Besides the direct saving in costs, which amounts to many times the land rent, is the item of insurance, for when a crop is matured the sooner it is cared for the fewer the chances for loss from the elements.

The problem of Germany has been to be self-sustaining on a given area, but the problem of the American farmer is different. Each knows his own business.

The following table of costs of increasing the wheat yield is taken from a report of Sir John Lawes, giving the results of fifty years of experiments. Wheat is figured at $1 a bushel, and nitrogen, 43 pounds, at $6.50:

PLOT	YIELD	GAIN	VALUE OF GAIN	COST OF GAIN IN NITROGEN		PROFIT
5	15	.	. . .	. . .		. . .
6	24	9	$9 00	$6 50		$2 50
7	33	9	$9 00	$6 50		$2 50
8	36¾	3¾	$3 75	$6 50	Loss	$2 75

The practical farmer will figure on the net cost before he concludes to add nitrogen to his land. It will cost him 50 cents a bushel to raise wheat, so instead of showing a profit, every bushel of increased yield in the above table shows an actual loss. The old fellows were right—it *is* "disadvantageous to cultivate land in the highest style of perfection."

It is only when a shortage of land and an increased supply of labor changes the proportion between labor costs and land rent that it is wise to begin to economize in land by putting more labor on each acre to increase its yield. The slow working of the factors controlling this principle is to be seen in the present crop yields in this country. Land is rising in value while the productive cost of labor, thanks to modern machinery, has fallen; therefore the trend in production is upward. Man is conservative and does not keep up with the procession, so we have the result that the best farmers are raising 25 per cent. more crops per acre than the average, which means that less efficient farmers are lagging behind the economical unit of yield.

In China land is high and labor low, so we have the extreme case of transplanting individual plants of wheat in order to obtain the highest possible yield per acre, a practice that is quite beyond the conception of the American mind.

No rule, save the general one that 125 per cent. of the average yield of this country is usually desirable, can be given for the volume of crops which land in the United States should produce. Each farmer must work out the profit and loss account for himself. His job is to make the largest possible difference between cost of production and selling price. If a special market raises the selling price, the cost of production may rise correspondingly and yet the producer not lose money despite his uneconomic management of his field costs. The law of compensation is pretty certain to care for most discrepancies, and the man who can sell to the best advantage may not have the ability to produce most economically.

A logical deduction would be that in an era of high prices the yield per acre increases. The higher the price at which wheat can be sold, the more fertilizer the farmer can afford, the more work he can give his fields, and the bigger the acre yield. The reverse is true in practice. The higher the price of wheat the less the average acre yield over a period of years.

Farmers know how to increase production, and the cheapest way is to plant more land, not to spend more money on land already in use. The farmer knows more about the subject than the economist, although he could not express himself in terms of diminishing returns or vanishing profits. His bank account is less liable to error than the theories of his advisers.

Modern theorists advocate intensive cultivation, but it is well to remember that raising the yield per acre does not always mean added profit

BETTER STOCK

CONDUCTED BY E. L. D. SEYMOUR

[Mr. Seymour will be glad to answer any questions relating to live stock; for convenience, kindly address the Readers' Service, COUNTRY LIFE IN AMERICA, *Garden City, N. Y.*—THE EDITORS.]

FLINTSTONE FARM
AND ITS
MILKING SHORTHORNS

FLINTSTONE FARM'S real story, and that of its cattle are not tales of past records and accomplishment, but rather of what they promise to become and achieve. As I see them, the farming ambitions of Flintstone's owner, Mr. Frederick G. Crane of Dalton, Mass., are three: first, to breed and raise Dairy Shorthorn cattle and Belgian horses of the highest quality and efficiency; second, by means of them to improve his farm and likewise the farms, farming methods, and agricultural conditions generally throughout Berkshire County; and third, to make his farm a paying proposition.

This is a worth-while programme, but hardly an easy one. Berkshire County is not primarily a farming section; its average farmer has his full share of proverbial New England conservatism; and it has been hard to find just the system of management and type of stock best adapted to the needs and possibilities of the farm. However, the present régime has been in effect for about a year now, and judging by the progress already made in organizing, developing, and administering the farm affairs, it appears that an era of substantial, consistent success has finally dawned upon Flintstone.

Some of the eight months old Holstein and Shorthorn heifers at Flintstone, one of the latter carrying, according to a local cattle buyer, "the biggest udder I ever saw on a calf"

A hasty bird's-eye view shows us the 3,000 odd acres spread across a rolling valley and the wooded hills that enclose it, about two miles east of Dalton village, noted as the source of the raw material for our national paper money and the home of Senator Murray Crane and others of that illustrious Bay State name. About 2,200 acres are rough and wooded, some, as Mr. Crane says, "only good for holding the world together." The remaining arable acres include a variety of soil types from boggy swamp clay to upland loams and gravels well sprinkled with choice New England boulders. Many of the latter have already gone to make roadways and fill material, and many of the erstwhile wet fields are gridironed below the surface with four- and six-inch tile, that carry off surplus water and make possible luxuriant pasturage and hay crops of two and a half or more tons per acre.

Cropping policies are determined to a considerable extent by the rigorous climate which only occasionally permits corn to mature and frequently even cuts down the desired proportion of grain in the ensilage. The stand-by crops are, therefore, timothy, clover, oats, rye, potatoes, mangels, a little wheat, apples, and as an occasional side line, maple syrup and sugar. Hitherto considerable hay has been sold, but present plans involve increases in the stock to the point where everything marketed shall be of animal nature or origin. This is not such a distant prospect, however, for no small amount of fodder is consumed by 150 head of cattle, thirty horses and colts, a score or more of Tamworth and Berkshire hogs, and Rhode Island Red chickens and Pekin ducks too numerous to count, if not to mention. Space limitations forbid discussion of each of these entirely worth-while features, but one comment that applies to all is that they bear the imprint of real Flintstone quality and promise. Witness the leading trio of the Belgian stud consisting of the strapping bay stallion Gaillard de Lens, imported in 1913, and the sorrel mares Coquette G. and Blesse' d' Oude which stood first and second respectively in the three-year-old class at the last International. Already these close-coupled, stocky, massive Belgians have shown their value and adaptability to the farm conditions, standing the seasonal extremes of temperature admirably, negotiating hills and level stretches, roads and fields with equal readiness, and exhibiting a power that makes even the ponderous manure spreader lose its terrors. Little wonder that Mr. Crane (though he deserves none the less credit for it) is offering the services of his stallion at an extremely low price that neighboring farmers may come to see the worth of the pure draft blood and eventually breed and equip their farms with constantly improving grade animals of a definite type. One of his cherished plans is to hold an annual colt show at which the progeny of Gaillard will meet in friendly family competition.

To explain the relation of the Flintstone herd to the farm as a whole requires a brief digression centering around the question, "What is the matter with New England agriculture?" Some folk deny that anything is, but among the real answers the most popular is probably "Too little live stock and too much selling of fertility off the farms."

To correct such a condition—which is, of course, the aim of Flintstone or any other farm that aspires to success—it is necessary to raise more animals and feed them everything or practically everything that is grown. But this involves the important and often difficult problem of what shall be sold, and how. Dairy products are staple and usually the easiest to dispose of. But a dairy herd means that there will be surplus bull calves, averaging about 50 per cent. of the offspring, and aging, unprofitable milkers, both of which must be profitably disposed of if the farm as a whole is to yield a cash balance. The vealing of such calves is unsatisfactory at best; the demand for even pure-bred young bulls of the dairy breeds is not always brisk and the beef value of old cows of these breeds is usually a negligible factor.

Susie Clay 114117, purchased from the W. T. Pratt herd for $880, is a representative Flintstone matron combining size, quality, breeding, and efficiency—to a far greater degree than this view suggests

It stands to reason, then that there is wanted a breed that will consume a relatively large amount of cheap roughage and correspondingly less of expensive concentrates; of which the females are good milkers, yielding a product of good quality, and fattening readily into prime beef creatures whenever necessary and of which the males, not wanted for breeding purposes, can be steered and economically fed to high quality beef form in twenty-four months or thereabouts. Now it so happens that Shorthorn breeders all over the country in general, and Mr. Crane and Manager W. S. Dunn at Flintstone in particular, are convinced that the Dairy Shorthorn is the living expression of a combination of these traits; and I am ready to admit that as far as my observations

Rich pastures, clear invigorating air, generous systematized feeding, and good care unite to make the dairy herd thrifty and profitable

Dalton are concerned, their convictions appear warranted.

For the Dairy or Milking Shorthorn, as I found it, is a big, capacious, vigorous, hardy, gentle creature attaining a weight of 2,100 pounds or more in the case of bulls, and as much as 1,600 or 1,800 for cows. The latter are steady, consistent milkers, good for yields ranging from 6,000 pounds (which is a fair average) to 18,075 pounds (the breed record) of milk that will test close around 4 per cent butter fat. Their demands are decidedly moderate, since Mr. Dunn is able to keep them in highly productive condition on hay, silage or beets, and not more than three and a half pounds of grain daily per pound of fat produced. Also they can be dried off and fattened for a top-o'-the-market trade whenever circumstances require, with no more effort than is needed to keep them busy at the milk pail. The true dual purpose nature of the breed shows in the prepotency of the desirable characteristics of both sexes, for while the milk records are gradually improving in common with those of the specialized dairy breeds, there are being transmitted simultaneously the attributes of size, form, and smoothness that produce premium steers. Careful investigations under average conditions in the Middle West have shown it possible to develop grade Dairy Shorthorn steers to a weight of 1,200 pounds and more at two years of age, at a cost of from 3 to 3.6 cents per pound live weight.

One of the registered Belgian mares and a very recent addition to her family, and to the ranks of equine royalty at Flintstone

Whether Flintstone Farm can attain similar results remains to be seen, but it has at least two pronounced advantages in its favor. The first is an excellent permanent market at Pittsfield, some six miles away, where, at the time of my visit, 10 cents was the ruling figure for any beef the farm could supply. Such a price leaves a good margin to take care of any chance increase in feeding costs enforced by Eastern conditions. The second advantage is a herd nucleus which, if blood and breeding count for anything at all, carries a leaven to raise the future Flintstone herd to eminent heights of conquest and success. This consists of twenty heifers bought early in 1915 from L. D. May's Glenside herd—known wherever the Shorthorn language is spoken—and the bull Waterloo Clay, whose purchase price was $2,500 and whose true worth may not be measured even by that figure.

Two indications of the quality of the foundation heifers were, first, the reluctance with which Mr. May parted with three that Mr. Dunn had especially stipulated as part of the purchase; and second, the fact that a fourth—Lula Glenrose, granddaughter of Rose of Glenside, the breed champion—sold at the Annual Public Sale of the Milking Shorthorn Club, last March, for $875. The three particular stars were Glenside Minnie, a half sister of Lula Glenrose and daughter of Mamie's Minnie who has averaged better than 15,000 pounds for the last three years; Glenside Lady Doris, whose sire is half brother to Rose of Glenside and whose dam is Doris Clay with a three-year-old record of 10,617 pounds and who has won first and champion trophies at most of the state fairs of recent years; and Glenside Bud, another daughter of Knight of Glenrose who is said to carry "the strongest milking inheritance of any Dairy Shorthorn bull," and tracing through her dam to Duke of Granville who has eleven daughters with records of more than 8,000 pounds, including Mamie's Minnie above mentioned. More recently there has been added to the herd Susie Clay, a cow of good conformation and obvious possibilities as testified by her last three records of more than 7,000 pounds with the most ordinary care and feeding. Her sire was General Clay, noted for having twenty-two daughters in the record of merit lists, or more than any other bull of the breed, and her dam was Susan, a 10,661-pound producer and the possessor of a symmetry and beauty that rendered her nationally famous.

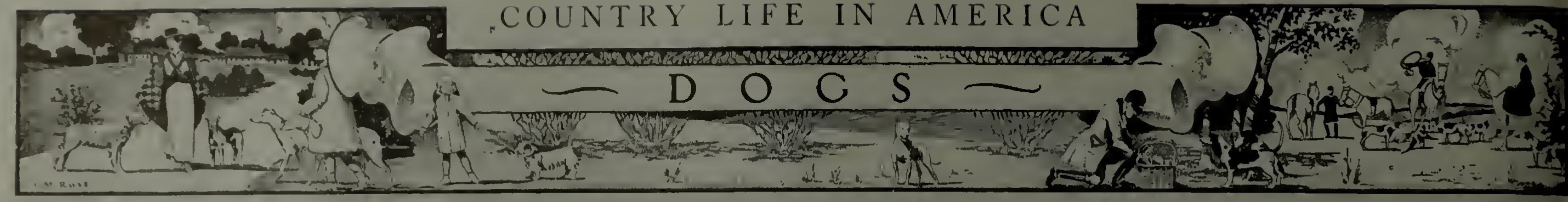
Waterloo Clay, bred by Mr. May, sired by Cyrus Clay and out of Imp. Conishead Waterloo whose record is 10,557 pounds, is now a long, straight-backed, upstanding six-year-old, weighing probably 2,100 pounds in breeding condition, strikingly handsome in his almost solid whiteness, and obviously a transmitter of valuable characteristics, as his thrifty, vigorous offspring at Flintstone are already proving. Finally, as an act of preparedness against the day when new blood will be wanted to mix with his, Mr. Crane recently paid $1,325 for the six-months-old Willowdale Robin, a bull rich in the best of English breeding with its well developed and splendidly balanced blend of style, conformation, and performance.

With such type and quality represented, the outlook for Flintstone as a breeding establishment is bright. Practical farmers, though often conservative, generally get the point of an argument if it is driven home by visible results, and there are many reasons for expecting to see Dairy Shorthorn bulls at the head of many dairy herds throughout New England. The breed is not unfamiliar there—a number of prominent and successful breeders are already its enthusiastic sponsors; and the rapid growth in size and activity of the Milking Shorthorn Club testifies to a new countrywide awakening to the breed's possibilities.

But the problem of making the animals profitable as producers and farm builders is also receiving careful attention at Flintstone. The milking herd of some seventy head includes some excellent grade Guernseys and Holsteins and perhaps a dozen pure bred black-and-whites. A worthy grandson of King Segis heads the Holstein group and provides one good starting point for some experiments with the Shorthorn-Holstein cross, in which Manager Dunn is actively interested. About 350 quarts of whole milk are retailed daily in Dalton in addition to some that is sold on the farm or separated, the cream going to special customers and the skim milk to the stock. This department however, as well as the pure bred and strictly feeding features, will grow rapidly as the herd approaches its contemplated proportions, and the more live stock the greater the opportunity to provide steady work and year-round employment, and thus help to solve the ubiquitous labor problem. However, much has already been done in this direction, and it is largely the bond of interest between Mr. Crane and his employees, combined with his sincere, energetic enthusiasm, and reinforced by the excellence of its animals that will, I believe, bring well deserved success and renown to Flintstone Farm.

E. L. D. S.

Waterloo Clay 340022 has plenty to be proud of in his famous and accomplished ancestry, but instead of resting on these laurels he is making a new reputation for himself and for the Flintstone herd



— DOGS —

CONDUCTED BY WALTER A. DYER

[*Mr. Dyer will be glad to answer any questions relating to dogs; for convenience, kindly address Readers' Service,* COUNTRY LIFE IN AMERICA, *Garden City, N. Y.*— THE EDITORS.]

THE MALTESE DOG

By AGNES ROSSMAN

THERE is probably no toy dog so seldom seen, or so little known as the Maltese. It is rather a pity, for they are very beautiful, intelligent, devoted pets. Essentially a woman's dog, yet the ancient writers and philosophers held them in high esteem, and the fashionable men and women of Greece and Rome, centuries ago, considered these "pleasant playfellows" to "represent the supreme pleasure of life, and the greatest of all delights." The Greeks erected tombs to their Maltese dogs, and on antique vases and tapestries you will find these dogs pictured. A very fine model of a Maltese dog was dug up at Fayyum in Egypt, and it is not unlikely that it was the little Maltese dogs which the Egyptians worshipped, which so incensed the Israelites that when they escaped the tyranny of the Egyptians they used the epithet "dog" to express their contempt.

The fact that these dogs have for centuries been household pets probably accounts for their great intelligence, fidelity, and cleanliness. The ancients bred them so small that they could be carried in the bosom of the dress, and frequently, in order to keep the dogs small, they resorted to strange means, such as shutting them up in boxes and canisters, or "enclosing their bodies in the earth when they are whelped, so they cannot grow great by reason of the place."

Mr. Leonard S. Miller's Maltese, Ch. Valetta of Malta

Although "these dogges are little, pretty, proper, and fyne," they have the courage of a Great Dane when it comes to defending their master or mistress. They have a most acute sense of hearing, and wonderful intuition, qualities rare in so small a dog.

Five hundred years ago, these dogs were called the "spaniel gentle," and the "comforter," two most appropriate names. We, with our modern appliances, do not need the heat from a little dog's body to relieve our aches and pains, but I do not doubt that they were very useful to the people of olden days, and the "comforter" was not a misnomer; neither was "spaniel gentle," for these little animals are very gentle, never snappish, and rarely if ever bark without cause.

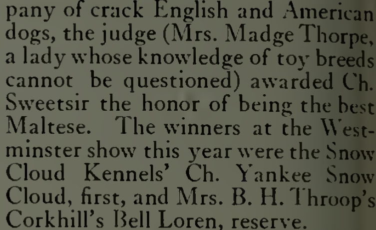
Mrs. Rossman's Ch. Sweetsir completed his championship when thirteen months old, making him the youngest champion of his breed

They are spaniels and not terriers; they have nothing of the terrier about them, and it is absurd to call them so; one may as well call a Pekingese a terrier. Let us hope that the day is not far distant when the Maltese—the spaniel gentle—will be restored to the spaniel family, where he rightly belongs.

Linnæus, in 1792, speaking of the "Dog of Melita" says, "It is about the size of a squirrel." To-day, the Maltese dogs seen at the shows are very much larger than a squirrel; in fact, there are some which weigh fully fifteen pounds, although the Standard limits them to ten pounds. It has been said that we get our small dogs through crossing the Maltese and the small French poodle. This is absurd. It is far more reasonable to suppose that careful breeding—breeding to the pure "blood line"—is developing the tiny dog which the ancients delighted in.

The English Maltese (with the exception of Lady Gifford's Ch. Hugh, shown in 1876) are very much larger, longer in body, and have longer muzzles and much longer coats, than the American dogs. It is believed that the English climate has a great deal to do with the splendid coats. Be that as it may, we have in this country a few dogs weighing under six pounds whose coats sweep the ground.

One of the finest specimens of the Maltese breed in America is Ch. Sweetsir, a dog who completed his championship when thirteen months of age, making him the youngest champion of his breed. Last year he finished his second championship at the Westminster show. This little dog has been a winner under the best judges, and at the last show of the Toy Spaniel Club, New York, Ch. Sweetsir had the second largest entry to compete with that has ever been in America; and in the company of crack English and American dogs, the judge (Mrs. Madge Thorpe, a lady whose knowledge of toy breeds cannot be questioned) awarded Ch. Sweetsir the honor of being the best Maltese. The winners at the Westminster show this year were the Snow Cloud Kennels' Ch. Yankee Snow Cloud, first, and Mrs. B. H. Throop's Corkhill's Bell Loren, reserve.



Mrs. W. W. MacLeod and Ch. Sweetheart, sire of Ch. Sweetsir. Best of the breed in New York, 1913

The Maltese dog is white. Any yellow or "lemon" would be a great drawback, almost as bad as a brown, Dudley, or butterfly nose, or brown or yellow eyes. The coat must be heavy, absolutely straight, and long—the longer the better—and of the quality of spun silk.

The eyes, muzzle, and toe pads should be black. If there is a black rim around the eyes, the expression is more beautiful.

The tail carriage must be graceful; tail rather short, curled over the back, with the end or tip resting on the hindquarters, the long hairs making quite a pompon (not at all like the Pomeranian tail carriage).

Legs short, straight, fine bone, well feathered throughout. Feet small and covered with hair. Body low to the ground, back short, and straight from top of the shoulder to tail.

Leighton, in "The New Book of the Dog," substantiates Mrs. Rossman's assertion that the small, white, silky *Canis Melitæus* is the most ancient of all the lap dogs of the Western world. It was undoubtedly of European origin and the breed, as we know it to-day, has altered very little in type and size since it was alluded to by Aristotle more than three centuries before the Christian era. The "offspring of the stock of Malta" were probably imported into England during the reign of Henry VIII.

The snowy whiteness, length, and soft, silky texture of the coat of the Maltese terrier never fail to attract admiration. This and the little fellow's bearing make him one of the most beautiful of small dogs. Nevertheless, the breed has never been as popular in either America or England as several of the other toys.

Melita Snow Dream at eight months—best toy puppy at the Panama-Pacific show in November. Owned by Mrs. Edward Judd

In this country the breed is most frequently seen in and around New York and Philadelphia, but there are some good ones on the Pacific Coast. Mrs. Edward Judd of Seattle has a kennel of imported championship stock which swept the boards at the Exposition dog show in San Francisco last year.

Compared with other toys, the show entries of Maltese terriers have been rather small—eight at Southampton in 1915, six at the Westminster show in February, and seven at Mineola. W. A. D.

SPITZ OR SAMOYEDE?

A SUBSCRIBER sends me photographs of a so-called "white Eskimo" dog purchased from kennels in the Middle West and asks for the true name of the breed. "He is pure white," writes my correspondent, "and one of the handsomest dogs I have ever seen. The question is, what is he? He was advertised as an Eskimo and is called also

The Blue Blood Kennels' German spitz, Prinz von Hohenzollern (left) and the Greenacre Kennels' Samoyede, Ch. Jamara. Their resemblance is noticeable, but equally so are their differences

a Samoyede and a spitz. No two of my acquaintances can agree. My own idea is that he is a mongrel spitz."

Since I had received other inquiries regarding these "white Eskimos," I took occasion to visit this dog, and reached the conclusion that he was probably a Samoyede, though the muzzle was slightly finer, the coat a little longer, and the tail a little more tightly curled, perhaps, than is usually found in the Samoyede. This may argue spitz blood. He showed the chow-like coat and bearing characteristic of the Samoyede, and the legs were not so heavily feathered as is common in the spitz. In any case, Eskimo is a misnomer, for the Eskimo proper is not a white dog.

As a matter of fact, it is not altogether easy to distinguish a Samoyede from a spitz. Moreover, the term spitz has been rather loosely applied. In a way it is a generic rather than a particular name. In Germany and England the name wolfspitz is given to the largest of the family, a Northern European dog not unlike the Eskimo, which derives its name from its wolfish coloring. It was probably the originator of the spitz or Pomeranian family.

The Pomeranian, indeed, is the true spitz, the breed being known in different localities in Europe by different names. The Germans do not use the term Pomeranian at all, but call the dog the German spitz. The black or white toy Pom they call the zwergspitz. In this country we have most commonly applied the name spitz to the larger sized dog, and Pomeranian to the smaller.

The Samoyede is the Lapland dog of this type. It is also called the laika. Those we have seen in this country have been snowy white, but in Europe they are also black, black and white, or occasionally brown or fawn. Leighton says: "With its pointed muzzle and sharply erect ears, its strong, bushy tail and short body, the dog is obviously of the spitz type, but the wolf nature is always more or less apparent, and one cannot doubt that the white Arctic wolf has contributed to its origin."

An opportunity was given at the last New York show to compare a white spitz, Prinz Von Hohenzollern, with a good white Samoyede, Ch. Jamara. The resemblance was noticeable, but the differences could be readily distinguished. The Samoyede was a little larger than the spitz and his head broader. His hair, or fur, was short and fluffy, like that of a chow, while that of the spitz was long and silky and his legs were feathered. As the accompanying photographs show, the Samoyede has many of the characteristics of the Eskimo dog, while the spitz is nothing more nor less than a large sized white Pomeranian.

W. A. D.

A "white Eskimo" puppy owned by Dr. Wilbur Ward

ON CHICKEN KILLING

FULL many a dog owner's life has been made miserable by the apparently insatiable and bloodthirsty desire of his pet to chase and kill chickens. This is especially true of puppies that have been reared in kennels where their education has been limited.

Any young dog in which the hunting instinct has been developed, is prone to fall from grace in this respect—hounds, bird dogs, terriers, Great Danes. It is not viciousness; it is deep-seated instinct. Whatever runs invites pursuit, and the young, partly educated dog naturally looks upon poultry, cats, and even sheep as some sort of game.

It is by no means a simple problem to teach the dog what should be killed and what should not. One dog owner buys a cheap, barnyard fowl for laboratory training and ties it near the kennel. Whenever the young dog displays too great an interest in it he proceeds to explain, rubbing the squawking fowl about the dog's head and graduating his severity to suit the offense.

My own dog, an Irish terrier, quick as a flash and always on the *qui vive* for whatever might be stirring, gave us no end of trouble. I do not remember how many chickens he killed, but I do remember that we paid fancy prices for one or two of them. He would suddenly dash off the road, even after dusk, and presently reappear with a big hen or rooster held proudly in his jaws. We were obliged to restrict our Sunday walks to a few roads where there were no chickens to be killed. Each time we whipped him, but the taste of poultry seemed to offer a stronger motive than the fear of chastisement. Then we followed someone's advice and tied a slaughtered chicken about his throat. He didn't like this, but the sight, as he trotted through town, filled us with far greater mortification than it did him. Before long he killed another chicken.

Perhaps the treatment did help, and perhaps he outgrew his wildest impulses, for he has of late become more discreet even in his pursuit of cats. But I am inclined to think that two other things were chiefly responsible for his reformation. In the first place we boarded him, during two or three absences from town, at a place where poultry was kept. We suspect that he sampled the variety there, but he got so that he paid little or no attention to them, and only dashed after the chance-met victim. Then we muzzled him and let him chase what he would, always whipping him when he chased the wrong thing. (Don't think us cruel; our whippings were often too greatly tempered, his coat is thick, his hide tough, his spirit unbreakable, and there is no spark of resentment in his makeup.) Apparently this treatment was effective, and he came to understand, that he was to be forever denied the fruits of his backsliding, but never its retribution. Gradually he got so that he would return from tentative pursuit at a sharp command, and then we took off the muzzle. Since then he has killed, to our knowledge, only one chicken, and that was an errant youngster who strayed into his yard where no stranger is admitted unchallenged. He still displays a dangerous interest, sometimes, in a running fowl, but a word seems sufficient to divert his attention.

I believe him to be thoroughly cured of an obstinate habit, and if you had known our Sandy two or three years ago, you would agree with me that no case of chicken killing is hopeless.

W. A. D.

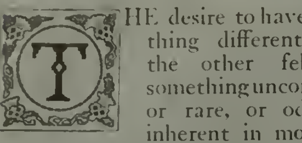
Miss M. Keen's Samoyede, a daughter of Ch. Jamara, and a winner at the Long Beach show. Note the tail carriage

POULTRY

CONDUCTED BY F. H. VALENTINE

[*Mr. Valentine will be glad to answer any questions relating to poultry; for convenience kindly address Readers' Service,* COUNTRY LIFE IN AMERICA, *Garden City, N. Y.*—THE EDITORS.]

SOME OF THE RARER FOWLS



THE desire to have something different from the other fellow — something uncommon, or rare, or odd — is inherent in most humans. Some carry this so far as to try to produce new creations in plants or animals. In no other department of animal breeding has so much been done along this line as with birds, particularly poultry and pigeons. Within the memory of men not so very old, a large proportion of the breeds and varieties now in our Standard has been created, or "discovered" in some other part of the world, imported and developed into the beautiful specimens of to-day. Not only has there been great improvement in appearance, but in utilitarian qualities the present-day breeds are far in advance of those of former times. So this ambition has worked well, and is to be commended.

Mr. C. C. Rose's imported Blue Wyandotte hen Bonnie Blue, first prize winner at Madison Square in 1915-16

THE BLUE WYANDOTTES

The Blue Wyandottes are one of the latest additions to an already well-known American family. Our Standard has now eight varieties of Wyandottes, one of the most popular of our American breeds. A curious thing about the Blues is that they originated in England by cross-breeding other colored varieties of Wyandottes. An interesting question is, "Are they American or English, or just plain neutral?" They have been admitted to the English Standard, are largely exhibited at the English shows, and are said to be very popular in England. A large Blue Wyandotte Club is pushing the variety, and they are reported to be increasing in popularity. Being a new variety they do not yet breed true, but this drawback will be largely overcome in time.

"The birds should have deep red ear-lobes, bay eyes, and yellow legs. The head, neck hackle, back hackle, and back of the males should be a rich, dark blue in color, the rest of the color to be a rich, clear blue. The female should be a rich blue throughout." This is from the English Standard.

The Blues are said to be great layers, and of superior quality as table fowls, hence profitable from the utility standpoint. The English Standard gives the weight of adult cock as about 10 pounds; matured cockerel, about 8 pounds; adult hen, about 8 pounds; matured pullet, about 6½ pounds. This is from 1 to 1½ pounds heavier than our American Standard Wyandottes. (Notice the "about" in their Standard!)

The Blues are handsome birds, and should well maintain the prestige of the Wyandotte family.

WHITE PLUMES

Another odd looking fowl, about the size of the Wyandotte, is what is known as the White Plume. The peculiarity is in the plumage, and the description says that the feathers all over the body are webless, while those of the hackle, back, and saddle, as well as the tail, are practically little plumes. Of course, all the feathers have quills the same as other feathers.

The shape is described as being between the Plymouth Rock and the Wyandotte, with the weight about the same as the Wyandotte. The single combs are small, wattles and ear-lobes red. The skin is yellow, and legs are smooth and yellow, like the other breeds named. The flesh is said to be very delicate, making them excellent for table use at any age.

Nothing very definite is given as to their origin. They have been found in different parts of the country at different times, and the first record of them is said to be about fifty years ago. The probability is advanced that they are the result of a distant cross of the Japanese Silkies with some of the larger breeds of domestic fowls. But they are said to breed very true to type. In a flock of 350, it is said that not one has reverted to its ancestors or diverged from the webless feather; not a bird that is not pure white, and has the plume-like feathers and the dwarfed wings.

The hens are said to be excellent layers, the eggs highly fertile, and the chicks very hardy, comparing favorably with the Wyandottes and Plymouth Rocks. Their fluffy, warm plumage seems specially adapted for cold weather, which makes them good winter layers. They have sometimes been called by other names such as Fluffs, Silkies, Ostriches, Angoras, etc., but the name Plumes seems very appropriate. Their wings are dwarfed and plume-like, useless for flying, so they are very easily confined, a two- or three-foot fence being sufficient.

There is a variety of Red Plume, and I believe a Black Plume, also, but these are newer.

BLUE CROWNS

Another uncommon breed, in fact so uncommon as to be in the hands of a single breeder, the originator, is the Blue Crown. The style of "crown" that gives the breed its name is well shown in the illustrations. The originator says that it was a sport from the Single Comb Blue Andalusian. New blood has been infused by crossing with the Single Comb Black Minorca, so that the stock is half Minorca and half Andalusian. The birds breed as large a per cent. true as any of the new breeds and many of the old ones, especially in comb, which is the chief distinguishing characteristic. They retain the color and markings of the Blue Andalusian, with an occasional black, and sometimes a mottled bird; but the black ones will breed blue ones again, especially if mated with a light colored blue. They are hardy, great layers, non-sitters, and are as good table fowls as the Asiatics. The originator considers them the most ornamental fowl we have to-day, not excepting the Oriental varieties.

A trio of Mr. F. F. Lendewig's Blue Crowns. The comb, from which they take their name, is something like that of the Buttercup

Panama, first prize Blue Wyandotte cock at the Panama-Pacific show, also imported and owned by Mr. Rose

WHITE FACED BLACK SPANISH

Though rarely seen nowadays, this breed is both ancient and honorable. It was highly esteemed in England a century ago, not only as a producer of white eggs of the largest size, but as a table bird with flesh of the highest delicacy and excellence. It was at one time very popular in this country, also. It is a striking looking bird on account of its prominent white face and large red comb in contrast with its brilliant black plumage. Aside from the white face, it is not unlike the Black Minorca in general appearance, though Standard weights are a pound less. It is asserted by their fanciers that the Black Spanish are again coming into popularity, and this on account of their utility qualities. They are said to be very hardy and active, to like free range, yet stand confinement well. The chicks mature rapidly. The hens are non-sitters, and lay very large white eggs and many of them. A Minnesota breeder says that they rank among the best as winter layers. In central Minnesota this past winter, where the mercury went to 40 degrees below zero, a pen of twelve two-year-old hens laid an average of eight eggs per day during January and February. But they had good shelter and good care. The greatest difficulty where the winters are severe is to prevent the freezing of the combs and large wattles. Yet, he says, this is easily prevented by providing good shelter from wind and dampness, using a drop curtain before the roosts at night, and providing water fountains that permit only the beak to come in contact with the water. The latter overcomes the difficulty of frozen wattles.

White Plume hen bred by Mr. W. H. Monroe. The plumage is soft, silky, and webless

A California fancier of Black Spanish, who has been the chief exhibitor at the Madison Square Show for several years, says that he has been keeping them for thirty-one years, and finds considerable interest manifested in the breed.

Formerly there was a white variety of the Spanish, but, evidently, it never became popular.

As most of the information about these new or rare breeds comes from those specially interested in their creation or introduction, possibly it is best to allow something for their very natural enthusiasm about their favorites. But after this is done, it may be well worth the while of the lovers of beautiful birds to study these new creations. All our leading and most useful breeds were once new, and among these more recent ones, some may prove well worthy of a permanent place in our poultry yards. F. H. V.

THE CARE OF YOUNG PIGEONS

WHEN the parent birds have weaned the squabs and they are thrown upon their own resources, these youngsters enter upon the most difficult period of their lives, and their future is largely in the hands of their keeper. If young birds are allowed to grow up in the breeding pens, they never attain their best possibilities, for they mature long before they have reached their full growth and this loss can never be regained in future years.

Every pigeon plant, no matter how small, should have a nursery pen in proportion to the breeding pens. One nursery pen 10 x 12 with a generous outside flying pen will take care of all the youngsters raised from fifty pairs of breeders, figuring on all culls being disposed of, as they should be, at the age of four weeks, and all youngsters at eight to ten months old being removed for mating. It is better, of course, to have two such nursery pens, in order that all young cocks may be placed in a pen for cocks alone, as soon as they begin to show their sex. Hens may remain in the nursery any length of time. Young birds that are thus separated during the growing period are much more vigorous, attain a larger size, and are much better breeders right from the start. It is also an advantage if they need not be mated so early, for they really should be a year old before mating.

The nursery pens should not contain nests or nest boxes of any kind, but only perches fastened to all the side walls, where many birds must be accommodated, perches may also easily be suspended from the ceiling. Roosting poles or long perches of any kind are not suitable, for one or two birds will take possession of the whole length and never permit other birds to perch there.

Besides the feeding box, a wide, generous grit box should be provided so that new, timid youngsters may not be prevented by the older birds from getting grit and charcoal. See that the feed and grit boxes are twelve inches high, so that older birds perched on top cannot peck the youngsters as they feed.

The covered feeding box is best for the nursery. Open tray feeding is wasteful and courts disease. Hopper feeding is also inadvisable, as youngsters need to be fed sparingly. A little at a time but often, is the best rule. In the squab stage they learned to be very greedy and as soon as they find that they can have all they want, they are very apt to gorge themselves, which is dangerous, especially after the period of partial starvation that follows the cessation of the parents' feeding.

Too rich feed should be avoided. Peas and hemp are not for youngsters and should never be fed in the nursery. Good, sound wheat and sweet, dry cracked corn, half and half, with a quarter portion of good kafir corn and a small handful of millet mixed in, is the best formula for youngsters. Grit and charcoal mixture the same as for old birds should always be within easy reach, and the supply never allowed to run out, even for a day.

A little fresh lettuce should be given the birds once or twice a week during the summer. At least twice a week allow them a bath in the sun but be sure to empty the bathing water out directly they are through the bath. The water sours very quickly and is unfit for them to drink after it has been standing awhile.

All pigeons must go through a complete molt before they mature. Many fanciers pluck out the tail feathers of all their youngsters when first turning them into the nursery, but I do not approve of this as it has a tendency to hasten the molt, and it is better for the birds not to undergo the strain of the molt until they have fully outgrown their delicate baby stage and gained sufficient strength to molt properly. Later on, if an older youngster seems to have trouble in molting, the tail may be pulled out, but this is seldom necessary. Plucking out the tail feathers is apt to cause a wry, or twisted tail, which is very ugly. Some fanciers think that a sick youngster may be cured of his troubles by having his tail yanked out, but this is of no use if his digestive system is deranged, as the chances are that it is.

The first aid for a droopy youngster is grit and charcoal. This is easiest administered with a teaspoon, holding the head of the squab up and the beak wide open. If he has not been feeding himself, a little dry grain may be given the same way followed by a drink of water. Sometimes a youngster is dying for a drink. Take him to the nursery water pan and press his head down a little into the water. He will take a long, long drink and will have no trouble finding the water after that.

One of Mr. Monroe's White Plume cocks. The wings are dwarfed and useless for flying

If the trouble is of a minor nature and just started, it ends here. Lots of youngsters need the forced dose of grit to get them started to using grit. If the bird remains droopy the next day he should be removed to the hospital cage and receive a dose of phosphate of soda and no food for several hours. The phosphate of soda may be given in a capsule or the same amount on the tip of a teaspoon. This dose of salts, sometimes repeated the second day or given every other day for a week, is the remedy for youngsters that sit around with ruffled up feathers and shiver occasionally. If neglected, the constipation and indigestion with which the youngster is suffering produce inflammation of the bowels, which is one of the first indications that the bird is "going light" — almost always a fatal disease with young.

We always treat a shivering youngster as a subject for going light and dose him accordingly: phosphate of soda in the morning and a capsule of cod liver oil at night. A neglected case, however, is almost impossible to cure, for so young a bird is not physically fitted for the struggle against this wasting disease. It is better to prevent these disorders of the digestive system by watching the birds carefully the first two weeks after they have been put in the nursery, and using great care with the feed. When the whole flock of youngsters seem to have loose bowels, it is best to run their feed through a hot oven and brown it slightly.

Keep the nursery pen clean and free from draughts and dampness. The flying pen should be a generous, sunny one, and well sanded. Do not try to house up the youngsters too much; they enjoy taking a rain bath or getting out into the snow if it is not too deep. Artificial heat is never needed, and they are better off without it even in zero weather. A sick youngster will feel chilly even in the hottest weather, but healthy birds do not seem to notice the cold. We leave all doors and windows open in the day time, even in the coldest weather when the temperature goes below zero, closing only such openings as would allow snow or rain to drive into the house.

Our working theory is plenty of fresh air and a simple diet for youngsters, and they practically raise themselves, once they get properly started.

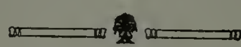
P. B. RUGGLES.

The prominent white face and large red comb in contrast with its brilliant black plumage make the White Faced Black Spanish most striking looking. Pair bred and owned by Mr. A. A. Ogren

HERE AND THERE

Have You Had Hay Fever? If so, you should be interested in the propaganda of the American Hay Fever Prevention Association, which, inaugurated in New Orleans, is rapidly extending throughout all the fever touched sections of the country and enlisting the most gratifying support and coöperation. The task of this organization is three-fold, involving first, education as to the nature of the malady and its real and sole cause—pollen inhalation; second, the creation of a universal sentiment in favor of the destruction of the plants whose pollen causes the trouble; third, the promotion of legislation aiming at this same result. It is now known that the plants mainly responsible for the disease are those that produce abundant pollen which is distributed primarily by the wind rather than by insects. The flowers in such plants are generally small and inconspicuously colored, thus providing a rough means of identifying suspicious species. The worst offenders are the ragweeds, plantain, cocklebur, dock, canary and Johnson grass, etc.—few, if any, of which will ever be missed if they can be generally exterminated. A relatively mild spring form of the fever may be caused by grain and grass pollen, but a reasonable amount of discretion and precaution on the part of sufferers, amounting to a temporary avoidance of fields and localities in which such crops are abundant, can effect disproportionately agreeable results.

"He Who Plants A Tree—" —or rather, a forest of trees, on the steep, rocky, or otherwise waste areas of his farm, is doing a good thing for the land, for himself, for his neighbor, and for his children and children's children. While he can well afford to invest something in the work, he naturally wants to keep the expense as low as possible. Hence he will be interested to know that in the opinion of the New York State College of Forestry, nursery grown, transplanted seedlings are much more satisfactory than young trees gathered in the pasture or woodlot, and therefore that much more economical. The reason is that the once or oftener repeated transplanting process, and the regular cultivation between the rows of trees, combine to produce a much thicker and more compact root system, which not only is more convenient to transplant, but also withstands the shock of the change better than the long, irregular, certain-to-be-injured system of the forest-grown specimen.



The Confiding Motorist Either the army of automobile enthusiasts has its full quota of —pardon the term—suckers, or the price of gasolene is not advancing rapidly enough to satisfy certain ambitious and adventurous spirits. This assumption arises upon reading in a recent Bulletin of the Food Department of the North Dakota Agricultural Experiment Station, of a preparation called "Gaso-Tonic," which is—or was—offered for sale at the comfortable price of $8 a gallon for the purpose of enlivening and improving the quality of inferior gasolene. The dose recommended is two tablespoonfuls of the "tonic" to five gallons of debilitated essence. Owing to the universal desire for such results as it is claimed to produce, it would be difficult to conceive of a limit to the sale of this commodity, but for one fact, viz., chemical analysis shows that Gaso-Tonic is nothing more nor less than inferior or "power" gasolene, worth at the most 20 cents a gallon!

A Boon To Romance If the author of "Darius Green" had lived but two days longer, he would have heard the news that the Postoffice Department is advertising for bids on mail service over eight proposed flying machine routes. Service is to start in October along seven air lines in Alaska and one in southern Massachusetts. Even to read the names of the Alaskan routes is something in the way of a poem: Valdez to Fairbanks, Fairbanks to Tanana, Tanana to Kaltag, Kaltag to Nome, Nome to Iditarod, Iditarod to Seward, Seward to Anchorage. Who can sigh for the bygone picturesqueness of the overland mail-coach when the Valdez to Anchorage Aeroplane Post sets out with a roar of propellers to wing its way across 1,900 miles of Alaska on a minimum schedule of ten days and ten hours? Or who can lament the decay of romance and the passing of the whale ships, when the New Bedford to Nantucket fliers begin to swoop back and forth across Nantucket Sound and Buzzards Bay?

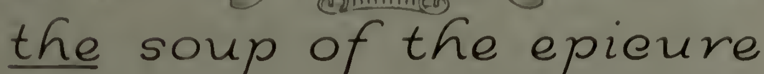
On the older houses of Nantucket Island the "captain's walk," a tiny porch perched on the rooftree, is still in evidence, and these may again come into active service as vantage points from which to watch for the aerial postman

On the older houses of Nantucket Island the "captain's walk," a tiny porch perched on the roof trees for observation purposes, survives as a reminder of the days when sailors' wives spent many an anxious hour sweeping the horizon line with spy-glasses to sight an incoming sail. Next autumn these lofty little porches will once more come into active service when Nantucket's natives acquire the habit of popping up out of the trap doors in the roofs every morning to take a squint at the mail man. The postmaster general is to be congratulated on his poetic instinct. Nowhere in America is there another town so admirably adapted, from the architectural point of view, to appreciate to the fullest a modern type of mail service.

Salvation For the Shellfish In introducing a bill calling for an appropriation to enable the Bureau of Fisheries to investigate the reasons for recent depleted yields in the shellfish industry, Congressman Frederick C. Hicks of Long Island brought to light some statistics and comparisons unknown, no doubt, to the majority of both producers and consumers of the various forms of bivalve delicacy. He showed, for instance, that while the value of the fisheries of the United States (excluding Alaska) is $54,000,000, that of the oyster industry alone is $15,000,000; that the latter business represents a production of some 33,000,000 bushels of the mollusk, the employment of nearly 67,500 persons, and the payment in wages of nearly $11,000,000 annually; that 90 per cent. of the world's supply of oysters is grown in the United States, and the bulk of this along the shores of a dozen states; that 46 per cent. of the quantity and 65 per cent. of the value of our annual oyster crop is obtained from planted beds, by the practice of systematic oyster culture; and that in the thirty years between 1880 and 1910, the value of the oyster industry increased in Massachusetts, Rhode Island, and Connecticut from $41,800 to $335,000, $225,000 to $1,369,000, and $386,000 to $1,893,000 respectively.

He emphasizes the fact, however, that the present trend of the industry is distinctly and sharply downward; that losses of acres and acres of formerly productive beds occasioned by unknown causes are wreaking havoc in the business. And he contends that the expenditure of $500,000 a year in the development of other lines of fish culture, while the shellfish industry, which represents one third of the total, receives less than the amount spent in protecting and propagating the black bass and a few other game fish, does not recognize and give due attention to a deserving field for investigation. His logic seems sound; his data are from authentic sources; his conclusions should appeal to the many who relish the hard-shelled denizens of the ocean shelf.

Power And the Potato The modern potato digger is an exceedingly efficient, economical, and practical machine, but, being a work of man and therefore not perfect, it has exhibited certain disadvantages. It is, for instance, cumbersome and of extremely heavy draft; and it is not, apparently, adapted for use with existing forms of farm tractor. Hence it has always represented a severe tax upon the horse equipment of the farm on which it is employed. At last, however, mechanical ingenuity has brought about a new era. By designing and attaching to the machine a small gasolene engine such as has been used on various harvesting implements for some time, a far sighted contributor to agricultural progress has arranged for the actual digging, elevating, shaking, and sorting to be done by this supplementary power, the task of the team being merely to draw the machine. Thus a reduction in traction needed of from four to two horses is made possible, with a corresponding saving in investment, upkeep, labor cost, depreciation, and the other items that altogether constitute the very appreciable expense of this essential operation.



A case of "French cookery wherever you are"

Those who like Franco-American Soups—and they are legion—find it convenient to order it by the case for their summer homes. It is easier to jot an order to your grocer than to fuss about making the soup at home. Moreover, it would require an elaborate kitchen indeed and *our own chefs* to produce for you such delightfully French soups as these.

Franco-American Soups in your pantry are so many first aids to the brain-weary menu-maker. You will be astonished how constantly you will draw upon them—for the home meal, the picnic, the motor-trip, the boating party—for the ice-cold "bracer" after exercise, for the piping hot nourisher on the damp and foggy days. No preparation is necessary!

If you are in a remote place, let Uncle Sam and the railroad bring you your consignment of this "French" deliciousness. Or if a good grocery store is near at hand, a phone message will suffice.

Merely heat before serving

Thirty-five cents the quart *Twenty cents the pint*

At the better stores

Franco-American Soups

Selections:

Tomato
Mock Turtle
Clear Ox Tail
Ox Tail, thick
Consommé
Bouillon
Julienne
Mutton Broth
Chicken
Chicken Consommé
Chicken Gumbo
Clam Chowder
Clam Broth
Beef
Pea
Mulligatawny
Clear Vegetable
Vegetable, thick

"Let us give you a taste of our quality"

THE FRANCO-AMERICAN FOOD CO.

SAVING THE COUNTRY HOTEL

By Martha Haskell Clark

THE American country hotel has won disfavor wherever the unwilling foot of the train-bound transient or the ubiquitous tire of the vacation motorist has paused. Its general aspect awakens little anticipation on the part of the entering guest, save the anticipation of a speedy release.

It is a sad and widely recognized fact that this would-be progressive country of ours must take a back seat and respectfully doff its cap to its old mother England or its continental cousins when it comes to the science of housing guests in its country lanes and byways.

Of course we have our palatial summer-resorts with their hordes of bell-boys, their suave head waiters, their Hungarian orchestras, their miles of palm-dotted corridors. Then too we have that multiple type which consists in fitting up nondescript wayside houses with a few pieces of severely Mission furniture, placing a bit of Japanese pottery, or a brightly-varnished spinning-wheel in the front yard, and adding the sign "San Yang Pagoda" or "Ye Olde Black—Something or Other." But whether it is a newly furbished Olde Humbugge, or merely plain Drummers' Hotel, it is sure to be lacking in the atmosphere of country comfort and fittingness that our country hotels should offer just as surely as do the unforgetable inns of England, and the tiny wayside hostelries of France.

Entrance hall. One big lamp is hung before the office desk vice innumerable brass electric fixtures which depended from the ceiling and stuck forth from pilasters

In the first place it should be distinctive, not a mere expensive and generally unsuccessful copy of a city hotel. Neither should its distinctiveness border on the grotesque, as is too often the case with the tea rooms that have sprung up like mushrooms along the main paths of automobile travel. And lastly it should combine the merits of a fitting, dignified appearance and simple and well-cooked meals with a milder pull on the purse-strings than is generally the case, save in the most frankly unattractive circumstances.

That this can be done, and done successfully, is being proved by a few enterprising individuals here and there through the country, and it is to be hoped that in the near future our country accommodations may shake off their city pretensions and dare to be themselves, in the light shed by these successful experiments.

A striking example of this casting loose from old conventions, and daring to create a new and more fitting type of country hotel is seen in the illustrations of this article. This inn, situated in a rural college town, and on a main automobile thoroughfare to largely patronized summer-resorts, presented unusual problems to its remodeler. It must keep open the entire year—truly an Inn of the Four Seasons; as the only recognized hotel in the town, it must offer attractive accommodations to a wide range both of purses and tastes. It must prove itself truly hospitable to visiting parents from Podunk, as well as to those from the Waldorf; it must offer as gracious and fitting a welcome to the hard-up solitary motorcycle, as to a massive touring car blooming with automobile veils and lap dogs; and incidentally, it must put itself on a paying basis as speedily and satisfactorily as was possible. A short survey of the situation when the remodeling was undertaken shows a condition typical of the general run of our country hotels, and helps one to appreciate to the full the changes that were wrought.

The first and main idea of the one in whose hands the hotel was delivered was comfort, the second attractiveness. He had as little desire to ape a city hotel in his undertaking as he had to copy one of those "ghastly sarcophagi of defunct Mission" as he irreverently designated the "Great American Tea Room Movement." A description of what he faced can best be told in his own words.

"There were wallpapers, blobby wall papers, hideous in muddy browns, raw greens, and yellows, festooned with sprawly caterpillars — at least they looked more like caterpillars than any variety of flora or fauna I have seen. An apparent procession of gnus, rampant, invaded the walls of the staircase. The woodwork glittered painfully with varnish, the chairs were stiff, and in no danger of overuse, with a few plush 'heirlooms' straying about the parlor."

The lobby, plentifully supplied with chairs of the foregoing variety, was otherwise bleak and bare of comfort and in addition offered to loungers and starers an undisturbed view of the stairway and those coming and going.

But the worst feature of all was the table. Following the time-honored example of country hotels from prehistoric ages down to the present day, this inn had adopted the custom of a long and elaborate menu. Though perhaps not quite so frank as the far Western hotel of the story, where the traveler innocently selecting frogs legs *à la* Delmonico from the choice bill-of-fare before him, was surprised by a pistol at his ear, and the stern command: "You'll take hash!" still hash masqueraded as many a high-sounding dish. The entree, deemed necessary because it was "tony," might be ham and greens, or corn beef hash, it was nevertheless an entree if it occupied the correct section of the menu. A greater part of the effort was spent upon the wording of the menu than in the preparation of the foodstuffs, which were often poor in quality as well as badly cooked and served. The chef proved his fitness for his position by the fact that he possessed fourteen children and "might not get another job"—a policy which was at least humane, however short-sighted as to the welfare of the hotel.

The parlor with its walls in Chinese design, the black frames of the prints repeating the black ground of the cretonne hangings and black and rose rugs, is no longer a place to be avoided

It is not the purpose of this article to advertise any one hotel, or to go into too great detail as to how the present transformation was wrought. But for the sake of the thousands of country hotels that have not yet "found themselves" a few details are necessary.

In the first place color was used, plentifully—not the crude, garish display that had disfigured it before, but a soft harmony of figuring and color scheme in wall patterns and cheerful chintzes, bound together and beautified by soft green carpets. Big brown leather chairs and a wing sofa gave solidity and comfort to the lobby, and together with a home-like standing lamp partially screened the staircase from observers. Low willow chairs of comfortable design replaced the straight-backed "horrors" of former days. In the reception room a few really beautiful pieces of mahogany took the place of the "heirlooms", and gay English linens lent charm and color to cushions and hangings.

The lobby, formerly ornamented by a small, lone table surrounded by a row of straight-backed rockers, was transformed into a comfortable, hospitable room

In the bedrooms sprawling oak chairs and rockers were replaced by chintz-covered willow furniture. Electric light plugs are now numerous enough to allow of the luxury of reading in bed

In the upstairs rooms, willow furniture, white enamel paint and quaint gingham wall-papers, simple and attractive, were used in abundance. A trained dietitian was placed in the kitchen as general supervisor and rates scaled according to the rooms occupied. The expenditure was large, but the results have been successful.

Forest Lawn Road, Florence, Neb., showing condition of road before the use of "Tarvia-X."

Forest Lawn Road, Florence, Neb., showing transformation of road surface after the use of "Tarvia-X" penetration method.

Tarvia *Saves* the Taxpayer's Money!

WHAT wears out a macadam road? Not so much the weight of the traffic or the friction of the wheels carrying that weight, as the *pry* and *dig* of the motive force.

When the horse is the motive, it is the pry and dig of his iron shoes, rather than the wheels that disintegrate the macadam.

When the gasoline engine is the motive, it is the prying leverage of the driving wheels that disintegrates the macadam.

The heavier the weight, the harder the pry and dig.

The greater the traffic of the heavy cars, the more incessant is the pry and dig.

So the endless procession of automobiles and horses means constant disintegration of macadam roads, and the taxpayer's hand must go into his pocket to pay for it.

The way to correct this is to *build and treat your roads with Tarvia.* Its use slightly increases the first cost but it adds so much to the life of the highway and reduces maintenance expense so materially thas *its use is a great economy.*

About Tarvia

Tarvia is a coal tar preparation, shipped in barrels or in tank cars.

It is made in three grades, to be used according to road conditions: viz. "Tarvia-X," "Tarvia-A," "Tarvia-B."

The chief use of Tarvia is for constructing and treating macadam roads—to make them durable, smooth, resilient, dustless, mudless, waterproof.

It is also used on concrete roads, on brick pavements and even on good gravel roads—to smooth out irregularities, to arrest disintegration and for repairs.

"Tarvia-X"

"Tarvia-X" is always to be used when you are building a *new* macadam road, both as a binder and surface coating. The old way in building macadam was to use *water* as a binder.

But a water-bound macadam wears out quickly under modern traffic that loosens the surface, grinds it into clouds of dust, makes heavy mud and leaves the road full of holes.

Results and Cost of "Tarvia-X"

With "Tarvia-X" in place of water, you have a road smooth enough to dance on—resilient enough for rubber tires to grip on without skidding, or for horses to trot on without slipping, without dust in dry weather—without slime in wet weather. You have a road that *lasts.*

The first cost of making a tarvia-macadam costs but little more than the old-fashioned macadam, but the saving in maintenance more than pays this difference. So Tarvia costs you practically nothing!

"Tarvia-A"

"Tarvia-A" is, practically, a thin "Tarvia-X," used for recoating the surface of a macadam road already built. It is applied hot and adds greatly to the life of the road. It keeps the road dustless, smooth and inviting to traffic, but its use is confined to certain kinds of traffic to be economical.

"Tarvia-B"

"Tarvia-B" is a much more widely used preservative. It is applied *cold.* It is thin enough to sink quickly into the road, yet strong enough to bind the surface particles together into a dustless, durable surface. "Tarvia-B" offers the lowest cost of road maintenance yet invented.

Tarvia roads invariably reduce taxes for road building and maintenance. They give a maximum of road efficiency for a minimum of cost.

Special Service Department

In order to bring the facts before taxpayers as well as road authorities, The Barrett Company has organized a Special Service Department, which keeps up to the minute on all road problems. If you will write to the nearest office regarding road conditions or problems in your vicinity, the matter will have the prompt attention of experienced engineers. This service is free for the asking.

If you want *better roads* and *lower taxes,* this Department can greatly assist you.

Illustrated booklet describing the various Tarvia treatments free on request

New York, Chicago, Nashville, Cleveland, Cincinnati, Philadelphia, Kansas City, Minneapolis, Pittsburgh

The Barrett Company

Salt Lake City, St. Louis, Boston, Detroit, Birmingham, Seattle, Peoria

The Paterson Manufacturing Company, Limited: Montreal, Toronto, Winnipeg, Vancouver, St. John, N. B., Halifax, N. S., Sydney, N. S.

CONDUCTED BY WALTER A. DYER

[*Mr. Dyer will be glad to answer any questions relating to antiques and collecting: for convenience kindly address Readers' Service,* COUNTRY LIFE IN AMERICA, *Garden City, N. Y.*]

GATE-LEG TABLES

THERE are several reasons why gate-leg tables should appeal to collectors, and furnishers of modern homes as well. They are usually antique in every line of them, and as much the natural product of an age as is a Windsor chair or a silver snuff box. Moreover, it is a graceful thing in itself—the old gate-leg—and as useful in a modern home as it was 200 years ago. Dealers in antiques tell me that they are much in demand at present.

The gate-leg table—sometimes called the hundred-legged table in America—made its appearance in England about the middle of the seventeenth century. Though the design was probably of Dutch origin, the gate-leg table appeared almost spontaneously to serve a specific need—the need for a lighter, less immovable dining table than the heavy, massive trestle affairs of Elizabeth's time. In many respects it was the most distinctive product of the Jacobean period. Its appearance indicates a tendency to cut loose from tradition as well as an increasing refinement in home life and civilization.

A half gate-leg or folding table

This development of civilization in England naturally begot new tastes and new desires, among them a need for more highly differentiated furniture, that should be more comfortable, more readily useful, and more graceful than that which had gone before. People in cottages as well as in manor houses and palaces began to want furniture, and their need was for something smaller and less elaborate. The gate-leg table appeared in answer to the call for a dining table that could be enlarged readily or reduced in size as desired—a demand that has existed ever since. The gate-leg table, then, became the fashionable dining table of the last half of the seventeenth century. It was probably the most popular introduction of the period, and more widely accepted than any other one form of furniture in palace or cottage, England or the Colonies.

The common form of gate-leg table consists of a central portion with oblong top, resting on a frame-like support, from which one or more supports swing outward like gates to hold up the hinged leaves. Supports, legs, and stretchers are usually ornamented with turning, and create the impression of being more numerous than they really are.

The central frame is made narrow, so that when the leaves are down the table occupies comparatively little space—usually less than a third as much as when open. The leaves often hang nearly to the ground, and are so shaped that when they are lifted the top of the table is square, round, oval, or square with rounded corners. Two square ones were sometimes placed together for a large dinner.

In the commonest form, six feet touch the floor—the four feet of the central frame and the two at the outer edges of the gates. Often two extra feet are added below the inner supports of the gates, making eight legs in all. Large tables sometimes have two gates to each leaf, and there are gate-leg tables with twelve, sixteen, or even twenty feet. There are, in fact, many sizes and variations, though all gate-legs bear a family resemblance. There is a famous specimen at Penshurst Place, in England, which was intended for state banquets and which has seven parts in the top, sixteen legs, and eight supports without feet.

Various patterns are to be found in the turning of the legs and underbraces—baluster patterns, knobs, spirals, strings of balls, etc.—the simpler forms being commonest. One form of spiral known as the barley-sugar design was much prized. Occasionally square, octagonal, and plain round legs are to be found.

A rare form of double gate-leg, the massive beams supported by double gates, making twelve feet touching the floor

Folding table, late seventeenth century, with single turned stretcher, two main supports with trestled bases, and two gates

An unusually ornate eighteenth century gate-leg with carved and fluted legs. It is of mahogany, which is uncommon

An unusual form; the two frames shut together, and the top tips up

The best type of gate-leg and the one most commonly found. Metropolitan Museum

The foot is usually a simple ball. During the period of the Restoration the Spanish foot was sometimes used. Very frequently a drawer was placed at each end of the main section.

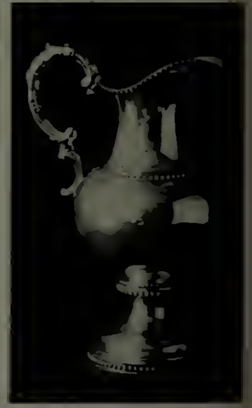
The earlier gate-leg tables made in England were almost invariably of oak. Throughout the periods of the Restoration and of Queen Anne, country cabinet-makers clung to this wood, but among the wealthier classes walnut became more fashionable, so that the best of the later gate-legs are of walnut. During the early Georgian period a limited number of gate-leg tables were made in mahogany, showing some variations in the style, but the true English gate-leg table was almost invariably of oak or walnut.

Some of the gate-leg tables in this country were brought from England and some were made here after the English models. Oak was sometimes used here, though the commoner wood for the purpose was American black walnut. The Colonial makers also used pine, maple, cherry, and even cedar and cypress.

During the time of Charles I a smaller table of kindred type, called a folding table, was not uncommon. In some forms the main frame had but two legs, so that it had to be leaned against the wall when the leaf was down and the gate closed. In others the narrow frame was supported by simple feet or trestles.

Arthur Hayden, in his "Chats on Old Furniture," gives a rather interesting outline of the development of the gate-leg. Its forerunner seems to have been a simple three-legged table, with turned legs and stretchers and with triangular or semicircular top, which could be moved up close to the wall. Often it was found convenient to place two of these close together, making a larger table with a square or circular top. The next step was to combine these two tables into one—a main supporting frame with three legs and the semicircular top, and one folding leaf supported by a single swinging gate.

It was a simple matter to extend this idea, and two leaves and gates were added to a narrow supporting frame. Then the central section was widened and the whole structure improved in both utility and design. The styles in turning developed with the rest of the table, and these forms constitute an interesting, if somewhat technical, study in themselves.



The unmarked silver pitcher described on page 58

The gate-leg table in its purest Jacobean form was made from about 1660 to 1690, and it is this early form that is most in demand among collectors. Good ones were made, however, up to the time of George II, both in England and in America. A most useful invention, it survived several changes in style and continued to be made in decreasing numbers up to 1740 or 1750, and even to the close of the century in the conservative rural districts. That the form is as attractive and useful to-day as it ever was is indicated by the popularity of modern reproductions and adaptations.

It is becoming increasingly difficult to furnish a dining room with authentic old mahogany, and there is a tendency, especially in informal country homes, to fall back on the simpler forms of cottage furniture. For such a home an old gate-leg table of good style is particularly satisfying, used with Windsor or rush-bottomed chairs.

It is natural that antique gate-leg tables should bring a good price in shop or auction room. The old Jacobean oak ones are of course the highest priced, but any original gate-leg of good form is valuable. Proportion, construction, condition, age, and character of turning all affect the value.

Prior to 1700 these tables could be

73 New Conceptions
26 Extra Features

MID-YEAR MODEL

$1325
F. o. b. Racine

"No Dreamer's Car"

How Big Men Regard This Bate-Built Mitchell

A man who has sold a hundred thousand cars said, the other day, of this Mid-Year Mitchell—

"That is no dreamer's car."

Perhaps no man has better voiced the opinion of the big men of Motordom.

Mr. Bate's Compeers

John W. Bate, our efficiency engineer, prizes most the approval of compeers. Dozens of engineers—men of nation-wide fame—have selected the Mitchell as their personal car. Our dealer in your town has a list of them.

Every day shows that most of our output is being sold to leading men. For instance, five bankers in Chicago bought Mitchells in one week. New York, the home of the critical, can never get cars enough.

You will find it so in your town. The practical men—the men who deal in realities—are buying nearly all the Mitchells.

Built for Able Men

The Mitchell is built by an able man—a genius in efficiency. It comes from a mammoth model factory, built and equipped by him. It is the work of men he trained.

The car itself is the 17th model, built under his direction. It is the fruition of 13 years spent aiming at perfection. It is the result of 700 improvements which he has engineered.

So this Mid-Year Mitchell is a car that appeals to men who know.

A Lifetime Car

What appeals most to men is the Mitchell stability—its extra-strong parts, its big margins of safety.

The car is nearly trouble-proof. Its endurance seems unlimited. Six Mitchells have averaged 164,372 miles each, or more than 30 years of ordinary service.

Yet this New Mitchell, with its 127-inch wheelbase, weighs under 3000 pounds. The strength comes from drop forgings, from tough steel stampings, and from a wealth of Chrome-Vanadium. There is hardly a casting in the car.

Many Surprises

Then the Mitchell has many surprises.

$1325 F. o. b. Racine

For 5-Passenger Touring Car or 3-Passenger Roadster

7-passenger Touring Body $35 Extra

High-speed economical Six—48 horsepower—127-inch wheelbase. Complete equipment including 26 extra features.

It has 26 extras which most cars omit. Things like a power tire pump, cantilever springs, an extra-cost carburetor, an easy control. There's an engine primer at driver's hand, a light in the tonneau, a locked compartment. All of these extras—26 of them—are paid for with savings made by factory efficiency.

Then here, in one car, you see all the new touches. Our experts examined 257 Show models before completing this. You have never seen a car so handsome, so up-to-date, so complete.

It has a 22-coat finish. It has French-finished upholstery—10-inch springs. In the rear it has Bate cantilever springs—52 inches long—springs which have never broken. For ease of driving it has ball-bearing steering gear.

These are but trifles, compared with efficiency. But they show the infinite care which experts find in the Mitchell car throughout.

This Mid-Year Mitchell will delight all men—engineers and laymen. Men like efficiency, endurance, economy. Women like luxury, beauty and comfort. All will yield this car their highest admiration. And those who buy it will, in years to come, like it better than to-day.

See it at your Mitchell showroom.

MITCHELL-LEWIS MOTOR CO.
Racine, Wis., U. S. A.

Winning a Wider and Wider Field

TIME was when Goodyear Cord Tires were considered the special prerogative of the larger and costlier cars.

Now, a tremendous demand has sprung up among owners of cars of every size and almost every class.

You have known that Goodyear Cord Tires are regular equipment on the Franklin, the Packard Twin Six, the Locomobile, the Peerless, the White, the Haynes Twelve and the Stutz.

Look about and you will see that they are being adopted, now, by owners of the Cadillac, Chalmers, Pierce-Arrow, Studebaker, Winton, Overland, Jeffery, Saxon, King, Case, Inter-State, Glide, Cole, Ford and many other cars.

Could there be a stronger indication of downright good value than this spontaneous and widespread adoption of a tire whose first cost is, of course, greater?

If there wasn't something more tangible than mere good looks and social distinction — the mass of motorists would never pay the higher price.

That something is, of course, greater goodness, and greater comfort, less-power-lost, and more-mileage-gained.

Extreme flexibility and resilience enable Goodyear Cord Tires to absorb road shocks without danger of stone-bruise and blow-out; assist in a quicker get-away; and make the car coast farther.

Their size is much larger, and they have much greater air space, than ordinary Q. D. clinchers. This increased pneumatic cushion emphasizes their comfort and offers further effective insurance against trouble

The Goodyear Tire & Rubber Company
Akron, Ohio

GOODYEAR CORD TIRES
AKRON

Double-thick All-Weather and Ribbed Treads, for rear and front wheels. The deep, sharp All-Weather grips resist skidding and give great traction. The ribbed Tread assists easy steering.

No-Hook and Q. D. Clincher types, for gasoline and electric cars. Goodyear Tires, Heavy Tourist Tubes and Tire Saver Accessories are easy to get from Goodyear Service Station Dealers everywhere.

bought in London for £2 or £3. Old advertisements here give the following prices: Salem, 1690, £2 5s; Boston, 1699, £2; Philadelphia, 1705, £2. To-day these tables would be worth ten times as much. Recent sales of gate-legs in England show a range of prices from £18 to £35. In this country good seventeenth century examples, whether of English oak or American walnut, are worth from $100 to $125, according to design and condition. Cracked or warped tops, which are rather common, reduce the value. Small tables are fully as much in demand as large ones.

Especially fine examples of double gate-leg tables, in good condition, of good design, with the barley-sugar turning, have brought as much as $1,000 to $1,200—which shows what may happen to the valuation of antiques when the wealthy purchaser is eager.

OLD WARMING-PANS

WARMING-PANS were in general use in the days of Good Queen Bess. In fact, something of the sort was necessary to take the chill from damp sheets in unheated chambers. The warming-pan was a simple affair—just a round brass or copper pan with a cover and a wooden handle, in which coals or embers were placed for warming beds before retiring. The pan was usually about fourteen inches across and the handle three or four feet long.

The charm of the warming-pan lies partly in its ornamentation and partly in the attraction which any obsolete article of usefulness holds for the collector. Naturally a graceful thing, the warming-pan was made in all grades of ornamental beauty from the plainest pattern to the most elaborate.

Brass warming pans in the Bolles collection. American, late eighteenth century

The brass or copper covers were often engraved, embossed, pierced, hammered, and decorated in various ways. Sometimes figures, scrolls, or foliage patterns were beaten up in relief, or the cover cut through in perforated or open-work designs. Conventionalized patterns of various sorts, flowers, peacocks, and even ladies and cavaliers, are to be found, with finely incised carving on the figures. Rarely a motto or religious inscription is to be found.

The handle, usually of wood in an iron or brass socket, was sometimes plain, sometimes ornamental. All sorts of woods were used, especially walnut and cherry, frequently turned in graceful patterns. Eighteenth century examples sometimes had carved or turned handles of polished mahogany. A few of the latter handles had brass mounts.

Dutch and English examples are most sought after, the former being considered the finest. A few were undoubtedly made in this country. Authentic Dutch warming-pans of the seventeenth century bring the highest prices; ordinarily good ones are worth up to $18 or $20, according to condition and style. Unfortunately, a good many old warming-pans have lost their original handles through one cause or another, so that the authenticity of that portion is always somewhat in doubt.

A polished warming-pan of good design makes an attractive ornament, hung upon a wall in proper environment, or standing beside the Colonial fireplace. It seems to me hardly worth

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The character of work on which we specialize (fine country houses) has enabled us to gather together a remarkable group of masons, carpenters and cabinet workers who, under the guidance of our graduate engineers, are able to build into a home a subtle quality of elegance and individuality which money alone could not buy.
Our resources enable us to do all the work ourselves, thus eliminating the uncertainties, annoyances and increased cost resulting from sub-let contracts.
May we send an interesting portfolio showing notable examples of recently constructed Country Houses?
ARTHUR WARE, ARCHITECT.
CHARLES DOWNING LAY, LANDSCAPE ARCHITECT.

while trying to put it to any modern use, and I confess that it always distresses me a little to see one turned into a clock or thermometer or candle sconce, decorated with a bow of ribbon, and hung from the picture molding of a modern room.

NOTES AND QUERIES

What is the value of a pair of pewter communion goblets in splendid condition? Also an Empire mirror, $23\frac{1}{2}$ x $11\frac{1}{2}$ inches, with hand-painted landscape at the top and baluster frame of black and gilt—the glass a restoration?

A. L. B., Le Grand, Iowa.

Much depends on the age and make of the communion cups. If old, they should be worth about $20 for the pair. The mirror is worth perhaps $30 or $35; these are not rare.

I have a piece of solid silver which I have been unable to learn anything about, as to its make or age. It has no visible mark of any kind and the silversmiths in Chicago to whom I sent it to be cleaned could give me no idea of its age. I am sending a picture taken just after it was cleaned. Now it has the white look of the old silver. It is plain, with the exception of the beading and grapes and leaves on the handle. It stands about 11 inches high and is in perfect condition, the handle showing a little wear where it is grasped by the hand. Isn't it usual for solid silver to have some mark? If you can give me any information as to make, age, and value, I shall be very glad.

Mrs. H. D., Ann Arbor, Mich.

English silver is always marked; American and French silver usually but not always. This is a very graceful piece. It looks a little French, but was probably made in this country about 1770. If it is French, it is worth about $100. If American, which is at a premium in this country at present, it may be worth as much as $150.

GETTING ONE'S BEARINGS AFLOAT

AS THE laws governing the operation of motor boats now stand, a knowledge of even the rudiments of navigation is among the least of the requisites. So long as the owner of a pleasure boat has his horn, life preservers, and the other articles of equipment aboard he may go on his way unmolested even though ignorant of the most elementary principles of boat steering and control. Because of this, three boat owners out of five know little and care less of anything beyond bringing their craft in and out of docks safely, and distinguishing can from nun buoys. It is not here intended to criticize the existing laws, for greater stringency might work more harm than does the present laxness, while the condition of things as they are proves at least that the sport of motor boating and motor boats themselves are essentially safe.

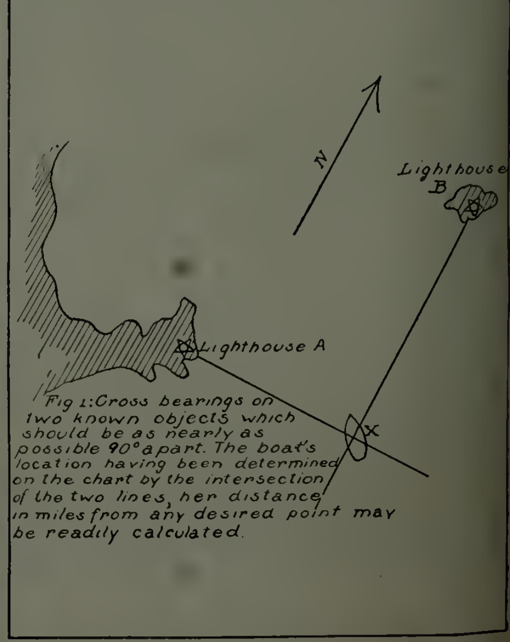

Fig. 1, illustrating the two-point bearing

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FEW buy Kelly-Springfield Tires until they have had experience with other tires and learned to measure tire values in terms of mileage rather than initial cost.

Every Kelly-Springfield Tire you see is a certificate attesting: "This is an experienced motorist."

It testifies: "This man has driven other cars, measured the wearing qualities of tires, and learned to purchase mileage at the minimum cost."

The reason is simple. Kelly-Springfield Tires cost more. They are handmade—to be sure that mileage is built into them. They are excess-mileage tires.

So they are found on new cars of the better class only, as special or optional equipment when the car buyer knows tire values and appreciates that the car manufacturer has paid the price necessary to provide the best service to be had.

Kelly-Springfield Tires cannot be made to meet the price allowed for tire equipment on lower priced cars, when buyers expect only guaranteed mileage. So they are not found on cars until the car buyer has learned to ignore initial cost and guarantees and considers cost per mile.

Because the public expects a guarantee, Kelly-Springfield Tires are guaranteed for 5,000, 6,000 and 7,500 miles, according to type. But they yield 8,000, 10,000 and often greater mileage. Cases where adjustments are necessary are rare.

Few who have once used Kelly-Springfield Tires ever change to other tires, except when they buy new cars equipped with other tires chosen by the manufacturer.

Kelly-Springfield Tire Co.
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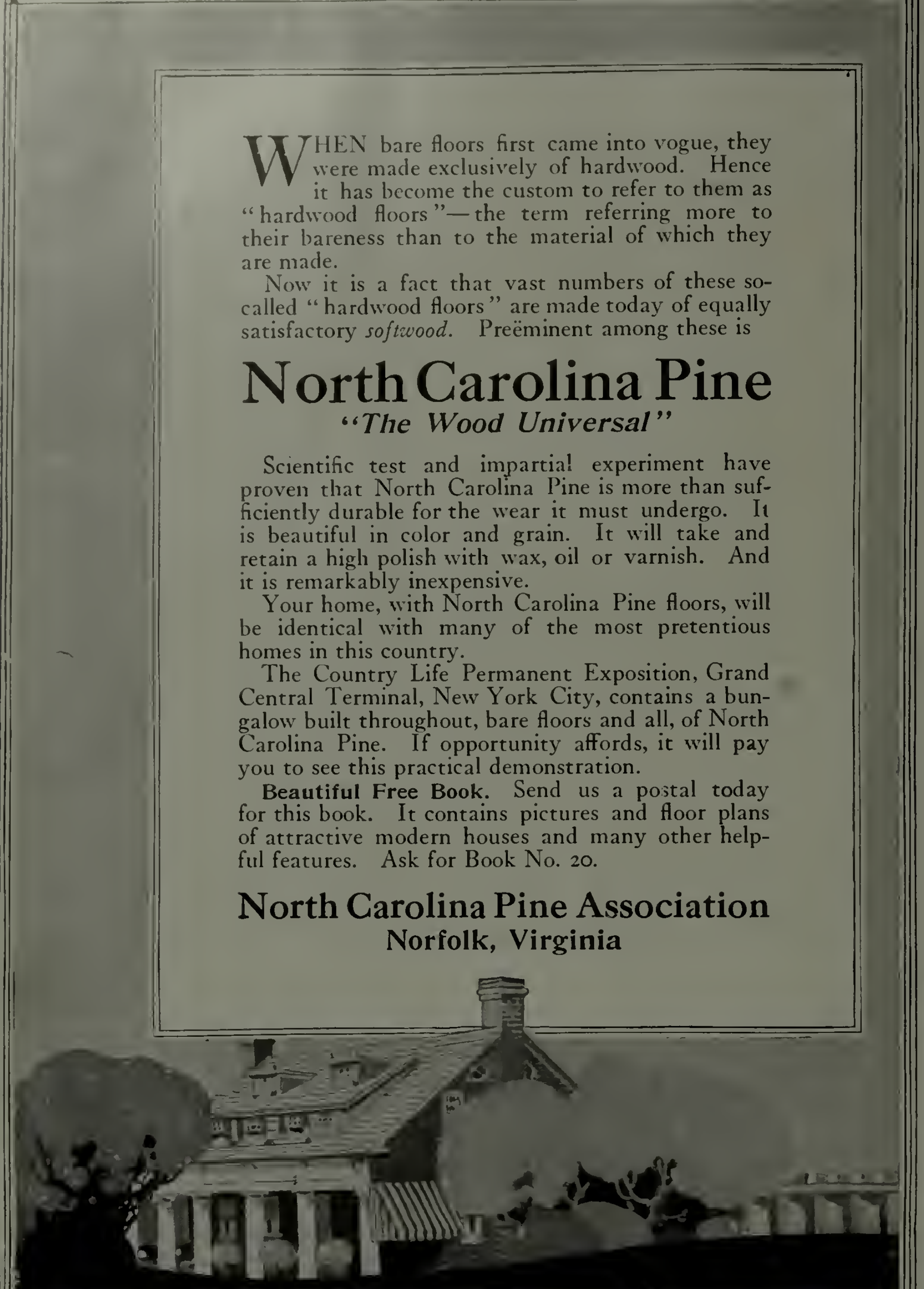
Send 10 cents for the new game, "Going to Market"



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If this point is of importance to you, write to some of the schools that interest you and ask them how much the average boy spends. Or if you don't care to bother with such correspondence, write and tell us how much you care to pay, and we will undoubtedly be able to find just the school for which you are searching.

Vogue is thoroughly aquainted with more than five hundred of the best schools and is eager to give you the benefit of its knowledge.

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However, the ability to determine one's position on the water should be part of every small boat navigator's mental equipment, as the lack of it may well spell inconvenience or even destruction. Especially is this so when such an ability predicates no profound knowledge of higher mathematics.

The accompanying diagrams show clearly three ways in which the skipper of a boat may place his position at sea or his present or future relation to objects on shore. The first diagram gives what is known as the two-point bearing, whereby cross bearings may be taken on two known objects to determine the exact location of the vessel.

The boat is cruising the waters of a large bay or sound at about the spot marked X and the operator desires to know exactly how far distant he is from lighthouse A or B. To do this he places his pelorus (a "dumb" compass with its dial marked off in the conventional manner in points and degrees, and having two slotted vertical arms pivoting on the centre of the card, which former may be brought in line like the peep sights of a rifle) in a secure place with its lubberline or zero line parallel with the keel of the boat, and swings the arms around the card until lighthouse A is sighted through the slots. Looking then at the pelorus dial he finds that an arrow in the centre of the supporting bar which extends across

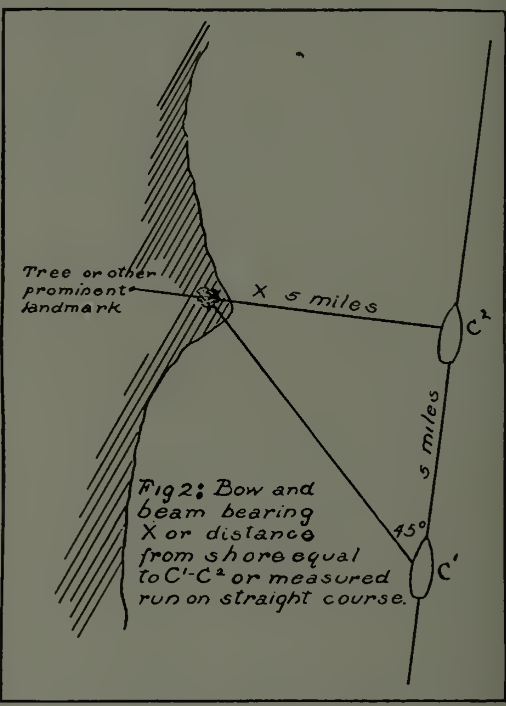

Fig. 2. Ascertaining location by the bow and beam bearing

the face of the card points to westward, showing that the light lies due west from the boat. Quickly pivoting the sighting bar until lighthouse B is brought in line with the slots, and again glancing at the card, he finds that this lighthouse bears north from him. Taking then his coast chart for that locality, he projects a pencil line west from lighthouse A and another south from lighthouse B, their points of intersection giving him his exact position except for a slight error caused by the forward movement of the boat between the taking of the two sights. Measuring with his dividers from the scale in the corner of the chart he finds himself so many miles from the first lighthouse, so many from the other, and, in fact, his exact distance from any other object on the chart. (How he identifies his lighthouses in the first place is another story, but one known to nearly every one.) A third bearing, when feasible, taken at the time of sighting the other two landmarks will verify a boat's location, but is only necessary where close reckoning is desired.

The captain of a boat may, however, be so situated that it is possible to sight only one prominent object on land, in which case he may proceed as in Fig. 2. This is known as the bow and beam bearing, for the reason that sights are taken 45 and 90 degrees off the boat's reading at a single object. The vessel is cruising along the coast and it is desired to figure the distance offshore from the tree on the point shown in the drawing. The pelorus is placed as before, and the sights are fixed 45 degrees or four points on the port bow, there being 360 degrees and thirty-two points in the compass. The progression of the boat

This is a photograph of a cross-section of the tire that ran 9467 miles. Note that it has worn down as evenly as a piece of fine steel. This tire would be good for thousands of miles of additional wear.

9467 miles on this Republic Prōdium Process Tire

Toughest rubber in the world gives new solution of the tire problem

What the sole is to the shoe, the tread is to the tire.

No matter how good the fabric or the inner tube may be, if the tread is weak, the whole tire is weak.

With this principle before them, the Republic Rubber Company's experimental force has worked for years to perfect a tire tread stock that would overcome the difficulties of ordinary rubber. Prodium is their answer.

Prōdium is a newly discovered substance, that, when compounded with high grade rubber makes the toughest material ever used on a tire. The tire section shown above is but one of many proofs of this statement.

Prodium, or the Prodium Process as it is now called, gives a tire tread that even fresh-cut rock does not cut or gash; that withstands extraordinarily high temperatures; that wears down as evenly as a piece of fine steel; that is oil-proof and grit-proof; that is more resilient than ordinary rubber.

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eventually brings the landmark within view through the sights, and this moment is noted by the clock.

Every owner knows approximately the speed of his boat (however it may vary from his published reports), and speed is the only factor necessary for the taking of this bearing. Suppose, then, the sights having been next set at 90 degrees, or directly abeam of the boat, that the vessel, logging ten miles an hour, comes abreast of the point in exactly thirty minutes. Provided she has kept her course, she has logged five miles, and as the two bearings have established the hypothenuse and one leg of a 45-degree right triangle, the other leg—or the distance from the tree to the boat directly abreast of it—must equal the first leg, or the vessel's run of five miles.

The use of the pelorus or similar bearing finder has been cited in these two instances, but if such an instrument (which may be easily home-made) is lacking, the sights may be taken with sufficient accuracy from the compass, which is, or should be, part of every boat's equipment. However, in the third case perfect accuracy is essential, and here a compass cannot very well be used. This method of position finding, which may be

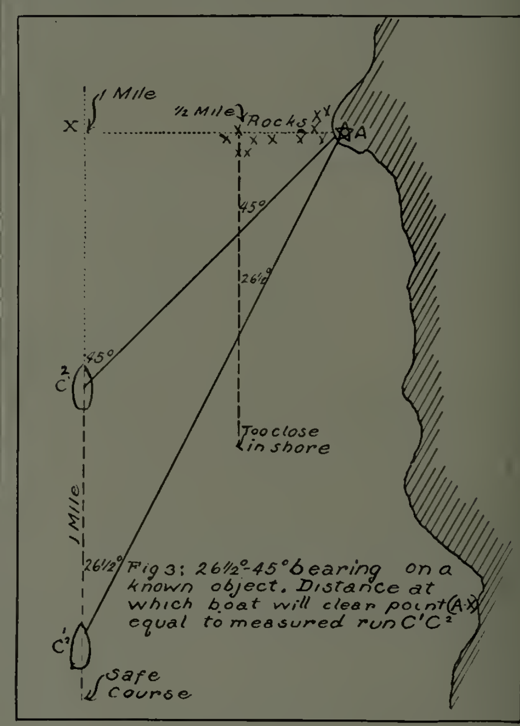


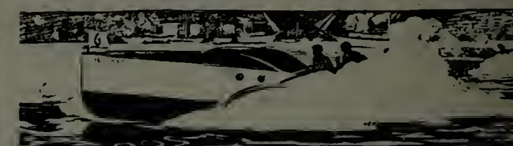
Fig. 3. The 26½-45 degree bearing

called the 26½-45 degree bearing, is used to determine in advance the distance which a boat will clear a given object. It is useful in passing a promontory from which submerged rocks or other hazards to navigation are known to extend for a certain distance—which distance, however, cannot be gauged with the eye.

If, as in the diagram, the promontory with a lighthouse or some such noticeable object on it is to be passed on the starboard side, the sights of the pelorus are fixed at exactly 26½ degrees off that bow, and the time is noted as before when they come in line with the shore mark. The vessel maintaining her course and speed, the next sight must be taken when the lighthouse is precisely 45 degrees off the bow, and the boat's run, as deduced from a simple calculation of her speed, is exactly equal to the distance at which the boat will clear the lighthouse. If then, this clearance is shown to be one mile, and examination of the chart reveals that the sunken rocks project half a mile, the boat is on a safe course, but if the clearance is discovered to be insufficient (broken line, Fig. 3), there is yet ample time for the navigator to starboard his helm and give the menace safe leeway.

All of these situations are easily memorized, and the knowledge of all or even any one of them may at least spare the amateur boatman an anxious half hour.

ALFRED F. LOOMIS.



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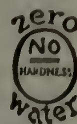

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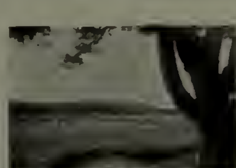

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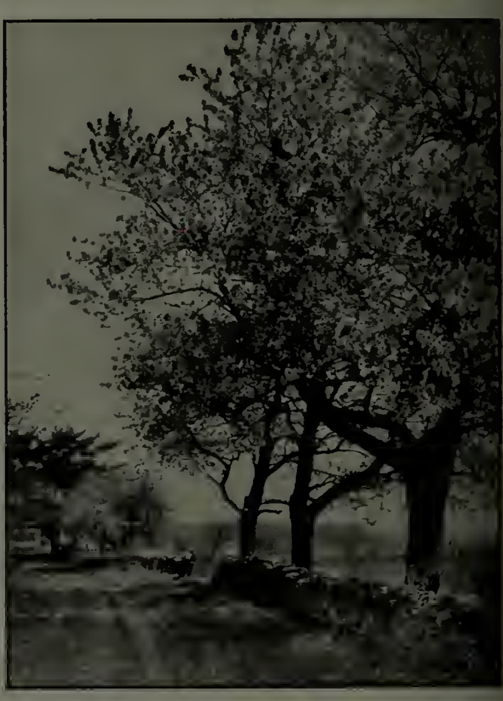
SOUR-CHERRY CULTURE

IT IS easier to grow sour cherries than sweet ones in North America. Exception to this rule would have to be made for a few restricted localities only. The condition mentioned may be the more graciously accepted from the fact that sour cherries have greater culinary utility than the sweet varieties, and are generally regarded by fruit lovers as being of equal or superior value for desserts. That paragon of pastry, the cherry pie, can be produced in perfection only with a liberal quantity of ripe Morellos, Richmonds, or Montmorencies.

The cultivation of all sorts of cherries in this country is given remarkably and inexcusably small attention outside of the few neighborhoods where they are grown for the markets or for the canneries. I plead guilty to this criticism myself, for I do not grow nearly enough cherries to supply my own family. Last year I placed an order with one of the largest fruit commission houses



Far too little attention is given to the cultivation of cherries, outside of the few sections where they are grown for market

in New England for a bushel of sour cherries, and, though the order was kept standing throughout the season, I didn't get a cherry. This shows in a striking manner what the supply of cherries is.

Sour cherries will grow in almost any good garden soil. A light, friable loam is best, but anything except wet clay or dry sand may be used. The sour cherries succeed also through a wide range of climate, thriving far up the Ottawa River and away down the St. Lawrence, as far almost as any fruits of any kind can be grown. They succeed also on the hills of Connecticut and on the dry plains of Nebraska.

The standard varieties, good almost everywhere, are Early Richmond, Morello, and Montmorency. Early Richmond is first to ripen, and is grown largely on that account. It is light-colored, with colorless juice. Morello makes a small tree, which bears early and abundantly. The fruit is very dark-colored, almost black, with dark-colored juice, and is very rich and "fruity." It is the ideal sour cherry for preserving. Montmorency makes a larger tree, with fruit of lighter color, somewhat less freely borne. Other good varieties are Ostheim, Dyehouse, and Brusseler Braun, but they are seldom planted.

Trees of Morello can be planted at distances anywhere from 8 x 8 to 15 x 15 ft. apart, depending on the soil and situation, but still more on the system of pruning adopted. Early Richmond requires a little more room—say 12 x 12 to 15 x 15 ft. Montmorency is a still larger grower and requires 12 x 12 to 18 x 18 ft. for standard trees. In a garden or orchard where all varieties are planted together at equal distances, it is best to adopt the maximum spacing.

Two-year-old trees should be chosen for planting. These may be set either in the spring or in the autumn. At planting, each tree should be pruned to a straight stem eighteen to twenty-four inches long, with possibly a few very short side-

A Permanent and Beautiful Fence

Nothing adds more to the beauty and attractiveness of your grounds than a good substantial fence. Permanency is of prime importance, too. We all know that rust is the great destroyer of the ordinary wire fence. Select the fence that defies rust and withstands all weather conditions.

fences are made of big, strong wires with clamped joints which prevent slipping, sagging or twisting. This exclusive feature assures unusual rigidity under the most severe strain. Excelsior fences are dipped in molten zinc, which makes them practically indestructible. Write for Catalog A, from which to select the style best suited to your needs. Ask your hardware dealer for Excelsior "Rust Proof" *Trellises, Arches, Flower and Tree Guards.*

WRIGHT WIRE COMPANY, Worcester, Mass.

Steinway Piano

The ideal of music lovers of every country

STEINWAY & SONS, NEW YORK

Victrola

The instrument of the world's greatest artists

Boston Garter

Velvet Grip

Gives men more service and more comfort for its cost than any other article they wear. It's put on and taken off in a jiffy and holds socks neatly and securely. Silk 50c. Lisle 25c.

GEORGE FROST COMPANY *Makers* Boston

Why Endure a Noisy Closet in Your Home?

BAD enough to have to endure it, but to deliberately let one go into your new house in this day and age, is cruel indifference to the comfort of your family and guests.

The Si-wel-clo operates so quietly that outside the bathroom door no one can tell that it is being flushed. It is made of Vitreous China. Its highly glazed surface will not tarnish, crack nor peel.

The Trenton Potteries Company

SI-WEL-CLO

Silent Closet

All the Trenton Potteries Co. china and porcelain sanitary fixtures, the Bath Tub, the Lavatory, the Kitchen and Laundry Fittings, have a durability, a smoothness of surface and a freedom from stains and tarnishes that make them a good investment.

We want you to know our sanitary fixtures so well that when you consider building or remodeling you will be familiar with the advantages which others have recognized in them.

The Trenton Potteries Company
Trenton, N. J.
Largest Makers of Sanitary Pottery in U. S. A.

Write for Booklet M-9, "Bathrooms of Character"

The Readers' Service gives information regarding Real Estate

A run in the fresh air of the open country is better for the boy than any amount of indoor track work. Nothing monotonous about outdoor sport. Every good boy's school encourages runs and walks over the fields and country roads.

The announcements of the best schools can be found in Scribner's Magazine every month. If detailed information is desired, address

SCRIBNER'S MAGAZINE
SCHOOL AND COLLEGE SERVICE DEPARTMENT
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When you plan your home

you think first of the needs of your family, and lay out your rooms exactly to suit your way of living. Then you consider how it will look from the outside, what material to use—wood, stucco, brick, etc.—and, "How much will it cost?"

Now please picture yourself, in years to come, thinking about your home. Has it been an entire success? Or did you overlook the cost of upkeep?—ease of heating?—fire-protection?

Atlas-White Stucco

A well-built stucco home will afford you satisfaction for many years to come. Stucco is low in first cost, and requires no painting and almost no repairs. It is easy to heat—saves coal—and can be built practically fireproof. When Atlas-White Cement is used as the final stucco coat, the finish may be varied in many exquisite and distinctive ways in either pure white or warm mellow tones.

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Lawn Fences, Tennis Fences, Entrance Gates and Railings, Poultry Fences and Special Fences for every purpose. Catalogue on each subject, send for the one you want.

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Will make a White Spot on any white woodwork in your home

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Your House Deserves the Most Modern Building Material. Find out about
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National Fireproofing Company, 332 Federal Street, Pittsburgh, Pa.

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adds wonderfully to the character of a building, and increases its selling value. Note the architectural beauty of this substantial home with roof of Imperial Spanish Tile (detail more clearly shown in border of advt.) A tile roof offers a perfect shelter—leak-proof, moisture-proof and fire-proof. It requires no paint, stain or repairs to preserve its beauty, and lasts forever.

Our illustrated booklet, "The Roof Beautiful," in colors sent free to any prospective builder upon request.

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Mfrs. of Terra Cotta Roofing Tiles
General Offices
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These columns include the advertisements of greenhouses, trees, shrubs, seeds, plants and garden implements. Each concern is known to be reliable and is painstaking in its service to customers. For full information regarding horticulture and gardening, or to find anything not advertised here, apply to READERS' SERVICE, COUNTRY LIFE IN AMERICA, Garden City, N. Y.

The Ideal Greenhouse for the Idealized Garden Setting

PERHAPS this title is a bit idealized itself—but let us explain what we have in mind, and see if after all we are not fully warranted in the statement.

To spend freely both thought and money on your garden, in making it quite the choicest, quite the most charmingly interesting of gardens, and then associate with it, a greenhouse not keyed up to it, is, to say the least, regrettable.

Consistency, you must admit "is a jewel."

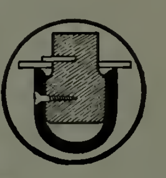
U-Bar greenhouses, because of their wonderful bubble-like construction; their consistency in design; and rare care in execution, are fittingly fit for the idealized garden setting.

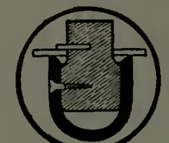
It is not a boastful statement to claim that no other greenhouse can equal the U-Bar; because no other greenhouse construction is constructed like the U-Bar. If none are like it, you can't compare it with others. If you can't compare it—then it becomes a house unique unto itself.

If it's this top-notch in greenhousedom you want—then you want the U-Bar.

Send for catalogue. Or send for us. Or both.

There is no insistently dominating note in this delightful garden of Miss E. Jenkins, at Baltimore, Md. What charm has such harmony.





U-BAR GREENHOUSES
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And Outdoor Perennials

It is an excellent time to set German and other hardy iris if you wish them well established for next year. My list of over 25 German iris includes all the best varieties.
Ask for catalogue M
F. H. HORSFORD, CHARLOTTE, VT.

The Meehan Hand-Book of Trees and Hardy Plants

is unusual, practical, handy and always useful as a reference. All undesirables are eliminated. Lists actual sizes and prices them individually. Mailed free on request.
THOMAS MEEHAN & SONS
6716 Chew Street Germantown, Philadelphia, Pa.

King Greenhouses

Increase the Beauty as well as Productiveness of your Garden

They have a special type of iron frame construction which lends itself to graceful sweeping lines and yet permits great strength without the need of heavy shadow casting supports.

In a King the plants get all the sunlight all day long so it's easy to produce a growth and bloom fairly tropical in luxuriance.

When you write for bulletin No. 47 tell us what you have in mind and let our experts show you how artistic a greenhouse really can be, we will work your ideas into a practical sunny King Greenhouse which will in itself be the beauty spot of your garden.

King Construction Company
314 Kings Road
North Tonawanda, N. Y.

spurs. During succeeding years, pruning should be moderate and annual, and should always be done in early spring, or else just after the fruit is picked. If the trees are planted close together, they will require some heading-in at each pruning season.

The trees should receive the usual orchard cultivation. Modern systems of orchard tillage are much the same for all tree fruits. In small places good garden tillage will answer. Enough plant food must be given to keep up a good growth, with an abundance of rich dark green foliage, but special fertilizers are not required.

There are three principal enemies of the sour cherries—the brown rot of the fruit, the cherry aphis, and the birds. Early spraying with bordeaux mixture will reduce somewhat the damage from brown rot, which is never so bad on sour cherries as on sweet varieties. Spraying with kerosene emulsion or tobacco water, if thoroughly done as soon as the aphis appears and before the leaves curl, will restrict the ravages of this pernicious insect. Perhaps the best way to circumvent the birds is to grow cherries enough for them and for one's own use too. Where there is only one cherry tree bearing fruit in an entire county, it seems almost as though the birds ought to have the crop. At any rate, experience shows that the amount of fruit taken by birds is much less noticeable in orchards where quantities are grown.

One of the standard varieties which will do well almost anywhere, is the Montmorency

Mr. G. Harold Powell figures a net profit of $41.54 an acre on half a crop of Richmonds in Delaware. In New England, sour cherry trees, grown in small numbers, often yield two to three dollars a tree annually. As there can be 134 trees grown on an acre at the maximum distance of 18 x 18 ft., it is easy to figure a large profit from such enterprises. As a matter of fact, those few persons who grow small quantities of sour cherries for sale realize a handsome profit from their investment of labor and capital.

F. A. W.

TWO FROGS I HAVE KNOWN

I HAVE always thought that frogs were just frogs, but I have had an experience recently that has caused me to change my mind to a degree, and now I am convinced that all frogs are not just frogs. I have made the acquaintance—and I say this advisedly—of two frogs, bullfrogs, within the past month that have astonished and interested me. They live in a pool where water lilies are grown, in a garden, and until we met they were the most neglected and unnoticed frogs in the world. They were put in that pool for the express purpose of catching pests, and nothing further was required of them nor were they to expect anything in return. So they worked overtime and doubtless satisfactorily, for they waxed fat and large.

They came to my particular attention one afternoon as I was bending over the water to examine a lily that was about to close. As I raised the lily in my hand, I saw this great, hideous frog head staring up into my face from just beneath the surface of the water. I never heard it said that frogs were cute or pretty, and at that moment I could readily understand why.

A LUTTON GREENHOUSE—THE ALL-YEAR GARDEN—

You are invited to visit the full sized LUTTON greenhouse with rust proof V-Bar Frame, at the Country Life Permanent Exposition, Grand Central Terminal, New York City.

is a leading feature of many fine landscape gardens. A typical example is illustrated below. Note the graceful curved eave of the LUTTON house (the one on the right), the absence of heavy shadow-casting members at the eave line and the wider glass; this means more sunlight to make the plants grow as well as a very pleasing appearance.

The LUTTON V-Bar Greenhouse is *guaranteed rust proof*. You will be much better satisfied with a structure that is not going to develop a lot of "yellow streaks" in a short time and, besides, the constant expense of painting a rust stained house is worth considering. LUTTON everlasting slate benches are in keeping with the other features of permanence and high quality. Such practical features as heating, ventilation and drainage are planned by experienced specialists.

Undoubtedly you have certain definite ideas about your greenhouse to be. You know what you intend to grow and you want your greenhouse to fit into the general scheme of your estate to best advantage both architecturally and practically. You can safely entrust your greenhouse problem to the LUTTON CO., for we are experienced *horticultural architects* as well as *builders* of the most modern types of glass structures.

Send for full particulars, recent views, and a small sample V-Bar section.

Modern Greenhouses of all Types and Sizes

Conservatories

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LUTTON Greenhouse in the Gardens of Daniel G. Reid, Esq., Irvington-on-Hudson, New York

Kipling At Fifty

An Editorial in the New York Times says of his verse:

¶ Hardly a line of all his poems but strikes a free, vital, inspiring note for which the world is the better.

¶ His poems, interpreted the soul of the colonies for the motherland as had never been done before and made both of them freshly aware of the sentimental ties that bind them together. Statesmen decreed the British Empire. But Kipling was one of the few men who breathed into it the breath of life.

Collected Verse of Rudyard Kipling

Cloth, Net, $2.00. Ooze Leather, Net, $2.50

***Illustrated by W. Heath Robinson*, Net, $3.50**

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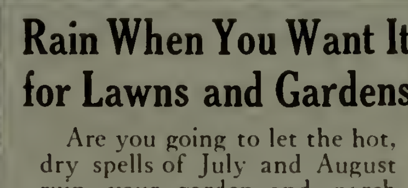

Are you going to let the hot, dry spells of July and August ruin your garden and parch your lawn? Or are you going to keep things green and thriving by using a

Young $5 Fountain

With this sturdy sprinkler, you can abolish your labor each evening with the hose and get better results. Its soft mist-like spray gently and evenly saturates vegetation without washing out roots or flattening down young grass and tender seedlings.

It has a low, heavy base to prevent overturning and a rounded bottom to permit dragging over the turf without injuring the roots.

Lawns, gardens, tennis courts, golf links, croquet grounds, etc., can be kept in splendid condition with it.

Send check, cash, or money order for $5.00 and we will ship immediately.

Write for free booklet "Moisture in Cultivation."

Spray Engineering Co., Div. 3
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Four compartment greenhouse erected for Stewart Duncan, Newport, R. I.

Jas. Russell Pope, Architect

This Greenhouse Catalogue Anticipates Your Questions It's Really A Guide Book

IT tells you just the things about greenhouses that we imagine you want to know.

Its anticipated answers are based on the hundred and one questions we are constantly being asked.

Its illustrations show an exceptionally interesting collection of houses and conservatories of all sizes and for all purposes. By far the greater number are the medium sized ones. For example, there are fully eight of the 18 x 50 feet size, shown in different locations and varying in design.

This is the size we sell the most of, and so have given it merited consideration.

The book is beautifully printed in colors, and has a delightful restful atmosphere of greenery about it, that adds no little to its pleasure of perusal.

In short, it abundantly reflects the superior kind of houses we build, and the firm we are who build them.

Sent only on request to those interested in possessing a greenhouse or conservatory.

Hitchings and Company

General Offices and Factory, Elizabeth, N. J.
NEW YORK: 1170 Broadway BOSTON: 49 Federal St. PHILADELPHIA: 40 S. 15th St.

Everything for Yard and Orchard

HAVE you arranged to make your yard individual and attractive this coming season? We will design it free, if desired, or you can order from our catalog for immediate attention.

Our 800 acres of fruit and flowering trees, flowers, vines and shrubs, etc., offer a varied list that will please everyone. 60 years of satisfied customers have proven their quality. Write for catalog at once.

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Secure our special booklets for Fall plantings in
Evergreens—Hardy Oldfashioned Flowers
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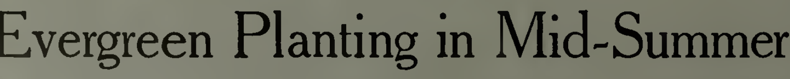
RUTHERFORD NEW JERSEY

The Andorra Way



FROM the latter part of July until late September is a most favorable period for the successful planting of Evergreen trees and Shrubs. Our Evergreens are lifted with a large ball of fine roots and earth which is securely wrapped in burlap to insure their safe shipment. Catalogue if requested.

ANDORRA NURSERIES
Wm. Warner Harper, *Prop.*
BOX C, CHESTNUT HILL PHILADELPHIA, PA.

I made a threatening motion to drive him away, but instead of being frightened he lumbered up on to one of the lily pads quite near me. There he complacently sat and stared at me.

I interpreted this as a froglike desire to promote friendly relations, so, not to be outdone by a frog, I hastily scratched in the ground and luckily turned up a good fat worm, which I laid on a pad. Like a flash he hurled himself from his lily pad to where the worm wriggled, and even before he landed, the worm had disappeared. Then he did something that pleased me mightily.

I have often been startled, while going along a lonesome country road at night, by the sudden croaking of a bullfrog in a neighboring marsh. The volume and variety of croaks seemed beyond the power of any frog that I had ever seen. But now, seated before me, he puffed out his throat like a toy balloon and the mystery was solved.

I turned for another worm to reward him for his courtesy, and just as I had laid it on a pad convenient to him, there came a splash and the worm was swallowed, but by another frog. This newcomer not only stole the prize, but he turned upon the first frog and put him to flight, and then sat and blinked up into my face not one foot away.

I felt sorry for my first frog acquaintance, but still I could not help admiring the progressive and strenuous attempts at scraping an acquaintance exhibited by frog number two. I treated

He enjoys sitting on my hand and taking worms

him royally to worms, occasionally tossing a titbit to the dethroned croaker, who looked on from a respectful distance.

This friendship was weeks old when I thought to test just how far he would allow me to go. I stretched out my hand toward him, as he sat on a lily pad waiting for worms, and I expected to see him disappear in a flash when he judged I was close enough. Closer and closer went my hand, until my fingers were within an inch of his green, warty body. I stopped and wished he would jump. It was I that held back. There sat his froglets staring up at me with never an indication of fright. My fingers touched his body, then closed over him and I lifted him and placed him on my hand. The sensation was far from pleasant at first, but since that time I have repeated this so often that all feeling of repugnance has vanished. Any time that I pick him up he sits perfectly contented, taking the worms that I offer him. I grow tired before he does.

I have made repeated efforts to effect a reconciliation between these two frogs, but without success. There is a fierce feeling of jealousy there that will never be overcome. In the struggles that occur the smaller frog is always beaten into temporary subjection. From this experience I have grown to think better of frogs, and don't doubt that if I had time I might be able to teach these frogs tricks that would put the trained fleas to the blush. L. J. Doogue.

ARE you interested in a heat that will give you all the comforts of steam or hot water, with the added advantages of ventilating while it heats, and at the same time mixing the air with just the right healthful amount of moisture?

Are you interested in a heat that is noiseless, leakless, dustless and odorless?

Do you want a heat that you can absolutely depend on heating any room in any weather—a heat that is as economical as it is efficient?

Then send for our booklet, "Some Saving Sense on Heating."

THE KELSEY
WARM AIR GENERATOR

231 James Street, Syracuse, N. Y.

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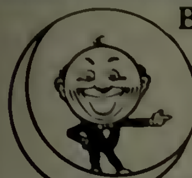

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that Moons' have some Hardy Tree or Plant for Every Place and Purpose.

Write for information and catalogue

The Wm. H. Moon Co.

Morris Heights — Morrisville, Pa.

PERENNIAL FLOWER GARDENS

Plant your gardens with old fashioned hardy flowers. Arrange your planting so as to have blossoms from May until December. Come to the Nursery and see the plants in bloom. Then plan your garden. We also carry a full line of nursery stock which we know would interest you. Send for our catalogue C.

THE STEPHEN HOYT'S SONS CO., INC.

Telephone 333 — New Canaan, Conn.

DREER'S
Mid-Summer Catalogue

offers the best varieties and gives directions for planting in order to raise a full crop of Strawberries next year; also offers Celery and Cabbage Plants, Seasonable, Vegetable, Flower and Farm Seeds for summer sowing, Potted Plants of Roses, Hardy Perennials, and Shrubbery which may safely be set out during the summer; also a select list of seasonable Decorative Plants.

Write for a free copy and kindly mention this publication

Henry A. Dreer
Philadelphia, Pa.

Farr's Gold Medal Irises

Awarded Gold Medal at Panama Pacific Exposition

DURING recent years I have found the hybridizing and raising of seedling Irises a very interesting pastime. Of the many thousands raised, scarcely any two are alike. These beautiful new Irises raised at Wyomissing are a selection from the many thousands of hand hybridized Seedlings. During the past season these Irises have been frequently exhibited at flower shows held by Garden Clubs and other organizations where they invariably won highest honors both in this country and abroad.

Mr. Gilbert Errey of Australia, writing to the Gardeners' Chronicle of London, states that having obtained the best varieties of England, Germany, France and America, he found that for "delicate beauty, combined with size, and frequently fragrance, the seedlings of Farr are unsurpassed."—*Gard. Chron., April 29, 1916.*

I am sure that those who are interested in growing especially fine things, things out of the ordinary particularly for exhibition purposes, will find these a great improvement over the older varieties. From the numerous fine varieties I have selected those which I offer as the

Panama-Pacific Collection

Chester Hunt. S. celestial-blue; F. dark marine-blue, bordered pale blue, shading at base. 27 in., 75 cts.
Hiawatha. S. pale lavender, flushed rose; F. royal purple, bordered lavender. 28 in., $1.
James Boyd. (1915) Immense broad incurved standards forming a high dome-shaped centre; clear light-blue. Falls dark violet, tipped and edged lighter; forms a broadly expanded flower. Named in honor of Mr. James Boyd, Haverford, Penna., winner of Silver Cup and a Gold Medal for a display of Irises made in Philadelphia in 1915 (all plants from Wyomissing Nurseries). 20 in., $1.
Juniata. S. and F. clear blue, deeper than Dalmatica; large, fragrant flowers. The tallest of all the Beardless Irises, with unusually long drooping foliage. 75 cts.
Mary Garden. S. pale yellow, flushed pale lavender long, drooping falls, creamy white minutely dotted and veined maroon, stigmas clear yellow. 28 in., 75 cts.
Mussasoit. (New 1916) Standards and falls a very distinct shade of metallic Venetian blue—quite difficult to describe accurately. 75 cts.
Nokomis. S. pale lavender-white F. velvety dark violet-blue, bordered white. Medium size flowers; tall growing, free blooming. 50 cts.
Powhattan. S. light bishop violet with deeper border; F. deep purple with crimson shade, large, horizontal spreading flower. 38 in., $1.
Quaker Lady. S. smoky lavender with yellow shadings; F. ageratum-blue and old-gold; stigmas yellow; yellow beard. 38 in., $1.
Red Cloud. S. rosy lavender-bronze; F. velvety maroon-crimson, reticulated yellow, stigmas old-gold. 2 ft., $1.
Wyomissing. S. creamy-white, suffused delicate soft rose; F. deep rose at the base, shading to a flesh-colored border. $1.
(A little girl of ten, trying to describe this Iris, said, "I really can't tell you what color it is, but it's every kind of fairy color.)

Entire Collection of 11 Varieties, $8

All of my own Seedling Irises together with upward of 500 other varieties are illustrated and described in my new book

Farr's Hardy Plant Specialties *(Edition 1915-16)*

which shows many beautiful plates in color of Irises, Peonies, Oriental Poppies, long-spurred Aquilegias, and many other hardy plants for early fall planting. Most garden-lovers have this book, but if you do not have a copy you should write for it to-day—it will be sent on request.

BERTRAND H. FARR-WYOMISSING NURSERIES CO., 103 Garfield Ave., Wyomissing, Pa.

In the September issue of Country Life I will tell you all about the wonderful collection of Peonies that my painstaking care has made the largest assortment in America.
So many have asked me to help them plan their gardens that I have found it necessary to form a special department in charge of a skilful landscape designer and plantsman. I shall be glad to assist you in any way desired, whether by off-hand suggestions or by advice, which will be cheerfully given without charge. For the preparation of detailed plans a charge will be made.

Do You Want a Business of Your Own?

The desire of most every man and of every woman who earn their living is to have a business of his or her own.

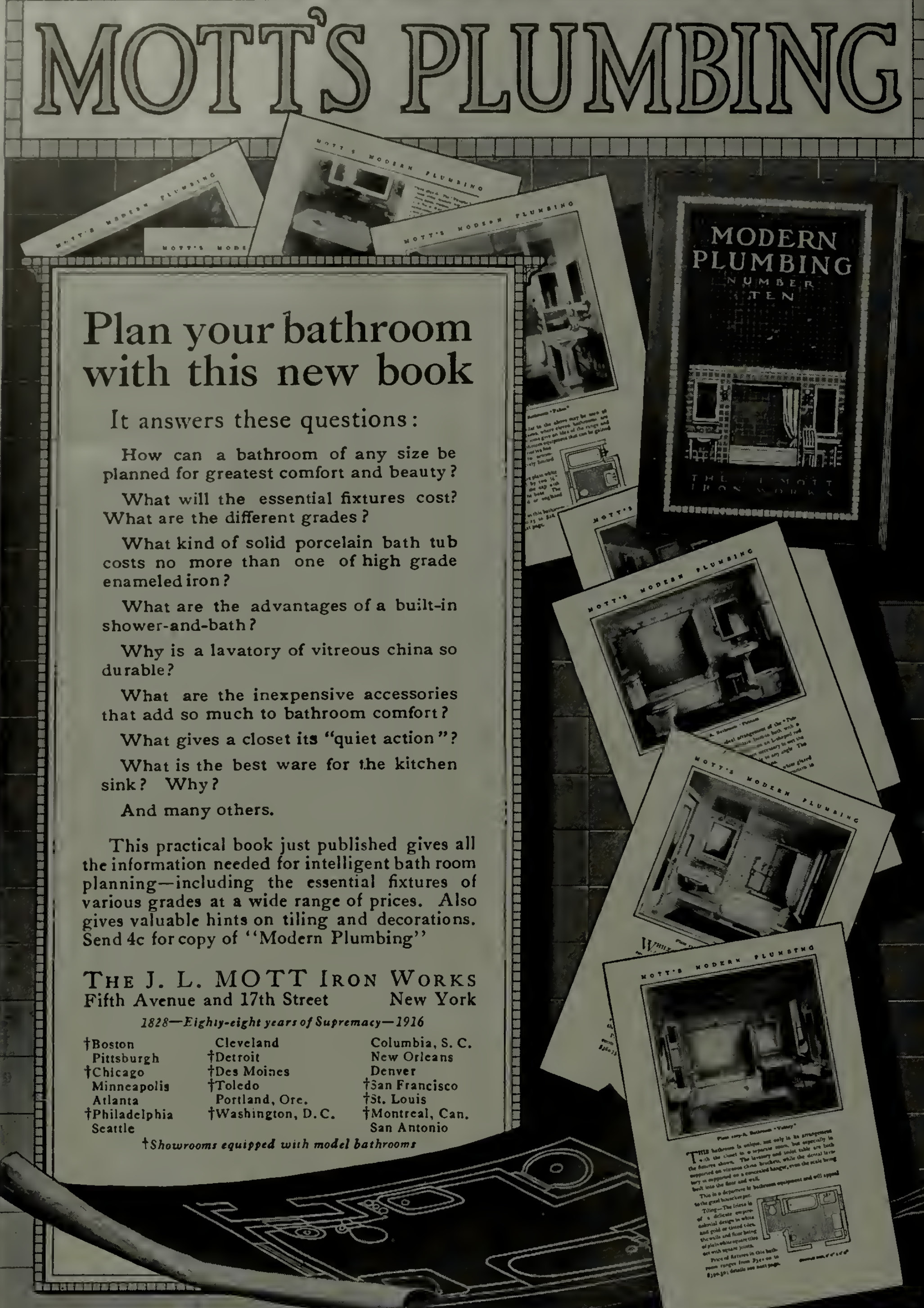
Doesn't this idea appeal to you? Are you not interested in the freedom attached to being your own "boss" and knowing that all of the energy you put in the work is for yourself and the greater enthusiasm you have the sooner you enjoy a handsome income?

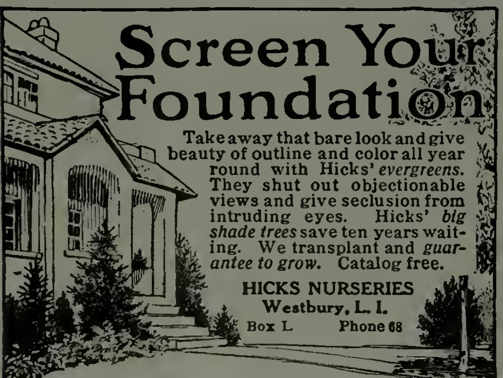
We will give you the opportunity now to start your permanent business and to safeguard yourself against the unfortunate circumstances of so many who in their declining years are depending on the generosity of someone for a living.

We have opened the door of success for a great number of men and women who are PROSPEROUS, and we will show you how to lay the foundation for an assured future.

If you are not satisfied with yourself or your income—WRITE US NOW.

DOUBLEDAY, PAGE & COMPANY Garden City, New York





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Waterweeds Removed
These unsightly weeds are easily removed from the bodies of lakes, ponds, rivers, etc., by the Ziemsen Submarine Weed Cutting Saw.
Write us for particulars
ASCHERT BROS. West Bend, Wisc.

Cromwell Gardens Handbook
presents the best varieties of Roses, Plants, Shrubs and Trees for summer and fall planting. Send for free copy.
A. N. Pierson, Inc., Cromwell Gardens, Box 11, Cromwell, Conn.

Start a Fernery
Brighten up the deep, shady nooks on your lawn, or that dark porch corner—just the places for our hardy wild ferns and wild flower collections. We have been growing them for 25 years and know what varieties are suited to your conditions. Tell us the kind of soil you have—light, sandy, clay—and we will advise you.

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EDWARD GILLETT, Box 5, Southwick, Mass.

MIDSUMMER NATURE STUDY

The spreading plume of the goldenrod

AUGUST is summer settled down, showing herself as she is, with all her freshness worn off. It is not so inviting a time for nature study; the warm weather, the storms often lasting for days, and the shorter evenings seem to have a rather depressing effect on research work. At the same time there are many things ripe, in full bloom, and ready at hand in the outdoor world. I would suggest following either one line of study or working out what August offers along all lines of nature study. Suppose one takes the following for suggestions this month:

The Composite family — This family is at its full glory in August. The Composites represent the largest of all the plant families. As this family is popularly understood, the Compositæ are plants where many flowers live together in one head which forms the flower; so the flower of the Composites is really many flowered. All the year one of them, the dandelion, tries to blossom. Give it a chance in open ground and a little warmth and it struggles up to bloom. The daisies, asters, thistles, ironweeds, clovers, tansy, yarrow, coneflowers, and Joe-Pye weed are all Composites. The asters and goldenrods, large and rather difficult members of this family, might well test the mettle of some to use for their special study. Common asters are the following: large-leaved aster, low, showy aster, New England aster, purple daisy, small fleabane, common blue wood aster, purple-stem or meadow scabish.

The goldenrods are more perplexing than the asters, if that can be. There are more than eighty species in the United States. Wherever you are, you can find a number of these species. All of the goldenrods have yellow flowers, except the white or creamy-white silverrod, as it is aptly called.

Some of the most common of the goldenrods are the following: blue-stemmed wood, robust, fragrant, zig-zag, silverrod, bog, showy, seaside, sweet or anise-scented, and field goldenrod or Dyer's weed.

The Compositæ all belong to the thistle family.

The songs of insects — This is an interesting special study. It represents a field for real research work, as there is little known on the subject. Flies, bees, cicadas, locusts, katydids, grasshoppers, and crickets represent the material to work with. Crickets are the most common and therefore the easiest of all material to gather for observation.

Why is it that flies buzz on the wing? Bees produce different sounds under different conditions; the questions are why and how? With the locust the sound is produced in two ways, first by rubbing the hind femora against the fore wings; and second by rubbing the upper surface of the front edge of the hind wings against the under surface of the fore wings. These two different methods of sound production are never used by the same species, but some species use the first method, others the second. Study the musical apparatus of the male katydid.

The spiders — They are worth special study, too. Try such forms as the funnel-web, orb, ballooning, cob-web, crab, and trap-door spiders.

The following books are needed in the month's study: Gray's Botany; Chapman's "Southern Flora"; Comstock's "Insect Life"; Howard's "Insect Book" and "Nature's Garden" in the Nature Library.

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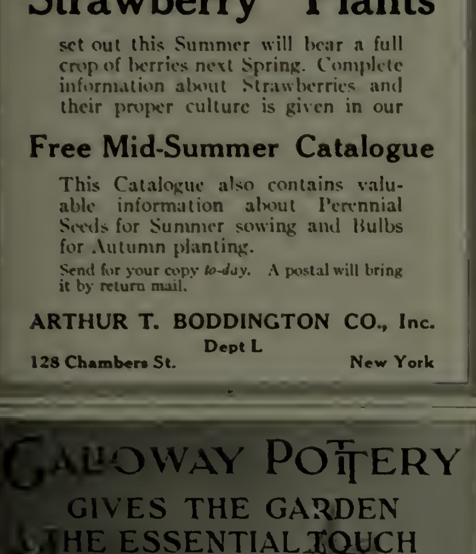

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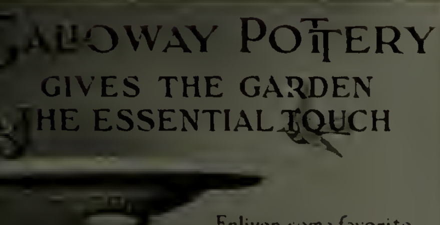

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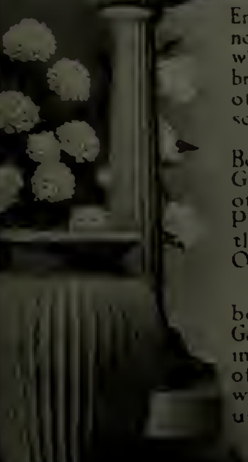

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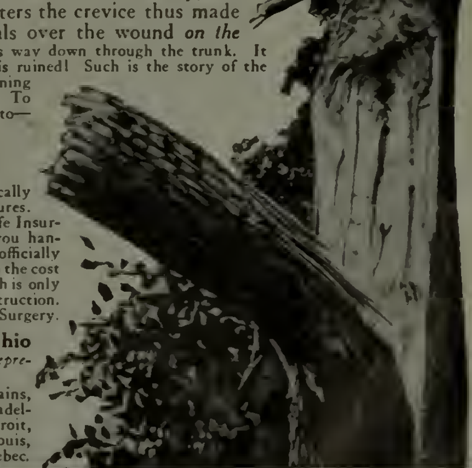

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The AUTOMOBILE

MAINTENANCE AND UPKEEP

THE OLD MOTORIST CONVINCES SOME CLUBMATES THAT A MOTOR CAR WON'T RUN WITHOUT ATTENTION, AND THAT KEEPING A CAR IN CONDITION REQUIRES MORE BRAINS THAN MONEY

By C. H. CLAUDY

THE Motor Club was having an oyster roast at the country home of one of its members. It had been a pleasant run of forty miles from the city, and most of the drivers had enjoyed it very much. The happiest of them all was the Ignorant Motorist, who had driven his new Meoic for the first time, and arrived before the others.

"Some car, eh?" he jubilated. "I hit fifty-five on the level, and went up Higgins's Hill at forty, from five miles at the bottom. What's the matter with all you slow pokes?"

"Maybe we haven't the power you have," smiled the Club President, "although Cautious Driver, over there, has a new Parkerino that is supposed to have plenty of steam."

"Well, I heard that it wasn't good for a new car to drive it fast, so I crawled out here on a ten-mile-an-hour schedule," confessed Cautious Driver. "Besides, she has just been scrubbed with soap and water and is nice and clean, and I didn't want to splash her all up!"

"I wish I had a nice new car," lamented Year's Experience. "My old boat is sure a disappointment. She used to go fifty-five and climb Higgins's Hill at forty an hour and look like Cautious Driver's Parkerino—but she doesn't any more. I thought she'd last me for three years, but she is a wreck. Engine knocks, paint gone, upholstery cracked, rides hard, fairly eats up tires, and guzzles oil like a toper. I suppose she was too cheap to be good. I only paid $1,350 for her."

"Humph!" snorted the Old Motorist, stirring a mess of roasted oysters around in a tin cup with various highly spiced condiments which he poured in with lavish hand. "Humph! Next time you'd better get one that costs $350. Then motoring won't cost your kind of driving so much."

"That's the first obvious statement I ever heard you make," laughed Year's Experience. "Of course a car at $350 won't cost so much as one at $1,350. But what's the matter with my kind of driving?"

"If it's obvious, why didn't you get one at $350 in the first place?" demanded the Old Motorist, glaring over his cup. "It isn't obvious, or you'd all buy the most inexpensive cars you could get and throw them away at the end of a year and get new ones. Here are you, with a $1,350 car a year old fit for the scrap heap. Ignorant putting his new Meoic on the skids as fast as he can, and Cautious, here, who thinks ten miles an hour as a schedule is taking care of his car, ruining it as a second hand proposition, hand over fist, with soap and water!"

Three pairs of accusing eyes focused themselves upon the Club oracle. Three frowning faces resented the animadversions upon their characters as motorists. And three voices raised a protest.

"Oh, I say—go easy! Why I——"

"Why, you old reprobate! You said yourself one shouldn't drive a new car too fast——"

"What's the matter with washing a car? Does it preserve it to keep it dirty?"

The Club President, circulating about the fire where the oysters were roasting upon a great piece of sheet iron, seeing that the club members were all supplied, intervened.

"They are all innocents, Old Motorist," he said, kindly enough. "Suppose you start 'em right.

"There's a whole tub full of bottles about ten feet behind you," he continued in a whisper.

The Old Motorist jumped up hastily and moved to the tub where ice and bottles swam together. "Got an opener, some one?" he cried.

"I suppose no Club outing would be complete without me telling some alleged driver where he got off," he began. "Listen, then, infant class in motorology, while I tell you a few facts about the maintenance and upkeep of a car. In the first place, the time to begin to maintain a car in good running order is the day you buy it. I've heard old drivers, getting a new car, exult because, 'Oh, no more shop bills for six months, anyway—she's good for that long without attention.'

"Now, it isn't money half as much as brains that counts in maintaining a car. Here Ignorant Motorist is doing all he can to put his car in the scrap class by driving it fifty-five an hour or forty up a hill before it is 'worked in.' I know it's a temptation, but it's folly to yield to it, and he isn't using his brains when he does it. When a car is new, none of its many bearings is truly smooth. They are milling machine smooth, perhaps ground smooth, but they are not *run* smooth. The main bearings in the engine, that is, the crank shaft bearings, the cams on the cam shaft, which operate the valves, the teeth of the gears in the driving system and in the transmission, the bearings in the transmission, not to mention the roller bearings in the wheels—all of them are new, tight, unpolished. You go out and run your machine fast, skedaddle up hills at forty an hour, hit fifty-five on the level. What happens? Before fresh oil has a chance to film in between, before the surfaces are polished to a running smoothness, the bearings heat, get tighter and wear unevenly, and you have started your car toward actual ruin as a fine machine. On the other hand, if you do as Cautious did, run ten miles an hour, say fifteen or eighteen at the outside, you give everything a chance to be thoroughly lubricated, and to wear smooth before you put any bearing to a strain. You went up Higgins's Hill on high. Your speed shows that. But it would pay you to run on the level in second gear for a while if there was no hill to require it, merely to work in the gears in second speed."

"But I thought all cars came well lubricated," protested Ignorant Motorist anxiously.

"They do—of course they do!" snorted Old Motorist. "But don't you understand that the steel worn off in the first running soon vitiates the oil for lubricating purposes—makes a regular cutting emulsion out of it with fine metal dust, and that if you don't give the new oil a chance to work in and replace this, you are going to cut into all your bearings? It isn't fair to the machine. Why, look at the way they run a battleship, when it is new. Do you suppose they take it out for its trial trip as soon as it is finished? Not much. First, they run the engines slowly, very very slowly, for hours and hours, with the ship tied up to a dock. Then, still very, very slowly, they steam around for days and days, watching each bearing, taking its temperature, watching the oil consumption, and patiently waiting for everything to wear to a running smoothness. Only after thousands and thousands of revolutions will they put on a little speed, and only by degrees do they work those mighty engines up to speed. Same way with a locomotive—little by little, slowly, slowly, they work it in, until it is ready to stand a strain.

"Now an automobile is far less reliable and strong than a battleship and nothing like as sturdy as a locomotive. It is subjected to more sudden strains, and to jolts and jars that the heavier machines never have. Yet you climb blithely into a new car and shoot around the country at fifty an hour—and in a year she is ready for scrap. Meanwhile she has cost you good money to be put back into reasonable running condition. But if you'd used brains in the first place, you'd have had a good car without spending so much repair money. But all you can think of to say is: 'It didn't cost enough to be good!'"

"How far should I run my car slowly?" asked Cautious Driver with a superior air at the crestfallen appearance of Ignorant Motorist.

"I should run at least 500 miles, never exceeding twenty an hour, and using second on all hills that are really hills, whether the car could climb them on high or not," was the positive and emphatic answer. "I know it's hard, and there is always the temptation to see what the new car will do. But it pays to resist it and to drive slowly until every bearing is worn fine and smooth and yet not scarred or worn improperly from overheating, sticking, or poor lubrication. And of course that applies also to piston rings and pistons. Let them wear smooth and snuggle themselves home, and you have a fine compression which means power. Let them 'work in' too fast, and they wear too quickly, and you may have a cylinder a wee bit off the perfect round. Then you never *will* get compression in her."

"Well, I'm glad to know the Club Oracle approves of the way I take care of my car!" smirked the Cautious Driver. "I think——"

"Oh, never!" interrupted the Old Motorist. "I don't believe it. Cautious you are, but your 'care' is pretty short winded. You let your car be washed with soap"—accusingly, and with a glare.

"Well, isn't that all right? You don't want the car dirty, do you?"

"Certainly not. But any one knows that cold water is the only thing to put on new paint—cold water in quantities, not in rain drops.

"The best job of coach painting in the world won't last if you don't take care of it. There are from fifteen to thirty coats of paint on a good car job—dried, rubbed down, dried, repainted, dried, rubbed down, and so on. But the best paint shop in the world can't season each coat to a finish between coats. If they did, it would take years to paint a body. The result is that new paint is soft, to a certain extent, when you get it, and only time and sun and air will harden it. Meanwhile, you take it in to some garage where they are in a hurry, and instead of cold water and a sponge or a canton flannel rag, softening and gently removing mud, they slap soap on it. There goes your high gloss polish. Not necessarily with the first soaping, but with only a few she is gone forever. Cold water, and lots of it, gentle rubbing—they preserve the paint and varnish.

"Then, after a week or so, when the paint is a little harder, you should put on a good body polish, and have it used regularly. You want your paint hard enough to resist spotting from rain and mud, but you don't want it so hard that it reaches the cracking point. The sun and wind take oil from the paint layers. A good body polish puts it back. Look at my old boat. Four years old she is, and never been painted. I don't say

"When a feller needs a friend"

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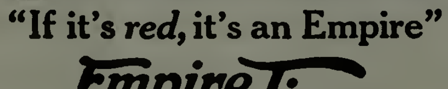

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she looks like a new car, but I do say she looks better than the car of Year's Experience there, and I'll leave it to him if she doesn't."

"It's the same way with leather and tops. You buy a car with the finest of hand-buffed leather in it. Then you proceed to make that leather earn its price by leaving it out in sun, wind, and rain, and expecting it to last forever. But you buy a $3.50 pair of shoes, and if they get soaking wet, you dry them on a shoe last, and then oil them afterward to make them pliable and to prevent them cracking. Nice, sensible differentiation, that!

"What you ought to do—where's that opener?—what you ought to do is to get some leather dressing and have it applied at night when you bring your car in, and leave it to soak in, over night. Do this every three weeks and your leather will never crack. Oil in the leather is evaporated by sun, and dust works into the pores and rots and cracks it. Keep the pores full of a leather dressing, and the dust can't get in.

"Seat covers? By all means. But don't expect to cover leather with seat covers and find the leather like new when you take them off in a year. For while the oil evaporation from leather is not so great through a seat cover, it is there, and oilless leather, like wet shoes, will crack, I don't care how good the leather is to start with."

"How about tops? Mine is all cracked up now," complained Year's Experience. "What did I do to make it do that way?"

"You folded it up and stuffed it into a hood without laying it in straight folds. You never dusted it or beat the dirt out of it. You left it standing in the sun and the rain and the wind and never gave it any waterproof dressing to keep it from soaking through. Now you have to give up $25 to $50 to get a new cover. My top lasted me four years, simply because I dressed it once in six months, dusted it every time I folded it up, and saw that it didn't wrinkle more than was needed when I shrouded it away in its hood.

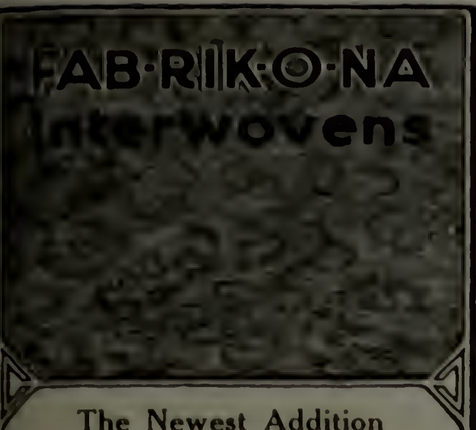
"But both tops and paint are details, although they cost money when no brains are used in maintaining them. They make a car second hand in earnest when they are not good in appearance, but a car may look like a scarecrow and go like a racer. It's the lack of intelligence which starts with fifty an hour on a new car that, carried through to its logical end, makes a perfectly good, high grade, $1,350 car no account in a year."

"I'm listening," said Year's Experience, sheepishly.

"And I'm going to profit—keep it up!" added Ignorant Motorist.

"Where's that opener?" The Old Motorist failed to snort at this evidence of appreciation of his efforts. "Well," he went on, after his thirst was partially satisfied—the Oldest Member had never seen it completely quenched—"well, there is the question of lubrication. I've talked it pretty hard here, and I won't go over it again, except to say that grease cups ought to be turned down every single day and refilled twice a week on a new car for the first two months, any way. There are a lot of places on a car that don't seem to require lubrication much, because they are not in continuous motion. Spring bolts, for instance, and the spring leaves. But there is wear on spring bolts, and having plenty of grease shot into them saves the wear. Springs ought to be oiled regularly, particularly when new. For they, too, wear to a polish, if they don't rust. And the only way to keep them from rusting is to have oil in between them so the water can't get in. The need for lubrication on these parts is greatest when the car is new. Use brains here, as well as lubrication, and you save dollars in bills and dollars in second hand value, and, as far as that goes, dollars in wear, not only of tires but of the car as a whole.

"There is a device which is put between the leaves of springs, nowadays—inserts of some cellular substance packed with graphite grease. Watch a set put in. The first thing they do is to sandpaper and then emory paper the leaves to a polish. You can't get easy spring action if your springs bind. And hard spring action means additional jolting on the car and the engine. For easy springs not only make you comfortable above but make the chassis comfortable below, since they yield to the road blows instead of making the tires and the wheels take it all. Well oiled springs mean increased wear on tires as well as longer life for the car. Year's Experience complains about his tire mileage—I'll bet that his springs never have been oiled."



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Splash! but they held their pipes!

HE THOUGHT he could fish better facing the bow. Without a word to his guide he rose and turned—his foot caught in a rib of the boat and—over it went!

Mary Raymond Shipman Andrews, author of "The Perfect Tribute," has written for the annual Fiction Number of Scribner's a rollicking story of a canoe trip of two brothers. It's called "The Discovery of Ponce-Long," and it's full of the amusing situations that vacationists find in the north, with a pleasant background of balsam, sizzling bacon, and French-Canadianisms.

Drawn by A. B. Frost *Copyright by Charles Scribner's Sons*

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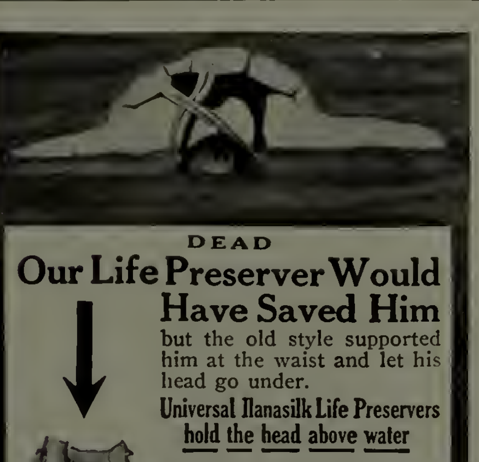

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but the old style supported him at the waist and let his head go under.

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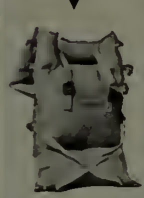

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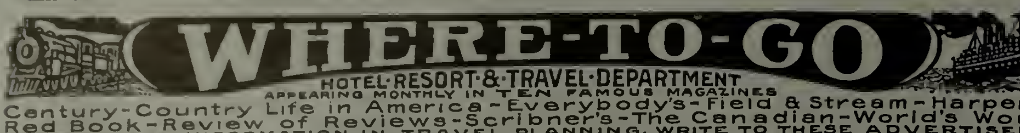

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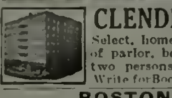
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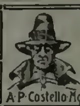
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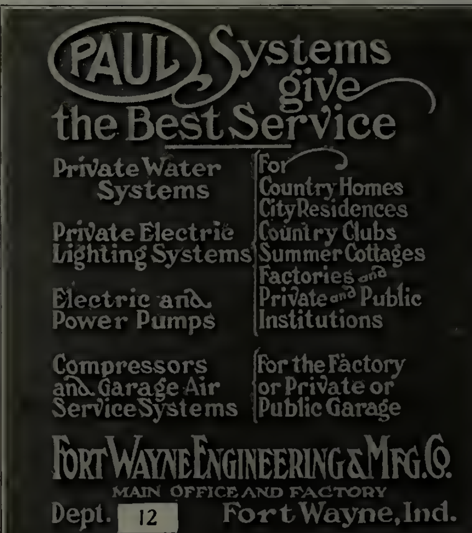


Year's Experience reached for the opener, hurriedly. He had nothing to say, and tried to conceal the lack with a bottle.

"You—I'm talking to *you*, Year's Experience"—went on Old Motorist, "have an old car, though only a year out of the factory. I rode with you once. I tried to tell you several things that your car told me, but you wouldn't listen. Your car talks about her troubles—all cars do. I rode with a man last week. Whenever we went around a corner, I could hear his emergency brake grinding.

"'Why don't you look for the trouble?' I asked.

"'Oh, I know what it is. Just a rub in the brake housing. It doesn't amount to anything.'

"But it did. It cost him $300. What had happened was this. Under most rear axles is a strut or support, called a truss rod. It is fastened to eye bolts at either end. In his car the eye bolt fastens into the stationary part of the brake housing. One of these bolts had pulled in two, and the resulting release of pull on the brake housing made the car complain when it went around a corner. But he paid no attention. So all the strains on the rear axle came in the differential housing instead of on the truss rod. Gradually the housing pulled apart, he lost all his grease, wore out his differential gears by running them dry, and finally had to have a new set, and a new rear axle.

"Don't neglect the noise—it means something.

"I know a man who had what he thought was a slipping and grabbing clutch. He let it slip, intending every day to have it fixed One day his car stopped with a jerk that threw him over his wheel, cut his head open and laid him out. When they looked for the trouble, they found a broken key in the transmission—one of the gears had been slipping and catching. The broken key got in finally between gears and of course he stopped. Hospital bill, $50; transmission bill, $100; delay, three weeks—all because he hadn't attended to the complaint of his car which was telling him as loudly as it could that something was wrong.

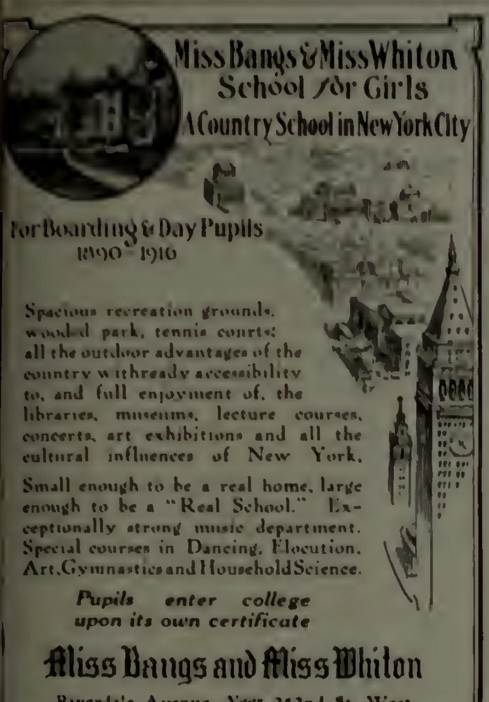
"You can't maintain a car without care. You have to spend time and thought and *brains* to keep a car running. The car that overheats has a wrong mixture or a stoppage in the water system. Brains fix it before it runs out of water, burns the oil up, sticks fast in the mud and scores a cylinder. The car that has a grind in the differential probably has a broken tooth. Brains know that one new ring gear costs now, installed, something less than $10. Let that broken tooth get thrown into the driving gears and it may wreck the rear system.

"Same way with the electric system. Here you go, brainlessly driving a new car and thinking your battery is fool proof. Oh, I suppose you give it water to drink, but do you ever think of having it tested to see if the acid is right or if it needs a "booster" charge? Of course not. Some day you will try to start and find the battery empty—or, if you don't do that, you'll overcharge it, or leave it standing six months in the garage while you take a long trip, and when you come back, it's sulphated and ruined $50 worth.

"The unseen lubrication, spring bolts and springs, brake shackles and rods, clutch and differential, transmission and front wheels, steering gear and steering knuckles—those are no more important to maintain in first class shape than is the electric system. Never a system yet invented fitted all possible cases and men. All of them are compromises. Therefore, you want to see regularly whether your battery needs boosting or is overcharging, if you wish merely a normal depreciation at the end of the year and not an abnormal one.

"I won't go into what you foolish drivers do to tires. From starting and stopping so fast that you skid your treads, to running half inflated, from leaving spares out in the sun all day to driving through sand on an old tire and never looking at it to see if you have a sand blister and emptying it, you treat your tires as if they were steel. Of course, worn out tires don't depreciate the car, but they do make it expensive and make you try to save on repair shop charges.

"The only way to maintain a good car at anywhere near its value," the Old Motorist concluded, "is to use your brains and spend some little time on it. You can't hire it done at a garage—you have to do the thinking yourself, unless you have a competent mechanician in your employ—and I take it we are all our own chauffeurs. And from the exhibitions given in this club,"—the Old Motorist glared—"I wonder any car lasts a year for any one except myself."



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The school was established in 1897, and now has pupils in every state of the Union and 22 foreign countries.

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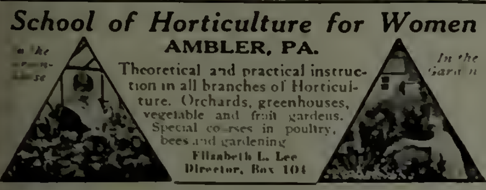

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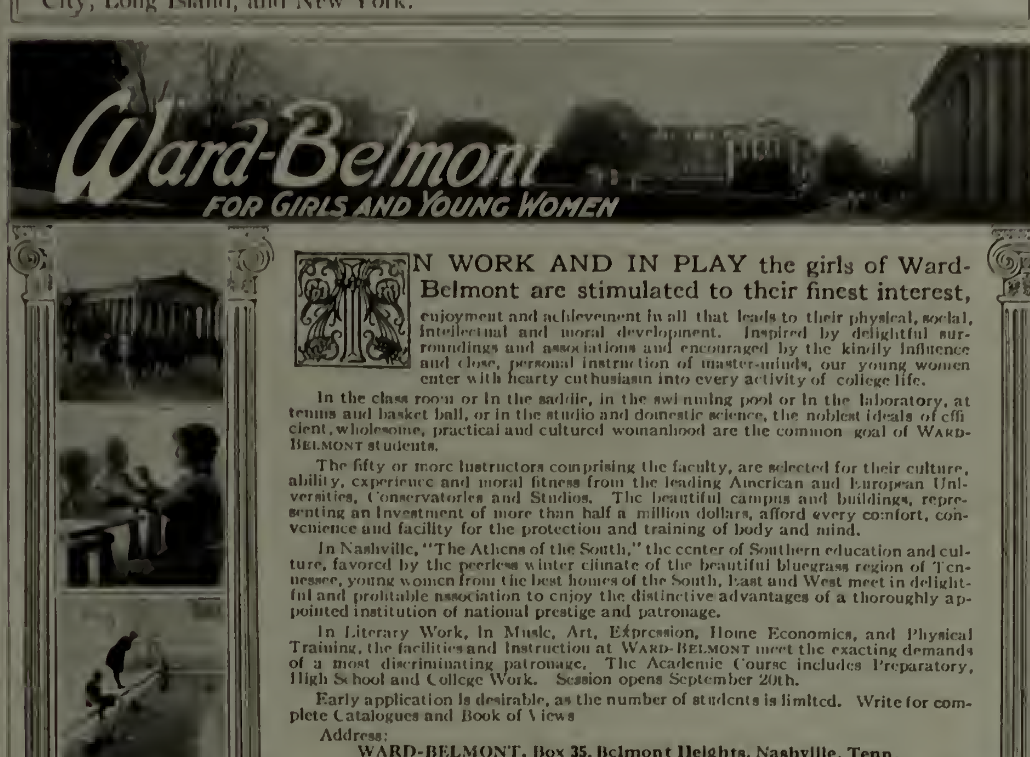
In this department are printed announcements of high-grade schools. Information regarding schools will be gladly furnished to readers upon request. For school rates address SCHOOL DEPARTMENT, COUNTRY LIFE IN AMERICA, Garden City, Long Island, and New York.



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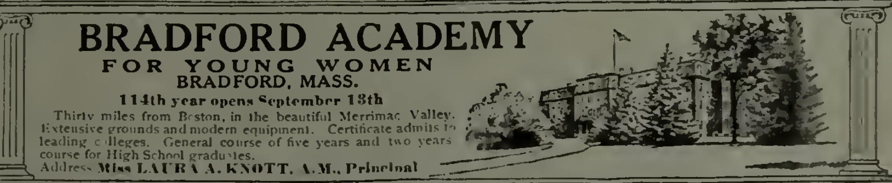

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PICTURES HUMANIZE OUR HOMES

NOW that our extreme sensitiveness to foreign criticism of our judgment of art is passing, there is a quite noticeable movement against the severely plain method of finishing and decorating the walls of our homes—a condition brought about by the fad for pure period furnishing, coupled with either the inability of the decorator to humanize and soften their severity, or the unwillingness of the owner to allow him to do it.

More frequently it is because the owner has not been able to decide what he wants on his walls, and is not willing to leave the selection of the pictures, with which he must live, to the taste of another. On this course he is certainly to be commended, provided, of course, he does eventually choose appropriately and wisely.

It must not be understood that pure period furnishings and settings are not desirable—far from it. But period settings of whatever type are difficult to live with, however perfect, unless they are relieved with pictures that at once soften the decorative scheme and appeal to the imagination. Nor does one transgress any prescribed rule in decorative art in so using pictures. Even as regards the very classic lines of the Adams' period this holds good, and the most perfect examples of all original period decorations show this humanizing influence.

One of the most interesting recent exploitations of this idea is seen in one of the new great houses on Fifth Avenue. In a superbly finished salon of purest Georgian construction and finish, the woodwork and paneled walls are painted a pale blue-green that, carried out in carpet, hangings, and upholstery, would be too cold and unresponsive if it were not for the half dozen beautiful Romneys and Gainsboroughs that fill the several available wall spaces, and by their presence make of this almost too perfect apartment a most agreeable sitting room.

Mr. James Collier Marshall

Director of the Decorating Service of Country Life in America's Advertising Department

will solve your problems of home decoration

—color schemes, hangings, floor coverings, art objects and interior arrangements. Mr. Marshall's long acquaintance with the sources of supply enables him to make, if desired, judicious selections and to obtain most favorable prices. This service is free to our readers.

Address inquiries to Decorating Service Department

Country Life in America

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The success of this particular decorative scheme is due undoubtedly to the fact that the pictures used were chosen to suit the type of decorating. Both of these artists flourished during the Georgian period and nearly always incorporated in their studies some decorative motifs of the time. Correct framing, proper placement and hanging on the wall are of first importance always, and a too general ignorance of these points is undoubtedly the reason that pictures have been omitted from our decorations.

There are, of course, no fixed rules for framing, but one should remember that the real reason for framing a picture, beyond the mere preservation of it, is that the frame itself shall be a combining medium for the picture and wall; hence, its color should be such that it partakes of or agrees with the tints of both, and in order to do this it is frequently a neutral tone, either a cool or warm gold, antiqued grey is often so employed.

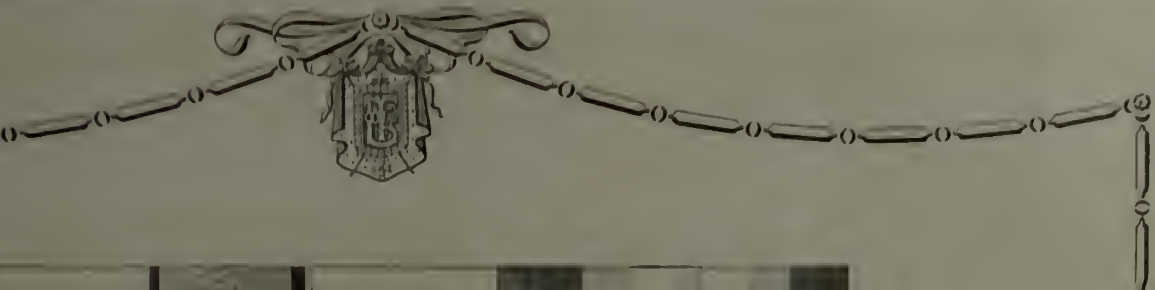
In selecting pictures for your house, consider this excellent one by Battisto Dossi. Its wealth of color, wide range of interest, great perspective and masterly execution, as well as its size, 30" by 56¼", adapts it admirably for overmantel use in any of the living rooms of the house

As to the frame design, it hardly seems necessary to say that the heavy, coruscated gilt frames are incorrect, but few people realize that the picture may be brought into very intimate relationship with the decorative scheme by having its design motifs in keeping with those of the room. Those who are doubtful of their judgment in this matter will have no trouble if they will but study the lines in a representative chair of any period. In all of these it is the architectural motif and not the applied decoration that is important, and which will prove the most satisfactory medium.

The position of a picture in a room is almost as important as its framing, since certain types almost demand to be placed in certain positions. For example, the Battisto Dossi, shown in the middle of this page, remarkably fine in itself, will be infinitely

Thoroughly satisfying in every respect is this broad-visioned canvas by James Shaw, about whom little is known, though this work, 8¾" by 52½", reveals a great soul and a complete mastery of art. With this picture one can live

How Gainsborough must have loved the delicate, fresh tints of spring. This jewel-like landscape, 16½" by 21½", expresses this in every feathery bough and blade of grass. It will be an excellent drawing room canvas



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Makers of Furniture and of all the raw materials that go into the manufacture of Furniture are giving warning of large and inevitable increases in cost. As recently as July First a universal advance in Furniture costs went into effect, and other increases are expected.

But this condition was anticipated by us, and its penalties evaded FOR THIS OCCASION, by early plans and advance purchases.

EVERY PIECE OF FURNITURE IN THE SALE, Whether Newly Purchased, or from Our Stocks, is 10 to 50% Less Than OLD LOW PRICES

But with the approach of inevitable price-increases, careful furnishers will anticipate their coming furniture needs by selecting from these collections, which are as superior in quality as they are favorable in price.

Sale starts Monday morning, July 24th, and continues throughout the month of August.

Lord & Taylor

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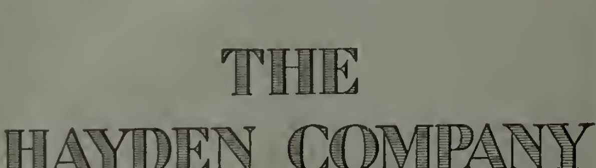

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of The Hayden Company are always to be found rare decorative objects—fine old Mirrors and Clocks, old English Silver, Pewter, Porcelains, Paintings, Antique Tapestries, old Textiles and Brocades. Important specimens of Antique Furniture, Chimney-pieces and original panelling of old English Oak, also extraordinary Reproductions.

NOTE:—THERE IS ON EXHIBITION AN INTERESTING COLLECTION OF OLD WEDGEWOOD PLAQUES, COMPRISING 177 PIECES—MANY OF GREAT RARITY

more impressive as an overmantel decoration than when otherwise placed, while either the Gainsborough or the Shaw pictured here will prove as satisfactory in other places than this, and lose no whit of their charm.

The hanging of pictures is a broadly argued subject, if one is to judge by appearances, but two points that may be established by a little experimentation are these: they must be hung flat against the wall, no tilting forward except when a proper angle of light is to be had in no other way, and, they must be low enough so that the centre of the picture is on a level with the eye, or at least within easy vision. This last rule would not, of course, apply to the large Hoppner portrait of Sir Robert Wigram shown here, which, on account of its length and general impressiveness, must be hung high enough to dominate the apartment it dignifies. The height of a room permitting, it ought to be at least 45 inches from the floor and perhaps a trifle more.

Beechey was unquestionably a great portrait painter, as this excellent picture of Mrs. Norton will attest. A picture of Mr. Norton is also to be had, and the pair will prove a splendid addition to any house

Just here another feature of this task is brought forward, and that is, what furniture shall go under such a picture. In this particular case the question is easily answered. A strong consol table, is necessary to make so bold a study as this a part of the room, and it will at the same time relieve the feeling of overhanging weight.

Regarding the other illustrations, the Dossi, as has been said, is an overmantel decoration. The Beechey portrait of Mrs. Norton might also be well placed over a consol table, while the jewellike Gainsborough would show excellently in some intimate setting, over a dainty low cabinet or commode. Unlike the others, the Shaw landscape calls for no supporting furniture, nor does it speak a period or a setting. This is one of those lovely, heart-gripping canvases that need no aid to express the message they carry.

Why not let this magnificent Hoppner dominate and humanize your great hall or library. Aside from its beauty as a work of art, the artist has limned in this portrait of Sir Robert Wigram all those lovable qualities we admire in strong, bluff men. It measures 82¾" by 54½"

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FRUIT GARDENS FOR SMALL AREAS

MOST people who have any garden space at all wish to raise a little fruit. It depends upon your point of view, pocketbook, available space, and soil conditions what kind of fruit you will have. I wonder why the first image brought to mind when the word fruit is mentioned with the raising of it in view, is that of an apple tree. But it is the thought of the apple orchard that first comes to most of us. Now fruit may be raised on vines and bushes as well as on trees. Surely grapes are one of the most accommodating of fruits, growing under almost any sort of soil condition. This is not so true of most of the fruits, unless again it be our favorite apple. Suppose the soil you have to deal with is clayey—what fruits will do best in such a soil?

A clay loam, well drained, will be right for apples. Apple trees ought to be set out about forty feet apart, this of course referring to standard trees, not dwarf ones which may be placed about fifteen feet apart. Do not expect your apple trees to bear under four years after planting, and then look for them to keep on for the next forty years. If your place is small, which means only a few apple trees at the most, then choose to have different varieties, winter, fall, and early ones. It may mean more to the larder to concentrate on just one good winter variety, as the Baldwin. Other winter apples are the Northern Spy, Jonathan, Greening, and Winesap.

Do you know the Pound Sweet and the Fall Pippin, autumn varieties, as the latter one tells by its very name. The Gravenstein and the Red Astrachan are delicious early apples, and an early sweet is excellent to add to these others. If you live in the pie belt you might like Greenings for the winter apple pies.

Now again, pear trees like a clay soil and so do plum trees. In choosing varieties of these why not select well-known ones such as Clapp, and Bartlett in pears; Gage and Bradshaw in plum trees. The little Seckle pear is so good as an eating pear that you should not leave it out. These trees are set about twenty feet apart. Remember not to push the pear trees too fast during the first two years or they may have blight.

Again quinces may be raised in the clay soil. Set the trees, bush-like in nature, about ten feet apart. Choose the orange quince, it is by far the best variety.

A gravelly or sandy soil will support nicely cherries and peaches. These trees should stand about fifteen feet apart, except the sweet cherries which grow to be larger trees and need twenty feet of space. The Windsor is an excellent variety of sweet cherry; the early Richmond of sour cherry; while a good early peach is the early Crawford. The late Crawford is a correspondingly good late variety.

The bush fruits are not particular as to soil, but they do require plenty of moisture. These fruits should go in rows six feet apart and three feet apart in the row. If you care for red raspberries choose the Cuthbert; or black ones, the Gregg. A good variety of blackberry is Wilson; of dewberry, Lucretia.

It is always a temptation to go in for strawberries, and it takes tremendous strength of mind to stop the formation of fruit during the first year. Choose what is called a perfect flowered variety like the Marshall or Brandywine. Grapes are easy to raise and almost sure of good results. I remember a charming back yard, a small city yard, enclosed on three sides by grape vines neatly trellised, set fifteen feet apart. There were several varieties in this yard, among them old favorites like Concord, Werde, Isabella, and Niagara.

Of course one must plan carefully for the small garden, the space is precious, but it pays to have a little fruit. Bush fruit may be worked in as shrubbery, dwarf apple trees against the wall as an ornament, cherry trees for a bit of color in spring.

E. E. S.

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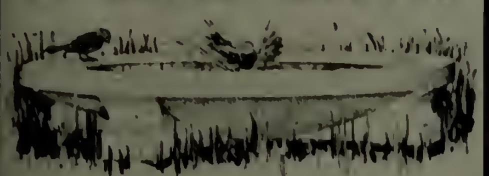

on your lawn or among your flowers will attract the birds and add to the charm of your garden. The bath illustrated is a new design affording a broad, shallow bathing area which can be enjoyed by fledglings quite as much as by older birds since it is but 4½ inches from the ground. Reproduced in frost proof, Pompeian Stone. Diameter 26½ inches. Price (F. O. B., N. Y.) $5.00

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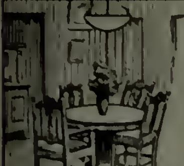

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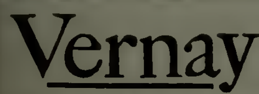

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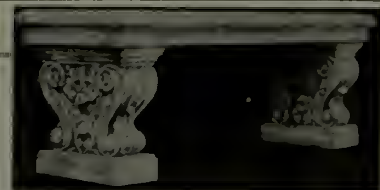

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No Southern menu would be complete without chicken. Fried chicken with Sally Lunn is the *pièce de rèsistance* of the Southern supper, but there is a French style of serving chicken which is lighter and more appealing for a summertime repast; it is made by the following recipe.

BLANQUETTE OF CHICKEN

One cold cooked chicken or fowl, 4 fresh mushrooms, the yolks of 2 eggs, 1 pint of chicken broth, salt and pepper to taste. Peel the mushrooms, cut them into pieces, and simmer in the broth until tender. Add the chicken sliced into delicately thin pieces. Cook gently until heated, when the beaten yolks of eggs should be stirred in gradually. As soon as the sauce is smooth and creamy, season with salt and pepper and a few drops of lemon juice.

Jellied chicken is also a delicious substitute for the heavier meats of a more formal

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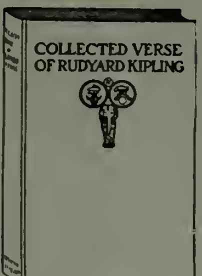

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dinner. To make, boil one chicken in as little water as possible, until the meat falls from the bones; dice the meat into small pieces and season with pepper and salt. Put in the bottom of the mold slices of hard boiled egg and lemon, with a layer of chicken. Fill the mold to the top with alternate layers of chicken and egg. Boil down the stock until there is about a cupful left. Season it well and pour it over the chicken. It will sink through the meat, forming a jelly around it. If there is any danger of it not being stiff enough, a little gelatin may be soaked and added to the stock.

With the chicken a delicate corn pudding is most tempting and is made in the following manner. Take 8 large or 12 small ears of corn, one quart rich milk. Scrape the corn, add the milk, salt and pepper, and pieces of butter on top. The pudding should be baked one hour in a slow oven. As the corn gets older you will have to use your judgment about how much milk to add.

Another diversion from the meat and fish course is *spaghetti en casserole*, which if well made is a tempting dish. Cook the spaghetti in boiling water about twenty minutes, pour into a colander and run cold water through it. Place in a buttered casserole and add a sauce made of one and a half cups of stock and one teaspoonful of butter, thickened with flour, and one cup of grated cheese, place in the oven. Add a second cup of cheese and spread thin slices of baked tomatoes or Spanish peppers on top. Serve hot in casserole.

With *spaghetti en casserole*, hot tea cakes are delicious, they are made as follows: ½ pound flour, ¼ pound of butter, 1 ounce of sugar, 1 saltspoon salt, 1 teaspoon baking-powder, 1 egg, and some sweet milk.

Make the ingredients into a soft dough with the milk, cut into rounds about a half inch thick, and bake for ten minutes in a quick oven; split open with your fingers, butter, and eat hot.

Eggs Romanoff or eggs Ivanhoe are delicious dishes for a summer supper. Serve a plate of thin buttered toast with the eggs. The recipe for Eggs Romanoff is as follows: Cover hard boiled eggs with a stiff mayonnaise. Put a highly flavored aspic jelly in the bottom of individual molds. When the jelly is firm add a spoonful of caviare and place the mayonnaised egg on the top. Pour in more jelly. When it is cold turn from the mold and serve on a garniture of lettuce. This is good for a cold supper.

EGGS IVANHOE

Cook a piece of finnan haddie in milk, then add two tablespoonfuls of sauce (a good cream sauce) with a few fresh mushrooms, salt, pepper, a bit of cayenne, and one tablespoon of Parmesan cheese. Put this through a fine sieve, and in nests of this paste on slices of toast, slip poached eggs. Sprinkle with grated cheese and place for a moment in a hot oven to glaze.

Fish is often served for a summer supper in place of chicken; there are so many digestible ways of serving fish that a choice of recipes is difficult. A mousseline of fish makes a very pretty dish, and may be served cold at this season with a cucumber sauce or light mayonnaise.

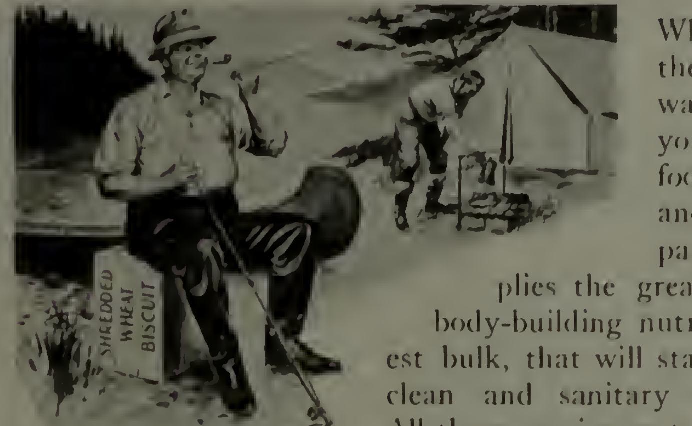
MOUSSELINE OF FISH

One pound of raw halibut chopped very fine (any firm white fish can be used). Mix the whites of 4 eggs beaten stiff, 1 cup of fine bread crumbs, 1 cup of cream, ¼ pound of almonds cut in fine strips, a pinch of mace, a little bit of onion juice or, if preferred, ¼ teaspoonful of lemon-juice, salt and pepper. Steam in a mold or bake in a pan of water or in individual molds for three quarters of an hour. Serve with a rich cream, or mushroom, or lobster sauce.

CREPES SUZETTE

Pancakes in place of the sweet course appeals to many a gourmet; "crepes Suzette" as the French call these delicious pancakes, are made by mixing 1 pound of flour, 5 ounces of powdered sugar, a pinch of salt, 10 eggs, ¼ pint of cream, ¼ pint of milk, 2 spoonfuls of whipped cream, a liquor glass of curacoa, and a few drops of essence of mandarines. Three or four tablespoonfuls of this mixture are enough for one pancake. Cook in a pan and when brown on both sides put in a hot covered dish.

When you take to the Woods



When you take to the woods you will want to take with you an out-door food that is easily and quickly prepared, that supplies the greatest amount of body-building nutriment in smallest bulk, that will stand up fresh and clean and sanitary in any climate. All these requirements are met in

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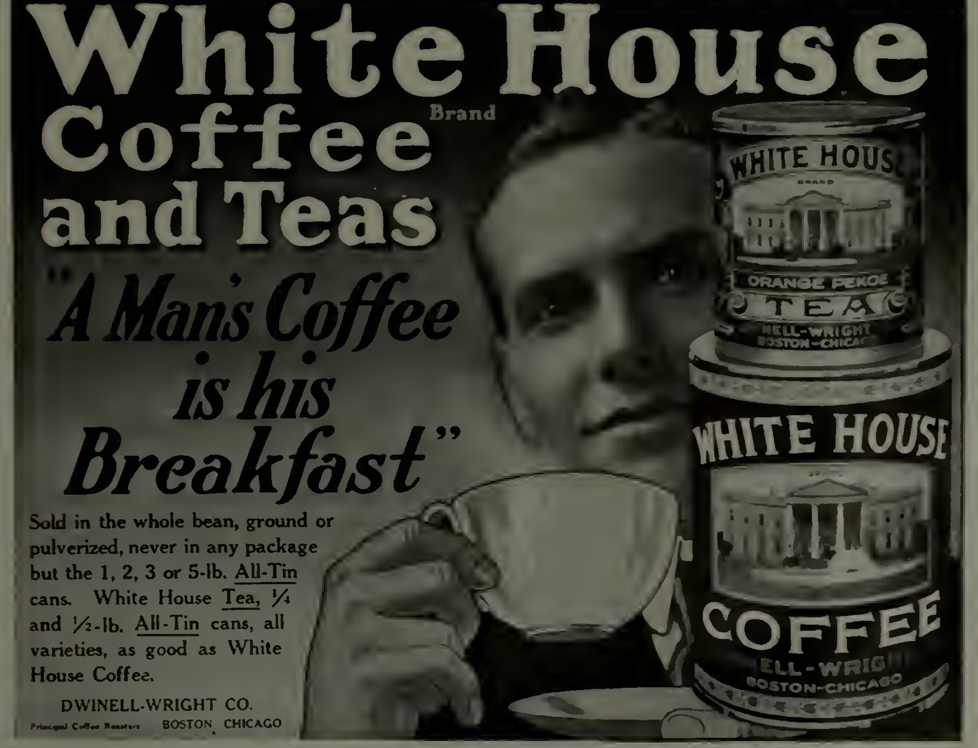

The After Season Yacht Cruise

A DISCUSSION of the joys of yachting occurred on a club piazza a few days ago. One of the members, known as "The Beloved Vagabond" and an all-round sportsman, asked why it was that a man who usually abhors formality will ungrudgingly accept the iron rule of yachting etiquette. He will be complacency itself and allow himself to be led as a lamb to the slaughter by a man "in the know" as to the most approved tailor for the correct yachting clothes. Because, if we yacht, we must do what the yachtsman does or be conspicuous, which few men can stand.

LINDSAY GLEN

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Address 11 West 32nd St., New York

A celebrated tailor, in speaking of yachting things, said: "Men are conservative creatures. A prescribed cut and finish for the yachting costume having been adopted, it has become distinctive and changes very little from year to year. The only rule is that everything must be new and fresh. While afloat, every man should appear as trim as his craft."

The etiquette of what to wear and when to wear it, leads the tailor and myself to talk over the present needs of the yachtsman's wardrobe.

While near shore, the owner of the yacht wears a dark blue jacket cut double-breasted, finished with four gold buttons; white flannel trousers with the cuffs turned sharply up; a white linen shirt, stiff collar, and black silk bow tie done in a short, snappy style; a regulation yachting cap in blue cloth; white canvas or leather shoes; and white lisle thread socks.

For deep sea cruising when land is lost, a yachtsman wears the blue jacket with white linen trousers—they may be done up more readily than the flannel—a white linen yachting cap, and white shoes and socks.

On coming in to the harbor on a visit to a strange port, the owner of the yacht appears in the full blue suit which corresponds to the full dress uniform of the naval officer. With the dark blue jacket is worn dark blue trousers, a blue cap, and black shoes. There is a new black leather sports shoe, same last as the white leather and canvas half-shoe, smartly fastened with a whip leather lace, heavy rubber soles, and spring heels. This model is very smart with the dark blue suit for formal occasion on board. With the black shoe is worn a lisle thread or light cotton sock—silk not being as comfortable at sea.

A guest on the cruise has more license in choice of clothes than has the owner, who is on duty as captain and must appear in proper kit. A white flannel suit with a double-breasted jacket finished with four gold buttons, a white yachting cap or a stiff white sailor, low white, canvas shoes with heavy rubber soles, and white cotton or lisle thread socks, are quite proper for afternoon wear. The younger men may vary this suit by having the coat slightly cutaway and finished by two gold buttons. A white flannel vest, cut low and buttoned by four small gold buttons, may be worn with the white flannel cutaway jacket.

A member of the cruising party may also wear the white linen trousers and dark blue regulation jacket and yachting cap. The models which one of the best tailors in the sports wear is making this season are in a fine cream colored flannel, smart in cut and finish, to be worn with the blue flannel and serge suits.

A steamer trunk in glazed black leather should be chosen. It is damp-proof and is fitted with a tray for shoes. Among the necessary comforts on a cruise is a pair of good binoculars. "A field glass should not be borrowed, but owned," a crusty sportsman once remarked on board a liner coming home from Europe, when his glass was taken by a friend and kept until the object was out of focus.

(c) Underwood & Underwood

Mr. and Mrs. John H. Hannan on their house yacht "Nirohda"

A WOMAN dresses bewitchingly at all times—or should—but nowhere is she more alluringly gowned than on a cruise aboard a yacht. There she seems to acquire much of the easy grace of the trim craft in motion, and appears as scrupulously well gowned as on land. And, why not—is not dressing aboard these luxurious floating homes like fitting a keel to one's boudoir and setting sail—as a clever woman once said.

A woman's outfit for yachting comprises a white flannel suit, a plain blue serge suit cut on strictly tailored lines and finished as are the masculine coats, with four gilt buttons.

A top-coat in blue French serge, cut loose and full, with a mustard colored silk collar and cuffs—the button in blue serge with tiny insets of the mustard silk, and the lining in a cream silk with cross-bar of mustard colored satin—is one of the new and effective models for yachting.

Capes are being much worn; they are long and full, quite like those of the Italian officers one used to see in Rome. The capes are made of black or dark blue broadcloth, and the lining may be in any combination of silk or shade of satin one desires. A stunning cape is in dark blue broadcloth with a cherry silk lining striped in black, the turned over standing collar in Cluny.

A soft wool sweater comes in a bewildering number of colors, from the smart green and canary colored effects up to the dainty shell pink and baby blue affairs. Wool is far better *en voyage* than silk. The wool sweaters may be dried out more readily if an insistent damp day comes.

An afternoon gown for a function on board, or for going ashore to visit some distinguished person, is essential; it should be in voile or a light weight gabardine, as these materials do not crush readily and are always smart. The sleeves are formed by a series of ruffles or tucks, if one is slender enough to permit this style. A smart model seen in an exclusive shop had a sleeveless blouse with which a fine net guimpe with sleeves was worn.

HAT TO FLOAT IN

There is never a time when the hat is not the chief interest in the feminine outfit, on land or sea, and it must have the personality of the wearer to be becoming.

For the informal white and blue flannel suit, a stiff sailor may be worn, or one of those adorable soft, fine felt hats which come in a wonderful pink, canary, green, light blue, or white. This is a white season in hats. A white hat must be a part of every wardrobe, even in sports. The semi-dress hat is in straw and satin or velvet, and has a straw brim and soft velvet crown, full and floppy like a Tam-o-Shanter. These hats are in all black, or black and white, or all white, and are seen at all smart race meets, or on houseboats and yachts idling along the Sound.

SHOES AND STOCKINGS

A woman is not restricted to the monotony of the masculine choice in foot-wear. The only rule to be adhered to is that to conform to the demands of etiquette, the yachting shoe must have a rubber sole and spring heel, or at least a rubber sole and heel. The models in yachting ties are in the same general pattern as most sports shoes. The new combinations are in white and blue, white and green, and wonderful two-toned green low shoes, the last is on slender lines and avoids the clumsy look which the usual sports shoe is apt to have.

September 1916 35 Cents

Country Life in America

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Country Life in America
Garden City New York

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¶ A book shop which attempts to give good books the gracious and charming surroundings they deserve. Easy chairs, portraits, and carefully chosen furniture lend the shop the atmosphere and setting of a private library where the customer may browse in comfort and at will.

¶ During the spring the Lord & Taylor Book Shop held a series of lectures in Chickering Hall, a beautifully appointed auditorium on the seventh floor of the Lord & Taylor Store. These were well attended and proved a pleasant way of interesting the public in some of the current books. This feature will be continued by the Book Shop in the autumn.

CONCRETE GUIDE POSTS

AN INTERESTING and novel article of concrete construction and one of recent origin, is the guide post, which is readily adaptable to many and varied uses. Consisting of a reinforced concrete post or standard, with concrete signs, as shown in the accompanying illustration, this sign meets the increasing demand for a guide post of permanent service and attractiveness, and one which would afford a suitable substitute for wood or metal. Signs made of these materials have long been unsatisfactory on account of their short life due to the action of the elements, which has no effect on properly constructed concrete. Metal signs, with a certain superiority over wooden ones, require frequent painting as well as attention to corrosion, and thus have proved expensive both in first cost and cost of maintenance.

This concrete sign post is not only permanent, durable and artistic in design, but compares favorably in cost with metal or other signs. It is made of white Portland cement and crushed granite, carefully molded in different ornamental patterns based upon Greek and Roman architecture, with beveled edges and sunken panels. The finished post presents a smooth white surface which is unstainable and impervious to weather conditions. The post is $3\frac{1}{2}$ inches square at the top, 8 inches square at the bottom, and has a length of 7 feet; the average weight is about 200 pounds. It is reinforced with four $\frac{1}{4}$-inch twisted steel bars throughout the entire length, and is set in the ground in a concrete foundation to a depth of 18 inches.

Concrete guide posts can be erected for about $15

A particularly interesting feature of this guide post is the concrete inscription boards and letters. The sign board is 12 inches wide by 31 inches long, with a thickness of $3\frac{1}{2}$ inches at the middle tapering to $1\frac{1}{2}$ inches at the ends. It is reinforced with $\frac{1}{4}$-inch twisted steel bars. With edges beveled at both ends and bottom, the top thickness is increased to form an overhang of about 1 inch. A $\frac{5}{8}$-inch steel rod runs through the full length of the post, continuing through the sign boards to hold the entire structure together; this is terminated in an ornamental cap at the top.

The letters are of monolithic cement construction, molded in a plastic state, and dovetailed into the concrete sign boards. While of any desired thickness, these letters are usually from a quarter to a half inch thick, of black or other suitable dark color that is absolutely non-fading. These posts with sign boards complete can be prepared for about $15.

Within a short period of time concrete posts of this nature have become very popular, proving satisfactory in every way and asserting the particular value of concrete for this class of public or private work.

L. R. W. ALLISON.

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Mary Thompson was a saint—a very human saint with a strong sense of humor and an inward longing to see a horse race. The story concerns her experiences as a circuit rider's widow, the guide, philosopher, and friend to a little country community. Mrs. Harris takes one back to the delectable humor and characterization of her earlier success, "The Circuit Rider's Wife." (*Ready in October*)

THE HOUSE OF FEAR

By Wadsworth Camp

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"Pay what debts I can. Kill you, if the strength—" This was the famous line from the big scene of "Coward's Fare." How the lives of all who attempted to speak it were threatened, a star revival company demoralized, a strong man's will defied, and a mysterious duel with the supernatural carried on in "the house of fear" is revealed only at the very end of this new mystery and detective story.

THE GRIZZLY KING

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Crusty Old Bachelor—engaging hero, peaceful over-lord of vast stretches of earth: such was Thor, grizzly king of the Rockies. This is Mr. Curwood's companion story to "Kazan"—a romance of the wilds with the mounting climax and adventure of "The Hunted Woman."

Old, Old Tales from the Old, Old Book

Retold by Nora Archibald Smith

Illustrated, Net $1.50

A Mother Once Said: "Why is it my children never ask me to tell them a *new* story? It's always the familiar fairy stories, the time-worn nursery rhymes, especially the old, old tales from the old, old book that my boys and girls love best." Miss Smith, co-editor with Kate Douglas Wiggin of the "Children's Crimson Classics," has retold these Bible Stories with loving care.

Short Stories from "Life"

Introduction by Thomas L. Masson

Managing Editor of *Life*

Net $1.25

How Short Can a Short Story Be?

Life tried to solve the question last year by holding a contest. The stories accepted were to be paid for at the rate of 10 cents a word for every word under 1500 *which the author did not write!* Out of 30,000 MSS. received from all parts of the world, 81 stories ranging over every mood and every kind of plot by authors well known and hitherto unknown were accepted, and are published in this unusual volume. A $12,000 collection costing the reader $1.25.

THE HEART OF RACHAEL

By Kathleen Norris

Author of "The Story of Julia Page," "Saturday's Child," Etc.

3rd Large Printing. Net $1.35

A Novel:

Of the romance and tragedy, the conflict and achievement dormant in every marriage.

Of the heart of one woman, reflecting the experiences of a million.

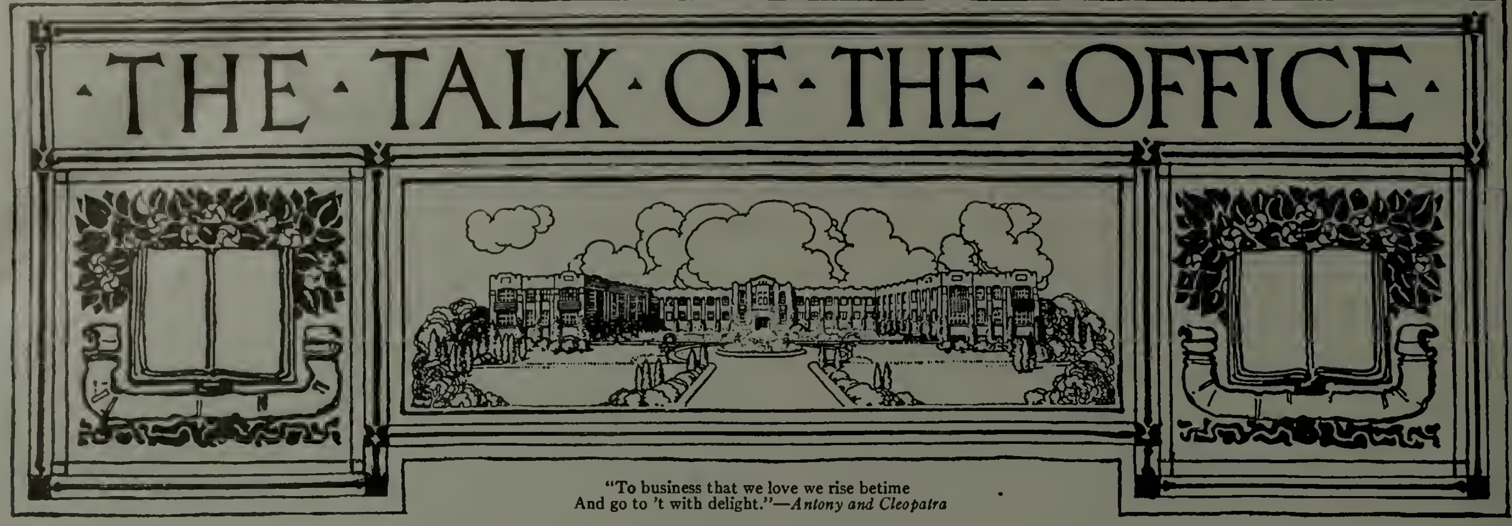
Of the great emotions of life that rise above time or place, poverty or wealth.

Of all those elements which have made Kathleen Norris beloved in thousands of American homes.

Told with that art of which William Dean Howells has said: "Mrs. Norris puts the problem before you by quick, vivid touches of portraiture or action. She has the secret of closely adding detail to detail in a triumph of Littleism, but what seems to be Nature's way of achieving Largeism."

A PAGE OF NEW BOOKS FROM THE COUNTRY LIFE PRESS OF

DOUBLEDAY, PAGE & COMPANY



THE ART OF KATHLEEN NORRIS

NATURALLY we follow more or less assiduously the book reviews in the periodical and daily press, even though we do not always agree with them, but in the early comments on "The Heart of Rachael," the new novel by Kathleen Norris, appeared a note which cannot help but come as a gratification to those who have followed the development of her art. The note we refer to is that with this book Mrs. Norris has passed, or is passing an important milestone in her career. It is not only that she has shifted her canvas all the way across the continent from California to New York but also the critics have pointed out that in so doing she has broadened and deepened her message, told it with greater skill. The New York *Times* Book Review remarked that "The Heart of Rachael" "is by far the best and most careful work that she has done and ought to place her well forward among American novelists."

"FEWER AND BETTER" AS APPLIED TO SERIOUS BOOKS

The "fewer and better books" policy which has been our guiding star for the last few years is easily understood when it applies to fiction but if one will stop a moment to consider conditions it will be apparent that it should apply just as stringently to non-fiction or serious books. Yet most people do not think of it in that way. They are all too prone, we fear, to accept any serious book as a good and a worthy work—for some one else to read. What we aim to do is to publish serious books that *you* will want to read, that you feel you must read. You can't read everything on a given subject, yet on a great many subjects you feel that you need and want to read the one book which has been selected with a view to giving you the material in the most interesting and most suitable form and from the most authoritative source. The careful, even drastic, selection of serious books to suit just these conditions is the meaning of "fewer and better" when applied to non-fiction.

Such a book was "Crowds," for it has sold close to 30,000 copies. Such a book was G. Lowes Dickinson's "A Modern Symposium"; and "The Autobiography of Dr. Trudeau"; and "The Life of Pasteur"; and "Up From Slavery" by Booker T. Washington, and Frank Alvah Parson's "Interior Decoration,"—each in its own field.

And also we feel that the non-fiction books announced for this Fall and Winter will stand alone, each in its own particular field. Not to go into the matter at too great a length (for formal announcements will be made later) we give herewith a brief list.

"The O. Henry Biography" by Prof. C. Alphonso Smith, Edgar Allan Poe Professor of English at the University of Virginia—and a boyhood chum of Sydney Porter. Perhaps no modern writer has excited the curiosity that O. Henry has. Here is an authoritative account of his life and literary beginnings by one who has augmented the boyhood association of many years with study and research into the life of his subject for the last three years. This biography will at once satisfy the intense public curiosity about the life of O. Henry and dispel the fog of misconceptions which have clustered about the life of this outstanding literary figure.

"The Life of James J. Hill" by Joseph Gilpin Pyle. This book which will be issued following the publication of certain parts of it in the *World's Work*, will be one of the most important biographical volumes of the season. The author, for years Mr. Hill's private secretary and constant companion, had been at work on the material for a number of years before the death of this great upbuilder. J. J. Hill was the Cecil Rhodes of the American Northwest, and besides its importance as a biographical volume the story of his life is one of dramatic and thrilling interest.

"Hesitations" by William Morton Fullerton. Mr. Fullerton is one of the leading thoughtful students of international politics. He was for twenty years on the staff of the London *Times* and now lives in Paris. This book is a study of the American attitude toward the war, and a critical analysis of President Wilson's foreign policy. We believe it will be a book of permanent importance.

"The Biography of Booker T. Washington" by Lyman Beecher Stowe and Emmett J. Scott is another book of permanent value. The interest in Washington's life may be gauged by the enduring interest in "Up From Slavery." This is the sequel to "Up From Slavery," but while the former book was Dr. Washington's own account of his struggle up to the time of his success, this book carries the story on to Dr. Washington's death. The material was largely gathered under his own supervision by Mr. Scott who served for many years as Dr. Washington's secretary and later in an executive capacity on the faculty of Tuskegee Institute. Mr. Scott's collaborator, Mr. Lyman Beecher Stowe, was chosen for his well known ability as a writer and for his sympathy with and knowledge of Dr. Washington's career.

* * * * * * *

The latest number of the *American Library Annual* contains some interesting figures as to the number of new books issued by different publishing houses during the past year. The twenty-six leading publishers of general literature issued in 1915 a total of 3,411 volumes. One house published as many as 458, and twelve houses each published more than one hundred books during the year.

In 1915 Doubleday, Page & Company published 74 new books, which seems to prove that we try to live up to our motto of "fewer and better books."

"IN LOVE WITH LOVE"

THE AUTHOR of "The Idyl of Twin Fires" has written another idyl, an idyl of a quaint New England village, of the loves that played among its inhabitants, and of a man who made bird houses and wrote of birds, and was an inveterate match maker besides, and also, when need be, a mender of hearts.

Incidental to the light and pleasant story Mr. Eaton has caught and rendered the distinctive charm and flavor of a small New England community to-day, as hardly any one else writing has had the luck to feel it; the New England, that is, of gentle taste, in transition between the hard and somewhat ascetic New England of the fathers of our literature and the more commercialized New England, it may be, of to-morrow.

In "The Bird House Man" will be found a spirit which should appeal to those who enjoy human nature and who love birds and gardens and out-of-doors. But, primarily, its appeal will be for those who, like St. Augustine in his youth, are "in love with love."

FROM AN ESKIMO IGLOO

A neighborly greeting to the *World's Work* comes from Eskimo land, in the letter which follows:

CROCKER LAND EXPEDITION

Netcher-loom-ee Jan. 8, 1916.

My dear———:

I am here in an Eskimo igloo fairly revelling in the war news in the *World's Work*, which you so kindly sent me by the *George B. Cluett*.

What we had heard about the war during the last two years might be classed as a mere rumor, so little did we really know. But when the magazines arrived the whole thing burst upon us in its terrible reality. The Eskimos, uncivilized and classed as savages, declare the white men have all gone "jiblockto" (crazy). For a year now the extremely bad weather has almost been unprecedented, volumes of rain and heavy snows. It is the natives' version that the sky has cracked open because of the fighting of the white men!

I bought the first copy of the *World's Work* and subscribed to it for some years. Have it bound at my home in my little library. Believe it to be the best magazine of its kind in America. I very rarely read a story or a novel of any kind. I want information and look for it in such publications as the *Outlook*, *Literary Digest*, *Scientific American*, *Atlantic Monthly* and *World's Work* which I thoroughly recommended a few days ago to the most northern white man in the world, Mr. Peter Frenchen, in charge of trading station at North StateBay.

I had planned to sledge home by way of Alaska and could easily do it in a year and a half, putting new land on the map and taking a look at the "white Eskimo."

Donald MacMillan.

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TO CONTRIBUTORS—While we are always glad to receive and examine manuscripts and photographs, we cannot hold ourselves responsible for them. All manuscripts must be accompanied by sufficient return postage. **TO SUBSCRIBERS—Expirations:** An advance notice of expiration of your subscription will be sent you ten days before actual date of expiration. We enclose an additional reminder in the last magazine of your subscription, if you have not responded to the first notice. By remitting promptly then, you will insure the regular receipt of the magazine.

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FORTUNATE IS THE SAILING YACHT WHICH HAS A 300-FOOT STEAM VESSEL FOR A TENDER! GRAYLING, MR. J. P. MORGAN'S NEW YORK 50-FOOTER, CLOSE-HAULED ON HEMPSTEAD HARBOR, WITH THE CORSAIR LURKING IN THE OFFING

COUNTRY LIFE
IN AMERICA

Volume XXX | September, 1916 | Number 5

HOW TO JUMP ~ A HORSE ~

By Maj. William Mitchell, U.S.A.

NON-INTERFERENCE is the secret of good jumping. How easy this sounds! But when we try it ourselves or watch friends who have been jumping horses for years, we find how hard it is of accomplishment. There is no highroad to jumping any more than there is to learning of any kind. There are certain correct principles to follow, however, which will greatly assist the beginner, and in addition to these, persistence and calmness under all conditions are most important.

To begin with, some knowledge is required of the nature of a horse. Stripped of all the romance of the poets and the mystery with which the professional trainer enshrouds him, the horse, from a psychological standpoint, is the most elementary of animals. His brain is very small; he has an extremely limited power of reasoning, if any at all; he is highly organized nervously and consequently is very sensitive to pain and equally amenable to gentle treatment and kindness. He has a very retentive memory and bases practically all of his actions on precedent. When an object is first presented to a gentle horse—that is, one which is accustomed to be handled by men—generally he is not afraid of it, and if he is, it is probably associated with, or resembles, some other object of which he is much afraid. He enjoys food, and when he is in good health there is no greater glutton among animals. A well horse, like a well man, is a strong and beautiful animal, but a sick or injured horse is almost as incapable of physical effort as a man in a similar condition. In order to be capable of jumping his best, a horse must be in good physical condition, and while he is in the act of jumping he must not be hurt or his motions interfered with. The latter may be done in many ways: by bringing various pressures to bear on his mouth in the wrong manner, by putting weight in the wrong place at a given time, by striking or otherwise abusing him when the reason is not very apparent to the animal, by not adapting the gait to the height and nature of the obstacle to be jumped, and by not clearly indicating to him what we wish him to do.

To avoid doing these things a good seat is a necessity. Every one knows this, but it may be asked which seat, out of the thousands of seats that we hear our wise friends talking about, are we to adopt? To answer this, let us look at the structure of the horse from a geometrical standpoint, because the control and development of a horse is more a question of mechanics than anything else. The horse's skeleton, which is covered with various complicated muscles that give direction and impulse to its different parts, may be regarded as a combination of levers acting around a common centre. The horse consequently has a centre of gravity and a centre of motion, both of which are changed by the position and added weight of a rider. A horse is said to be trained when his rider can bring these centres into juxtaposition at any gait, whenever desired.

Now a proper seat consists in the rider's ability so to place himself that the horse's continued motion along the line desired will be least interfered with whenever the centre of gravity and centre of motion shift with change of gait or position. While this may be very easily demonstrated theoretically, it is a different matter to put it into practice. Here, then, is where we find the secret of jumping a horse properly, and here also is where we find our greatest difficulty. A good seat is the basis of good hands and of the ability to apply by leg pressure the proper impulses to the horse. It is through contact with the horse's back and sides that the rider feels the motion of the muscles which automatically telegraph to his brain what the animal is going to do next, allowing him to anticipate his mount's next move and to take measures accordingly before the action actually has been attempted.

There is only one way to acquire a good seat and that is by riding; and the best manner of riding in order to gain it is to ride bareback, with arms folded, at all gaits and over all sorts of obstacles. From the very nature of the process one not only thus acquires the necessary suppleness of the muscles used, but gains the balance required to make the body move automatically in unison with the dynamic centres of the horse.

Balance, then, is the basis of a good seat, and it is interesting to note what similarity results in the seats of persons trained

Photograph by Kind

Army officers jumping over a mess table—an example of horses schooled to jump straight ahead over unusual obstacles. From left to right, Lieutenants Burleson, Greble, and Downer

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Photograph by Edwin Levick

A refusal in a hunt race. Refusals may be due to a variety of causes—the horse's fear of the pain of landing or of falling, lack of courage from fatigue, etc.

brought well under the centre of gravity and instantly the forelegs leave the ground. The head is drawn in slightly and the neck arched. To relieve the weight on the hind legs and maintain a proper balance, the rider should lean slightly forward and give the horse a free head, that is, exert only enough pressure on the horse's mouth to keep control of him. The rider leans forward as the horse rises, draws in his head, and arches his neck, and it is comparatively easy to give him a free rein. The motion of the horse is much like a half rear followed by an energetic propulsion of the hind legs in order to raise the horse over the obstacle and carry him beyond it. The hind legs suddenly pass from the extreme of tension to the extreme of flexion, and both fore and hind legs

Photograph by Paul Thompson

An example of where the rider, in order to avoid hurting the horses's mouth, leans forward and rests his hands on the horse's neck

Captain Gibbs making broad jump of twenty-eight feet. The whip hand is extended from stroke given at exactly the right instant of the stride

Photograph by Paul Thompson

Mr. L. W. Riddle on the Virginian—an example of a splendid horse well ridden

of the horse appear to be acting together. As the obstacle is crossed the horse becomes nearly horizontal and the rider's body should assume a more vertical position in order again to conform to the position of the horse. The horse now is commencing to thrust out his head and neck as his forelegs begin to extend preparatory to landing. At this instant, as the rider begins to lean back and the horse extends his neck rapidly, the rider is very apt to give a strong pull on the horse's mouth, and this is especially so with one who has a poor balance. The result of the application of this power at the end of the long lever formed by the horse's neck and head is to pull it in, and this in turn affects the horse's hind quarters, which he draws up in order to retain his balance, with the result that the hind legs hit the obstacle; even if the

in this manner. In order to maintain the balance, no exaggerated positions can be assumed, as is possible with a saddle equipped with stirrups, and a truly natural seat is the result. This consists in holding the body erect, with the legs well under one, and not pushed forward (as so many riders hold them after being trained—or rather, not trained—in improperly constructed saddles), the toes slightly turned out, the calves in close contact with the horse's sides and always movable, while the thighs assume a position roughly parallel to the horse's shoulder blades. The thighs should remain fixed in position, while the shoulders and chest swing from the waist in accordance with the motions of the horse.

Once taught to ride bareback in early life, it is difficult for a person ever to forget the habits thus formed. Many who are good riders now can appreciate the tremendous advantage which was given to them by being forced when boys to ride their ponies bareback, though at the time they may have considered it a hardship. When a man is past forty and has never ridden it is very difficult to teach him to ride bareback, and the position as indicated above must be given him in the saddle. Under efficient teachers many men at this age, or even older, become very good over the jumps.

Having acquired a good seat, the handling of a trained horse in straightaway work is a comparatively easy matter. In jumping, particularly, always be sure to jump straight over the obstacle, swerving neither to the right nor to the left and so jumping it obliquely, because this not only increases the distance that the horse must jump, but when jumping with companions, serious accidents may result from collisions. The horse being headed straight for the obstacle and approaching it at a gallop, begins to shorten his steps and adjust his weight until sufficiently near to take off. This is called "propping" and is quite similar to a man's motion when he gathers himself to jump. The horse's hind feet are

Captain Gibbs on Frederick. Note position of horse and rider. The horse is entirely in hand and under perfect control while the obstacle is cleared

forelegs have cleared the fence in fine style, a severe jab on the mouth may throw the animal so far out of equilibrium that he will fall right on to the obstacle. The rider should maintain his position by the use of his thighs and knees, in this way leaving the leg from the knee down free to act on the horse when necessary. If the lower part of the leg is held still it is lost as an aid to horsemanship. As the horse begins to descend, extending his head and neck more, the rein must be given by pushing the hands forward. These should be kept low, however, so as to retain control of the horse, because if the hands are raised the bit will be pulled against the lips in the corners of the horse's mouth and will fail to act on the bars or lower jaw where its effect is most noticeable. On landing, the weight of

Photograph by Haas

Major Mitchell jumping in a team event. In these great care must be taken to set an even pace which the various horses are able to maintain

the rider should be taken up proportionally between the seat and stirrup and not principally on the stirrup, as is erroneously supposed by many riders. As the stirrup is in front of the centre of weight, if too much weight is placed in it a slight unevenness or mistake on the part of the horse on landing will cause the rider to catapult out of the saddle. It is very amusing to see a man who has been trained to ride over the jumps bareback make his first trial with a saddle. At first he does not understand the necessity for relaxing the pressure on the stirrups by bending the knees, as of course it is unnecessary to bend the knee where stirrups are not used. A great many falls are the result, and the impression often gains ground that a horse cannot be jumped well in a saddle. As a matter of fact, so far as good form over jumps alone is

Photograph by Edwin Levick

An average hunt field. The horse in foreground rushed his jump and is coming down on the obstacle. The rider over the hedge is jumping in good form

Photograph by Haas

David Gray ridden by Mr. Arthur White. A fine example of an experienced horse and rider

Photograph by Paul Thompson

Prince Frederick Sigismund, of Prussia, on Dolina at Magdeburg. The seat is not particularly steady, resulting in a strong pull on the horse's mouth

Photograph by Paul Thompson

German riding master. A good example of the German form in jumping. The horse is a splendid Irish hunter, and the obstacle is being cleared in fine style

concerned, the average young man, if well accustomed to riding bareback, can do better without than with a saddle, for the reason that he is forced to conform to the motions of the horse in order to maintain his equilibrium. Some riders, in order to give their horses "head," allow the reins to slip through their fingers. This plan involves gathering up the reins again after the obstacle is crossed, and there is an instant when the horse is very apt to be out of hand or not under perfect control. As the horse lands, care should be taken not to pull him up abruptly, as he is very apt to associate this with punishment for having crossed the obstacle.

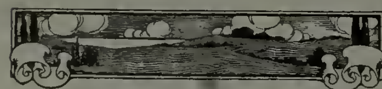
Every horse has a certain gait at which he can best negotiate his jumps, and the rider must be careful to find out what this is and make allowances accordingly; and if accurate jumping is the thing desired this gait must be assumed as the obstacle is approached.

Practice is the thing that makes perfect, and no amount of theory will make up for the actual riding. In order, however, to get the maximum results from horses, reading and investigation are a decided help, and a study of a series of jumping photographs is decidedly so. In fact, before the invention of the instantaneous camera, the exact motions of the horse at different moments of his stride at the various gaits were not known at all. A rider by having his photograph taken while jumping is able to detect his faults very readily.

What has been said above about jumping a horse is applicable particularly to the hunting field or to horse-show jumping. For steeplechasing, or where, from their extreme speed, hunts take on the character of races, the position of the rider can often be slightly changed to advantage. Where speed is desired this can be helped by placing the weight over the front legs of the horse and leaving the hind legs, or propelling members, free to carry out their function of impelling the horse forward without being handicapped by weight. This position is assumed by jockeys on the

track, and in order to maintain it the stirrup is abnormally shortened, the seat lifted clear of the saddle, and the horse trained to run with a strong pull on the bit, actually leaning on it. This of course makes the rider lose the control he would have if his legs and hands could be applied in a proper manner. It increases the speed decidedly, however. In steeplechases the leap of the horse is long—an extension of its regular stride. The pace is so fast that if he hits a jump hard there is very little chance for him to recover and a fall is the result, with consequent danger to the rider. Many jockeys when uncertain of their jumpers, and some habitually, lean way back while their horses are landing; in fact, so far back that their heads almost touch the horse's croup. This is done so that if the horse falls the jockey will be thrown clear. A steeplechaser always goes down head first. If his rider is leaning forward he will fall under the horse and almost certainly be injured. If, however, he leans back, the motion of the horse in falling will throw him clear, and the faster the horse is going the farther it will throw him. Many experienced jockeys consequently put on speed at the jumps.

There are very few horses that jump in the same way, hence the old saying that "no two horses jump alike." This is due to two principal causes, the first being conformation, or the way the horse is built, and the second, the method by which he is trained. Horses of similar breeding, conformation, and training usually jump in a similar manner. A good hunter must have a galloping conformation, by which is meant that he must have a large measure of thoroughbred blood in his make-up so as to give him the conformation to maintain the gallop for long stretches at a time. The thoroughbred has been raised for centuries expressly for the purpose of carrying riders at a run over all sorts of country. The conformation, while varying from other breeds of horses to a greater or less extent, is exemplified particularly in the vertical humerus bone which gives a long, sloping shoulder, which in turn gives a long sweep to the front legs The hind legs are much like those of the trotter, and in fact many trotters (standard bred) jump very well, as do the five-gaited, or American, saddle horses. None, however, can equal the thoroughbred, and this breed must also form the parent stock of the best military horses.



Photograph by Paul Thompson

A steeplechase at Belmont Park. Note the easy seat and hands of the colored boy who is riding the leading horse

Photograph by Edwin Levick

A fall in a steeplechase. The horse has hit the obstacle and will turn a somersault. The rider, as he leaned back when the horse struck, will fall clear. If he had been leaning forward the horse would fall on top of him

Photograph by Edwin Levick

Trepidation on the part of the rider, which is reflected in the horse, resulting in a bad jump

A good hunter should be able to jump obstacles without wings—that is, short pieces of fence, banks, or hedges; should go straight and freely for whatever he is put at, and should never refuse an ordinary obstacle. The beginner, if he can, should commence his jumping on a seasoned hunter that is able to take any ordinary country and that can be ridden on a snaffle bit. In a short time he will be able to negotiate the fences and follow the hounds.

If a beginner has to train a green horse, the combination is hopeless. The horse will certainly be spoiled and the rider is very apt to be. There are many branches of horsemanship and horse training that require especial study and attention, and of these jumping is one of the simplest. There are very few people who study equitation, or the training of the horse, from a scientific standpoint. Those who do, if they are able to apply what they have learned, are rewarded by results commensurate with the time and labor they expend. Most people, and many who are considered horsemen, still stick to the old empirical methods without finding out the why and the wherefore of the things that go to make up the training of the horse.

There is no art which can be brought to a higher degree of perfection, and there is probably no art which brings less intrinsic return, than the art of equitation in its larger conception. It is a hopeful indication for its future that hunting and jumping are more than holding their own in the face of mechanical means of transportation. In handling creatures of iron and steel the personal element is entirely lacking, while regard for another living thing, combined with cool judgment, quick decision, and steady nerves, bring out human virtues which are by no means as common as they might be and which, in this mechanical age, are difficult to develop in any other way.

I HAVE been said that real camping requires at least five miles of surrounding silence and loneliness, a good spring of water and the ideal companionship of a boy or a dog. There is no authority who recommends a woman, except perhaps Omar Khayyam, who liked music with his meals, even in the wilderness.

Every man who has been camping and exploring knows the interest aroused by tidings of another camp "over there aways," and will admit that said interest is somehow wet blanketed when the informant adds "There's a woman in the party." Subconsciously that party is at once pigeonholed. All anticipation is abandoned of a camp-fire confab of the he-was-standing-broadside-three-hundred-yards-away-and-I-hit-him-just-behind-the-shoulder variety. Out of curiosity the men go through the nuisance of cleaning up a bit in order to wander over and inspect the other campers, but without zest; they are sure to be "dubs."

A WOMAN IN THE PARTY

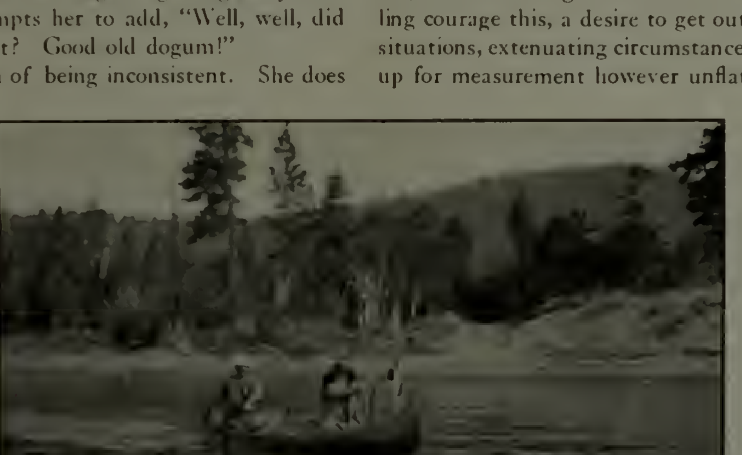
By Elizabeth C. White

For camping is a man's game, blessedly his very own. It is the one real emancipation left to him on earth, and a safety valve for the primitive savage which lurks in the most submissive. What is the use of having fists and backs and brawn these days? They have no financial value, are unpopular with the police, and take time and money to maintain efficiently in clubs and gymnasiums. Let them have their day of glorious importance in camp before they become clamorous and interfere with the decorous works of civilized man. He must hit out into space occasionally, stretch his muscles and spirit and untangle his brain 'way off somewhere where he does not have to wear a collar, sit up and beg, or give his paw.

So he makes up an ingenious excuse (always interesting from a collector's point of view) and goes camping, kissing his wife goodbye in a deliciously guilty sort of hurry.

For years he has been safeguarding himself with stories of his superhuman efforts and hardships, and giving minute details of his unshaven and unwashed camp life. He has taken great pains to return home looking like a moving picture brigand and to exhibit bloody hunting knives, snake skins, and other horrors. Woman has shivered in a femininely charming and satisfactory manner and been content to stay behind. Her usual mental attitude toward hunting and camping trips is illustrated in the effect produced upon her by the family dog when he proudly lays at her feet his hard-won trophy of a frazzled, dismembered rat. Her first impulse is "For heaven's sake John, take that disgusting thing away from him!" and her maternal tolerance prompts her to add, "Well, well, did he go hunting and catch a fine big rat? Good old dogum!"

Surely woman earns her reputation of being inconsistent. She does not shudder when she telephones for a steak or a chop; she has no thought of grewsome traps when she selects her winter furs; there is no sentimental horror about kid gloves and calfskin boots; she glories in egrets; but death on the hunting field, however mercifully swift the bullet, is hard for a woman to bear. It is natural that she should often marvel at the word "sport" for she has little chance to taste the joys of the game; she sees only the sad trophies brought home as an excuse for the chase.



If women would be popular in camp they must renounce the usual feminine privileges and do their share of the work

Fortunately for men and game, there are few women who want to hunt and shoot, but they are beginning to realize in regard to these expeditions that what is good for the gander is some fun for the goose too.

The old order changeth. Man has been tracked to his last lair—camp. When he has been successfully rounded up there and taught to do his tricks, there will be no hunting left to him but shooting stars in the interstellar spaces.

It is hard on the men, but they have one bright ray of comfort. Only a small percentage of women want to go exploring; and in wilderness travel there are no suffragettes. Primitive society is quickly established, with man as the leader and woman in a supplementary part. His physical superiority comes in for more consideration and admiration than at home. When there is wood chopping to be done, water buckets to be filled, and horses to pack, woman is prone to speak very politely to man. He cannot be tamed in camp; she must play his game or stay at home.

Of course there is no sense in trying to compete with him in his own world or in imitating his herculean pursuits; however distasteful the idea may be, in camp woman is generally little more than a man's understudy. He seems to have a natural aptitude for the simple life, and few women have, except in theory.

To be sure the most pampered darlings of the world often pine for adventure and the experience of living "in the place where the lightning's are made, 'twixt the rain and the sun and the moon, with only the sky for a roof." It "listens well" as the boys say, but it takes exceptionally strong will power to drag a weak, habit-ridden body after a great and ambitious spirit. Think of the snakes and probable mosquitoes and no running water! It is more comfortable to long to go and to take refuge in any perfectly good rummage-sale excuse for jogging along as usual, leading the same life, meeting the same breeds in some "incomparable" summer resort.

Women age sooner than men, not in looks but in spirit, because of their restricted, sheltered lives. Years have little to do with age. The really old person is he whose ideas and habits have come firmly fixed and hardened, who has lost youth's detachment and delight in novelty, and who is content to go on forever playing in the same rôle. Camping is no panacea. It is no more for every woman than is a number five shoe. Heaven forbid that I should urge some to it, men or women! It is for those who besides the "business of being a woman" and besides the pleasure of harmonious surroundings, becoming clothes, and pretty finger nails, have a big, stern, and hungry side to their natures, an eagerness and avidity for all angles of life, and the courage to suffer for the sight of them. It is a rather trembling courage this, a desire to get out of one's shell away from accustomed situations, extenuating circumstances of friends and position, and to live up for measurement however unflattering one's proportions.

This is the whole point of life in the open. It breaks up the crust of ordinary existence. It is not the scenery alone that we go for; that is the reward. It is to shake off the unessentials that beset all lives, but especially woman's. Nowhere else on earth can she be so gloriously free from them as in camp.

It is the greatest of all sports, for it not only refreshes physically but it stings and awakens to a great zest for life. We play with raw materials and lose our childish acceptance of everything achieved by the sweat of man's brow, from railroads to radiators, but woman is not a trail breaker herself. She finds her joy in following where the trail is freshly broken. Happily for the race,

The fording of wilderness streams and lakes provides a thrill all its own

the number of women campers is increasing every year. Of course the word "camping" belongs in the category of undefined nebulous terms like "informally" and "early in the morning," There are three general kinds of camping: the luxurious outings which mean only a little more work than usual for the domestics; the ordinary pleasant vacation where the farmer or country store keeps one supplied with butter and eggs; and real wilderness travel.

The first kind has at best only the interest of an ordinary picnic. It is always artistically staged and its main object is the consumption of quantities of food. The women, rustically picturesque, are up betimes, jauntily eager and professionally cheerful and optimistic even in the face of such hardships as the loss of the cream. The affair is good fun of course. They return with three fourths the food supply, reputations for being good sports, and no painful changes in their brain cells. Such delightfully impressionistic camping is in the class with the week end visits where our best clothes just last out, and our repertoire is exhausted in our "crowded hour of glorious life." It has not, however, an enduring charm for those acquisitive souls who are eager for life face to face.

The second kind of camping, a comfortable butter-and-eggs affair, has much to be said in its favor if it really means an entire change from ordinary life; it has variety, and it throws a person enough on his own resources. Its danger is the deadly monotony of some permanent camps where all one's usual occupations are missing and the slave habit has dulled our perceptions of new ones. Like many a laborious picnic, it is not always as much fun as anticipated.

The third and last kind of camping, wilderness travel, in however mild a form it may be sought, is the true camping. It is the great experience, the only perfect emancipation, *especially for women.* Of course few people can afford the time to get into a country requiring real exploration, but it is easily possible to travel in approximately the same *kind* of country within a reasonable distance from home. And after all, as one of our most ardent exponents of camp life has often pointed out, the true value of camping is not in itself but that it is the only possible method of getting away into the heart of the big and silent places. It is this kind of adventure that I recommend to women (not all women, however), and it is the very kind that men have been keeping all to themselves.

"The true value of camping is . . . that it is the only possible method of getting away into the heart of the big and silent places"

The greatest compliment that a man can pay a woman is to want to take her on such a trip or even to submit to the experiment. He usually has not the courage to risk spoiling his vacation or establishing a dangerous precedent. If he does, he is either very newly in love with her and inspired by enthusiasm and inexperience, or else their mutual reactions and tests are on a known and satisfactory basis. If she really wants to go, she is probably something besides a clinging vine. It sometimes happens that the great angel who gives out human destinies takes a whimsical fancy to put a freebooting spirit into a small feminine body, and hands out her proper domestic yearnings to a bold-looking buccaneer.

But as we are considering at present only the definitely limited subject of woman in camp, let us dispassionately discuss her qualifications, with the usual preface to disagreeable criticism—"I say it with all affection for I am really very fond of her, but ——" In the first place her ideas are rather hidebound, and it takes more than one trip to loosen them up. Once loosened, however, it is the part of wisdom to consider some of the particulars too technical for general conversation when one returns home. No one will heed your glowing account of the jungle or desert if you happen to mention first that there were ticks or that the breakfast hour was four:thirty.

The thing that appeals to the dog lover is that she can take her best friend along

Another failing of the woman camper is that she does not stand firmly on her own feet. She may not be a clinging vine, but the kind of vine that one has to tack up is even more of a nuisance. She should do her share of the work, understand the outfit, and help maintain it even if it throws her into a violent and unladylike "glow." If her fancy work has never consisted of mending moccasins or saddle bags, it is the moment to begin. She should carry some of her own duds, keep her wits about her, and develop a few back muscles. Let her get into harness and help pull a little. Most solemnly and fervently let me beg of any woman would-be-camper not to stay around camp puttering in a small circle, or sitting doing fancy work, or even reading a good book. Keep these things for the hours of heat or rain or when just back from a tramp and cleaned up, with dry socks.

This brings up a vital point—socks. There should be a law passed and strictly enforced that no woman be allowed to go camping who refuses to wear heavy woolen stockings or heavy socks over ordinary stockings. If she does not wear them she is sure to have blistered feet after walking in damp shoes, and some one with rage in his heart will have to stay behind with her.

Let us here give the devil his due and testify that the woman camper, having made up her mind to go and be a good sport, generally carries the thing off quite creditably, even though secretly her keenest enjoyment may be in retrospect or when she draws her dividend at home as an interesting sporting character. This is a sad way to take one's pleasures. It would be a tiresome game if it consisted only of being a weak imitation of lordly man, of trying to keep up with him in everything, and always scratching gravel just behind.

The whole gist of my plea is for women to find in camp life, each according to temperament, the best method of breaking up the crust of ordinary life, of getting outside of ourselves, our possessions, and our class into a brand new world. Anything will do as an excuse for the expedition—fishing, sketching, botanizing, camera hunting, or just plain, open-eyed seeking of one's fortune. They all help to focus the attention on "the infinitely curious and painstaking finish of the outer world." Of course there may be hardships, from sunburned nose to blistered feet, and sometimes real danger. There will be exposure to the elements, protesting aches from resurrected muscles, and all the minor discomforts that cannot always be avoided.

In the midst of such bad moments you may say, like the unhappy guest, "I wish I was to home and the party to hell," but it is the price you pay for abandoning the commonplace, for the hours of godlike freedom.

The idealistic side of outdoor life is all very well in its place. Still, when you breakfast in the wilderness in the presence of a flaming sunrise reaching half around the world, the most important thing of the moment is apt to be that the porridge is too hot to eat and that your fingers and toes ache with cold. Therefore let us return to the practical. For the practical side is the bumpy road we start on, and the only way to the place where it is fun because we know how.

Do not let me discourage any one further with lists of requirements. This is no guide as to how to be happy though camping. I should like to omit even the mention of clothes, for camp is the one place on earth where they assume their proper relation to life. They are much too absorbing generally. The ideal advice on the subject would be to select them carefully and have them so satisfactory that they can be forgotten. But this is about as valuable as the advice given the poor girl who wrote to the professional sympathizers of a woman's magazine asking how to overcome shyness on entering a room. She was told to "assume an easy, natural deportment."

"Next morning when you struggle in the dawn with your viciously cold and stiffened boots"

Let us suppose that everything is prepared for a camping trip. You have assembled your paraphernalia and looked over your mental outfit. It is vitally important to do this in advance, for few of us act in a becoming fashion when stampeded. It will be easy to assume a new character when you don your outing togs, for trousers must be worn courageously. We picture them as of the well-made riding breeches variety, loose around the knees and with real pockets, and stout, high laced boots. You have a compromise skirted coat like a man's frock coat, perhaps sleeveless, or a Norfolk jacket affair, but with three or four more pockets the better. In these pockets are your personal treasures, always including a good knife, a strong magnifying glass through which to inspect new worlds, and some man's handkerchiefs—colored ones that will not show the grime from camp washings. Your hat will stand rain and has a brim to protect your nose for future use. Anything else ornamental may be added "to taste," as the cook books say. This costume is a symbol of freedom. In putting it on, a kind of Jekyll and Hyde transformation has taken place. You feel mentally booted and spurred and tiptoe with eagerness for adventure. Likewise, on returning home and slipping into a lacy tea gown, you will find that feminine fastidiousness has descended upon you again.

Camp make-up is a comfortable automatic arrangement for establishing platonic relations. The appearance of the average male in camp attire always convinces me that all men are potential criminals. There is little allurement in the aspect of the aforesaid unshaven pirate in his beloved hunting trousers and dark flannel shirt of unmistakable age and experience. This consideration of course refers more especially to men; woman, theoretically, is always ornamental.

As you give your final directions before starting out, you may already be conscious that the charm of your disguise is beginning to work and that you are crawling out of your old skin. Ordinary affairs have lost their vital importance. Mixed with an apologetic, guilty feeling, is an overwhelming desire to get away quickly—to run off with both hands over your ears. What supermortals we would be if only we could find some stimulant that would take us to work each day with the fresh, open-minded receptivity, the childlike expectation, and joyous awareness of being with which we start out for a holiday! Abandon yourself to this tingling exultation and enjoy it to the full, that you may retain some recollection of it next morning when you struggle in the dawn with your viciously cold and stiffened boots. The recollection sometimes acquires a slightly cynical cast overnight. All your old habits will be waiting in ambush to capture you in the first moments of reaction. Deliberately defy them during the first days out. Follow any feeble, half smothered impulse that comes to you; climb a tree; run; slosh through some oozy meadow unmindful of such absurdities as wet feet; wade right into the first stream, clothes and all, and fish down it. It gives such a deliciously naughty and emancipated feeling when one is in the habit of scuttling to cover at the first rain drops. If the sun is warm you can find a sheltered spot to dry off without returning to camp. Meanwhile forget that you are a snobbish human being, and contemplate the amazingly organized activities and "kultur" in a near-by ant log.

"The greatest compliment a man can pay a woman is to want to take her on such a trip"

Any of these things will help to throw off the drug of civilization, to open the pores, and quicken the senses. Nature does not accept us gushingly. At first on returning to her we feel a little like poachers and rude outsiders. We must win our way.

It requires something like the whole-hearted, glorious abandon with which we race a horse, or do anything that so stings us into full physical life, so mentally intoxicates us that momentarily it is of no importance whether or not we are killed. It is a sweeping away of every cobweb from the corners. Also it is worth at least twelve lessons in the scientific method of eliminating "fear thoughts" and it is more fun than repeating "Oh, how happy I am! what a glorious day! what powers I have!" etc, etc.

Perhaps you may tell me that all this sounds well, but that you do not know how to ride or do any of these things, and that you believe in the old statement that "women and cows should never run." The answer to this is the secret of perennial youth: *Keep on trying to do something you don't know how to do.* It is entirely a matter of will power. Make up your mind to do it, and it becomes fun to try things you are scared to do. Remember that you have to die sometime anyway and that you may as well live gloriously first. When you come to a point where you are timid, try a little fatalism, make the dive, do not let yourself sidestep and determine to begin to-morrow or try it next time. Flounder along, however painfully, until you win out and find the satisfaction of "knowing how." Some people never seem to acquire any accomplishments beyond school

"It is not the scenery alone that we go for; that is the reward. It is to shake off the unessentials that beset all lives, but especially women's"

days because they have not the courage to be a little ridiculous. They are too self-conscious really to listen to instruction.

To sum up a few commandments of a successful camping trip, remember:

1st. Select your companions with all the wisdom, psychology, and judgment of which you are capable, and the fewer the better. One woman is about enough.

2nd. Put plenty of gray matter into the consideration of your equipment. Don't be an easy mark for sporting goods stores. Go light; possessions are a nuisance when you take care of them yourself.

3rd. Be sure at least to help do your own work. Learn how to make a good fire even in the rain and to cook a real meal. Lighten the burden of such unpopular tasks as dish washing by taking turns at it, thus establishing a change of occupation. Understand and maintain your equipment. Have plenty of good, wholesome, appetizing food. Prepare it decently but without irksome fuss. If the men are cooking, retire to a distance with your back turned. Don't hang about and watch.

Travel light—possessions are a nuisance when they must be transported in this way

4th. Don't make a habit of sitting around or fussing around camp. Play that you are the youngest son who in the stories always sets out one fine morning in search of adventure.

5th. Don't be snobbish and ignore the native, bird, chipmunk, or squirrel inhabitants. You are an interloper in country that they may have been inhabiting for generations. The villagers are probably thinking how "quaint" and what a "character" *you* are.

6th. When things go wrong cling to the idea that it is more than likely you will live through it and that you generally pay your price for everything worth while in this business-like world.

7th. When the men politely try to carry your camera and belongings, decide, before you accept, whether or not you want to be urged to go on the next expedition.

8th. This is very important: be a liberal minded good fellow in camp, but the first day home, when you wear your most feminine clothes, be sure that the men open doors and fetch and carry for you.

And what does woman get out of this uncomfortable-sounding vacation? Nothing, unless she is the sort of person to whom the Red Gods call. But if she is, if she longs for the wide world, then the experience of a real wilderness trip is a big possession. It clarifies the vision and enlarges the understanding of the heart. She brings home a new standard of proportions and a full mental store room.

Our pride does grow narrow in our little world! It is stimulating to be on familiar terms with sunrises and stars and the solar system. It is fine to be disciplined now and then by the elements and to be put in one's place on earth, to experiment with the raw materials out of which the ages have been fashioning our present civilization.

Have you ever crouched in your blankets on a night of tempestuous wind in the forest, with great trees swaying over you, raining pine needles like star dust from the swirling heavens? Have you ever shivered and thrilled as the older giants gave up the struggle and crashed down, exulted over by the shrieking chorus of the wind? Have you ridden through the pitiless desert at noon?

Then do not say that there is nothing for women in a real camping trip.

It is the greatest of all sports this game with nature. It puts a keen edge on life, and the zest of it even upholds you on your return when you contemplate your weather-beaten complexion. The proof of this is that you are more absorbed in exulting over the miracle of hot water out of a faucet than in consideration of how rapidly you can repair the sun's damages. Were you ever, at any other time, at such a concert pitch of appreciation of the most trivial of life's comforts?

We soon slip back into our old lives. Habit captures us and the vision fades, but it leaves behind the gift of a magic carpet. When jumpy nerves play you tricks and criss-cross spirits poison the stream of life, there is the wishing carpet waiting to take you to the calm of sunset across the desert, or to the waterfall with big leaved plants and ferns and dripping, swaying vines.

HYBRIDIZING AS A WINTER SPORT

By George C. Thomas, Jr.

HEN the bleak November winds and the cold frosts sweep down from the north, the amateur gardener regretfully gives his plants the necessary protection for the winter and, as far as his favorite hobby is concerned, hibernates until spring. A few mortals are the owners of greenhouses and carry on their interest in plants and flowers through this medium, but as a class the outdoor amateur gardener gives up his horticulture until the growing season has again commenced.

Perhaps one reason for this is that somehow the indoor plants do not usually carry the interest which the outdoor garden supplies; there is not enough of a contrast to the work which has already been accomplished, and not enough diversion, as a rule, to overcome the fact that the work is all indoors. The average outdoor enthusiast needs two things for indoor work: first, something which contains greater interest; and second, something which can be done inexpensively. He feels that the few plants which he will be able to take care of in a small space will not prove absorbing enough to be worth while.

It is the object of this article to bring before the outdoor gardener an opportunity for indoor work which does not require large greenhouses or great cost of maintenance, but which will open a field of almost boundless extent, and an interest even in excess of that which has been stimulated by outdoor plants.

A collection of seed hips pollenized by Father Schoener

Instead of choosing plants from the catalogue and knowing beforehand the approximate growth and bloom or fruit which will be produced, one orders his varieties with the object of so crossing them by interpollenization as to secure an entirely new variety; not only this, but by careful selection of the parents, a definite goal is planned for, and by breeding for this end the same may eventually be attained. Of course, it depends entirely on what one wishes as to whether it may be secured in a first cross or not. If a great advance is desired it may take several generations of careful breeding before the result is accomplished. It has been proved, however, by many of the great hybridists of the present day, that very great changes may be made in plant life by careful breeding and selection for several generations.

Some authorities claim that, when breeding varieties but slightly removed from their original species, the plant resulting from the

cross will be intermediate between its two parents in habit of growth, in color of flower, in blooming time, and, in fact, in all characteristics. It is, however, generally admitted that when hybrids which are far removed from their original species are crossbred, their resulting progeny will differ greatly, and that the same may show characteristics of which their immediate parents have no trace. One writer claims that if 1,000 crosses are made between A and B, 500 with A as a seed parent and B as a pollen parent, and the other 500 with B as a seed parent and A as a pollen parent, identical results will be secured in the offspring.

Climber hybridized by the author

Showing variation in plants of the same cross

Young plant ready to move

In the American Rose Annual for 1916, Dr. Van Fleet, who has done so much in rose work, says, "Some of our native species are intractable to hybridization," and gives a list of the ones which he has found adaptable. This shows how very important it is for any one wishing to go into hybridization to study up the class of plants with which he intends to work, for should a person take up rose work and select some of the species from which Dr. Van Fleet has found it impossible to secure results, nothing could be looked for. For hybridization on a small scale, one particular class of plants, and only one class, should be considered.

Father Schoener, of Portland, Ore., is doing some wonderful work on a large scale, and concerning the oft-quoted Mendel theory, he says "It must be taken into consideration that the Abbot Mendel experimented only with peas. While his theory is mathematically correct in the case of many annual and perennial plants, it is a far different proposition with woody plants, where no fixation of seed is the object."

There are so many different theories advanced as to just what one may expect from interpollenization that the gambling element must be largely counted upon, there being no fixed rule. It may, however, be stated with certainty that any person who is able properly to grow plants in the garden may expect to have success with hybridization.

Bud of a new variety, budded on stock for a quick test, February 11th

One who appreciates the fascination of seeing a foreign novelty bloom for the first time in this country will certainly have an intensified thrill at beholding the first bloom on his own seedling, realizing that this particular seedling, the result of cross fertilization, is the first and only plant of its kind in the world, and is a product of his own brain and handiwork.

In climates where there is much rain or humidity, outdoor pollenization is not always successful. In addition to this, many varieties of plants are more susceptible to their own pollen than they are to foreign pollen, and for this reason the flower selected as a seed parent must be guarded from interference by insects and wind, both of which are capable of fertilizing it by undesired pollen. Therefore, while outside breeding is possible, it presents many difficulties as compared with inside work.

By securing potted plants of the varieties selected and placing them in a small greenhouse in the fall, it is surprising how many crosses may be effected with a few plants; for example, a rose plant will ordinarily give, through the winter, ten blooms as a minimum. If only five of these blooms were used as the seed parents, and three out of five crosses were successful, the resulting seed would average ten to each seed pod, or thirty seeds.

The number of seeds to germinate would depend entirely upon the closeness of the crosses, but a third should mature from the average breeding, which would mean approximately ten seedlings from each plant—twenty plants would therefore give two hundred seedlings. This is a very rough calculation, but will serve to show what may be accomplished with a few plants.

The space necessary to take care of twenty rose plants would be unquestionably small, as would also be the additional room needed for their output of seed and the resulting two hundred seedlings during their first stages. As the seedlings grow, a number will be discovered to be deficient in various ways and will be thrown out; others will die, so that of two hundred seedlings perhaps only 10 per cent. will be found to give enough promise to be experimented with further. The actual work required by the care of a batch of twenty plants during the first winter, and the same number of plants and the seedlings from the previous year's work, would not be more than the average amateur gardener does on outside work. Plants which show enough individuality to be tested outside will need their numbers increased by propagation, and the actual test carried on out of doors, unless, of course, the variety is intended solely for indoor work.

While, as above stated, outdoor pollenization is most uncertain in damp climates, nevertheless the first year that the work is attempted it is advisable not only to do some outside hybridization for the practice obtained, but also to gather hips which have been fertilized naturally, and with these seeds experiment during the first winter as to the best method of germination, and as to the care and cultivation which seedlings of any particular class will require. This will give additional zest the first year, which is the least interesting period, because after the actual hybridization is completed inside, the seeds resulting from the crosses will not be planted until the following summer or autumn.

The same bud March 1st

Same bud April 1st. Note the bloom

By using naturally fertilized seeds there is not so

good a chance for securing new breaks as when seeds artificially hybridized are planted; but there is a distinct variation in the seeds of most hybrids, and in addition to this, there is a good chance for getting some seeds which the bees have cross-bred from some other variety of the same species; therefore there will be considerable interest in such work beyond the actual experiment of learning the habits of the little plants raised.

The three stages: at left a rose ready for work; centre, the pollen anthers and stamens removed preparatory to hybridizing; and at right the rose hip hybridized and seed ripening

There is one fundamental rule which seems most important to explain, and that is that original species come true from seed, the seedlings having slight, if any, variation from the parent plant; but seeds from hybrids, that is, seeds from varieties which are already the product of other crosses, do not come true, but produce plants of infinite variety.

A number of valuable experiments may be tried with seedlings the first year. If the class to which they belong is such that cuttings can be made and the new plants thus increased in number, cuttings should most certainly be taken and this method thoroughly tested. If, on the other hand, the little plants belong to varieties which grow better by budding or grafting, then this phase should be gone into. In this particular regard it may be said that the time so spent will be most valuable to any outdoor gardener, because the amateur grower often desires more plants of one particular variety, and sometimes finds it very hard to procure them. After learning the proper methods of propagation for his class of plants, it will be very easy, at little expense, for such a grower to propagate enough of these plants inside during the winter to fill his newly proposed beds in the following spring. It would also be well in this connection, if the varieties must be propagated by budding, to plant enough of the best stocks outside to enable the grower to bud them during the following summer.

A successfully hybridized Rugosa rose hip

While at first results seem few and far between, after the work has once gone beyond the constructive stage it is remarkable how many things of interest occur; it seems as though something new or some riddle to be solved appears every day.

The average person who is interested in outdoor gardening seems to look upon hybridization as a very difficult and mysterious art requiring infinite skill, and feels that it must be carried out on a large scale in order to insure success. Undoubtedly the larger the scale on which hybridization is attempted, other things being equal, the greater will be the results; nevertheless, it is perfectly feasible for the average person who is interested in plants to secure interesting results while working on a small scale. It would seem that a small conservatory attached to the house, or a small part of a greenhouse already in use, would be enough to give the ordinary flower lover a chance to experiment at least with hybridization, and the prediction is made that if any person does so experiment, he will become very much more interested in this pastime than he was before in the growing of known varieties either under glass or out of doors.

The general public does not fully realize how much may be done in a very small space in such work as this, nor that nearly all the large greenhouse companies offer inexpensive small greenhouses, so that if a part of an old greenhouse is not at hand or a conservatory is not attached to the house, a very little space outdoors and a small outlay will enable the hybridizer to carry on the necessary work.

As a general rule it may be stated that there are very few men in this country who are specializing with one class of plants and spending much time in the introduction of its new varieties, although, considering their restricted number, very great progress has been made in many branches of horticulture during the past few years; but the field of work and the lack of competition in many fields make it possible for a greater number of people to work, and each bring out entirely different and separate novelties.

In roses in this country, for example, there are only a dozen men who are quoted in the American Rose Annual as having brought out new varieties. While it is difficult for any one at once to bring forth new seedlings of great merit, the average person can secure plants which will be sufficiently different from the varieties now in cultivation to give him extreme pleasure in their production, and it is perfectly reasonable to expect a few which may take their places among the sorts in general cultivation.

A young plant in bloom less than six weeks after germination, three months from planting of seed

It must be understood that there are naturally certain classes of plants which may be more easily worked with than others. In some flowers the time of germination takes always two years, and for this reason any one who decides to attempt this type of work should most thoroughly look up the class of plants or flowers in which he is interested, before doing anything else.

It is most important that plants be so ordered that their bloom will commence at the proper time. It is admitted by all the best authorities that the condition of the atmosphere has a great deal to do with the action of the pollen, and that damp, rainy weather is the most difficult in which to work. It is therefore necessary that the blooming season should not begin until the sun commences to gain in strength, which, in the locality of Philadelphia, would be in February and March.

[The literature on hybridizing is exceedingly scant, but the following books will be found useful: "Plant Breeding," by L. H. Bailey; "Plant Breeding Experiments of Nillson and Burbank," by De Vries; "Plant Life and Evolution," by Campbell; and "New Creations in Plant Life," by Harwood. — THE AUTHOR.]

The family dining room at Mount Vernon

SOCIAL LIFE AT MOUNT VERNON IN WASHINGTON'S DAY

By Paul Wistach

THE social life at Mount Vernon during the matured lifetime of George Washington illustrates not only his crescent and dramatic career, but the rich and ample country life of colonist and early republican.

There was first of all a period of sixteen years of essentially neighborhood life, followed by the six years of the military hero at home after the war, attracting notables from all parts of the country, the vagrant visits of the president during eight years at the seat of government, and the brief final period when the hero of peace as well as of war attracted to his home notables from all over the world.

Before the Revolution the brief call of visitors whose home base was near by was practically unknown. Distances were great, travelers came with their own coach and horses and servants, and an arrival meant additional places at the master's table and in the servants' hall, additional beds, and stabling and feed for from six to twelve horses. It was part of the flexible, cordial social system, and the hospitality and provision were on a large scale. Every one was welcome, brothers and sisters, nephews and nieces, and cousins to remote degree; friends passing north and south, crossing from Maryland to lower Virginia, or only on their way to the plantation next beyond. Not least welcome were strangers, with or without letters. Washington is several times at a loss, in his diary, to recall the names of visitors in his house. But without distinction horses were sent to the stables, the servants to quarters, and the visitors were welcomed to all that the big house afforded.

Not less true of this period than a little later was De Chastellux's description of the guests' reception at Mount Vernon: "Your apartments were your house; the servants of the house were yours; and, while every inducement was held out to bring you into the general society of the drawing-room, or at the table, it rested with yourself to be served or not with everything in your own chamber."

The family were so seldom alone that when they were it was a matter of surprise, comment, and record. Day after day, year after year, the diary details the seemingly never ending procession of guests. Here are a few days in August, 1760, which are not unlike similar periods in other years:

10. Mr. Barclay dined with us again as did Mr. Power, and Mr. Geo. Thornton—
11. Lord Fairfax & Colo. Geo. Fairfax dined with us—
12. Mr. Barclay dined with us this day also—
13. We dined with Lord Fairfax—
14. Colo. Loyd, Mr. Cadwallader & Lady, Mrs. Dalton & Daughter & Miss Terrett dined with us
15. Had my horses brought in to carry Colo. Loyd as far as Hedges on his return home & rid with him as far as Sleepy Creek—returnd to Dinner & had Mr. Barclay & a Mr. Brown to dine with me—
16. Horses returnd from carrying Colo. Loyd—Mr. Barclay Mr. Goldsbury Mr. Hardwick Mr. Jno. Lewis & Mr. Wr. Washington Junr. dined here—
17. Mr. Jno. Lewis, & Mr. W. Washington Junr. dined here—
18. Mr. Barclay, Mr. Woodrow & Mr. Wood dined here—My Lord ye two Colo. Fx's & others drank Tea here

The dining room was not large and one wonders how it held them all, for in addition to those enumerated, there were Colonel and Mrs. Washington, Jack and Patty Custis, and relatives and house guests. The period quoted above shows only continual entertainment. The numbers there given were comparatively small. On one occasion Washington reached home from Williamsburg and "found Mrs. Bushrod, Mrs. W. Washington, and their families here—also Mr. Boucher Mr. Addison Mr. Magowan & Doctr Rumney." At another time he enters: "The 4 Mr. Digges came to dinner also Colo. Fairfax, Colo. Burwell, Messrs. Tilghman, Brown, Piper, Adam, Muir, Herbert, Peake, and Dr. Rumney all of whom stayd all night except Mr. Peake."

When British ships of war appeared in the Potomac and ascended to Mount Vernon there was a general exchange of courtesies between ship and house. A characteristic entry in the diary is that in July, 1770, when an English frigate anchored in the stream: "Sir Thomas Adams and Mr. Glassford his first Lieutt Breakfasted here—Sir Thos returned after it; but Mr. Glassford dined here as did the 2d Lieutt. Mr. Sartell Mr. Johnston of Marines Mr. Norris & Mr. Richmore—two Midshipmen."

Mount Vernon was the centre of a neighborhood life of much activity. "Neighborhood" is a relative term. Virginia country gentlemen of Colonial days called any man their neighbor if he lived within a day's ride. Separated from Washington's home only by Dogue's Creek was Belvoir, the seat of his lifelong friends, the Fairfaxes. They were his nearest neighbors, but by water Belvoir was a barge ride of two miles and on land it was a ride of about seven miles around the head of the creek. Next beyond Belvoir, and separated from it only by Gunston Cove, was Gunston Hall, home of George Mason, an active planter on a large scale and a philosophic statesman of the first order. The house of his son Thomson Mason, Hollin Hall, was a few miles to the north of Mount Vernon, beyond the river farm on the well traveled road to Alexandria. At a somewhat greater distance, but still in the wide Colonial latitude of neighborhood, was Belle Aire (of which Gunston Hall was in many features a replica), high on the hills of Neabsco, the home of the Ewells, cousins of the Washingtons, and a family connected by marriage with William Grayson, Virginia's first senator; with Parson Weems, Washington's first if not most reliable biographer; and with James Craik, Mount Vernon's family surgeon and later Surgeon General of the Revolutionary army.

Across the Potomac to the eastward, where now rises Fort Washington, was the estate of the Digges family, and their seat, Warburton Manor. Washington and Digges had a code of signals between Mount Vernon and Warburton, and when the signal went up that there were guests on the way, the handsome barges, which each house maintained, shot out from the shores, driven by the oars of gaily liveried black men, and met in midstream to transfer the visitors.

At Warburton, Washington met not only the extensive connections of the Digges family, but Governor Eden, Major Fleming, Mr. Boucher who tutored John Parke Custis, the Calverts, Daniel of St. Thomas, Jenifer, and other Maryland notables. At times the whole party would cross the river for a hunt and dinner at Mount Vernon, spend the night there, and next day press on in a body to Belvoir for further entertainment, and even to Gunston Hall and Belle Aire, picking up recruits to the merry party en route, and on their leisurely return dropping them at their own homes after partaking of renewed hospitality.

The races at Annapolis always drew the family at Mount Vernon. The visit to the Maryland capital gave an urban touch to country life. On these occasions the great coach, the horses, the coachman, footmen, and postilions were sent across the river the day before, to be in readiness for an early start the next morning, upon the arrival of the master and mistress. The trip was broken by stops in Marlboro and at Mount Airy, home of the Calverts, who were later to be connected with the family at Mount Vernon by the marriage of Miss Eleanor Calvert and Jack Custis.

The banquet room. The mantel was sent Washington by Samuel Vaughan of London. All articles inside the railing are originals restored to the places in which Washington knew them

Washington's pastor and friends at Pohick Church were frequent and welcome visitors at his home, among them Dr. Green, the Rev. Lee Massey, Captain Daniel McCarty of Cedar Grove on Accotink Creek, Col. Alexander Henderson, Dr. Peter Wagener, Col. William Grayson, Mr. George Johnson, and Mr. Martin Cockburn of Springfield, near Gunston Hall.

Two other neighbors within sight of the villa were Thomas Hanson Marshall of Marshall Hall on the Maryland shore, less than two miles to the south, and John Posey of Rover's Delight, the sentimental name he gave his house on the Dogue Creek tract later added to Mount Vernon. As revealed in their letters to Washington, they were as definitely opposite types as well could be imagined. Marshall was precise, unyielding, self-sufficient, and admirable. Dear old Posey was easy-going, dependent, timid, irresolute, and delightful. Indeed a single passage from one of Posey's letters sent up to his friend, Colonel Washington, gives his character in a paragraph:

"I could (have) been able to (have) satisfied all my Arrears, Some months AGoe, by marrying (an) old widow woman in this County, She has Large Soms (of) cash by her, and Prittey good Est.—She is as thick, as she is high—And gits drunk at Least three or foure (times) a weak—which is Disagreable to me—has Viliant Sperrit when Drunk—its been (a) Great Dispute in my mind what to Doe,—I believe I shu'd Run all Resk's —if my Last Wife, had been (an) Even temper'd woman, but her Sperrit, has Given me such (a) Shock—that I am afraid to Run the Resk Again, When I see the object before my Ey(e)s (it) is Disagreable."

The Mount Vernon coach and horses were nowhere more familiar than on the road to Alexandria. The little city eight miles up river was the background of a large part of Washington's life and some of the most important events of his career. It was warehouse and market town for the products of Mount Vernon farms, its physicians attended the family in illness, and not only did the Washingtons enter fully into its social life, but their friends there were in an intimate sense their neighbors, and stood out conspicuously in the picture of the social life at Mount Vernon.

The Assemblies at Alexandria were a never failing lure to Washington. One of the first to which he took Mrs. Washington after their marriage was thus recorded in the diary: "Went to a ball at Alexandria, where Musick and dancing were the chief Entertainment however in a convenient room detached for the purpose abounded great plenty of bread and butter, some biscuits, with tea and coffee, which the drinkers of could not distinguish from hot water sweet'ned—

"Be it remembered that pocket handkerchiefs servd the purposes of Table cloths & Napkins and that no apologies were made for either. I shall therefore distinguish this ball by the stile and title of the Bread & Butter Ball."

One of the great attractions at Mount Vernon for Washington's friends was the hunting. Though the Potomac has always been famous for duck and fish, Washington only occasionally went gunning, and less often did he try his skill with hook and line. The latter sport was little in evidence on this river, where fishing has always been done on a wholesale scale by seines and nets and traps.

His prime outdoor diversion was fox hunting. The pursuit of Bre'r Fox seems sometimes to have been less of an object in itself than an excuse to be in the saddle and to ride afield, for he loved to feel a horse under him and he rode with famous skill. He loved the yelp of the pack and the excitement of a galloping group of horsemen, and the hard ride for hours at a time "across a country that was only for those who dared." They justified the day whatever its end. It is inevitable that he was "fashionably" dressed for the hunt. His stepson says that he "was always superbly mounted, in true sporting costume, of blue coat, scarlet waistcoat, buckskin breeches, top boots, velvet cap, and whip with long thong."

Some notion of the out-of-door life at Mount Vernon, as well as the relative number of days devoted to ducking and fox hunting, may be gathered from these quotations from the diary for the months of January and February, 1769:

"Jan. 4, Fox hunting; 10, Fox hunting; 11, Fox hunting; 12, Fox hunting; 16, Went a ducking; 17, Fox hunting; 18, Fox hunting; 19, Fox hunting; 20, Fox hunting; 21, Fox hunting; 25, Hunting below Accotinck; 28, Fox hunting; Feb. 3, Went a gunning up the Creek; 9, Went a Ducking; 10, Went a shooting again; 11, Ducking till Dinner; 14, Fox hunting; 17, Rid out with my hounds; 18, went a hunting with Doctr. Rumney Started a fox or rather 2 or 3 & catched none—Dogs mostly got after deer & never joind; 27, Fox hunting." When in pursuit of the fox they not infrequently started deer or bear.

Pohick Church, the parish church of Mount Vernon, seven miles west of the mansion. Its vestry was reputed to be the most distinguished in the colony

There was a famous pack of hounds at Mount Vernon, in the kennels down on the western slope leading to the wharf. Their names ring across the years fresh and inspiring: Pilot, Musick, Truelove, Lawlor, Forrister, Singer, Ringwood, Mopsey, Cloe, Dutchess, Chaunter, Drunkard, and, doubtless his son, Tipsey. From a stable full of thoroughbred mounts the names of Blueskin, Valiant, Ajax, and Chinkling are preserved.

The races in Fairfax and the neighboring counties in Virginia and Maryland were potent in drawing forth the squire of Mount Vernon. He contributed liberally, entered horses from his stables, and occasionally laid a wager on the result. Washington was a steward of the Alexandria Jockey Club. Nearer Mount Vernon was Bogg's Race Track in the meadow below and to the west of Pohick Church, but the reader is left to wonder

A corner of the south porch, with glimpse of the lofty portico which overlooks the broad sweep of lawn and the Potomac beyond

where might have been the track referred to in the brief entry "Went up to a Race by Beckwiths & lodged at Mr Edwd. Paynes."

Rainy days and the early winter evenings were devoted to cards. Washington's account books indicate that playing cards were quickly used up. The profit and loss columns record his winnings and losses which at times mounted to nine pounds at a sitting. It was a liberal age. Not only was gambling on a moderate scale considered a fashionable diversion, but the family at Mount Vernon patronized the lotteries on various occasions. These institutions were under distinguished social and even, in one instance, ecclesiastical patronage. Among the many lotteries in which Washington bought tickets were the Alexandria Street Lottery, "Colo. Byrds Lottery," Peregrine and Fitzhugh's Lottery, the Mountain Road Lottery, and Earl Sterling's Land and Cash Lottery.

The sideboard in the dining room—a Hepplewhite—is the original one used in Washington's time, as are also the knife boxes and candelabra

One of the fashionable customs of the age which was not tolerated at Mount Vernon, however, was duelling. Thackeray was under another impression, for he hinged the plot of "The Virginians" on the challenge sent to Washington by young Warrenton, and it is implied that Washington would fight. Thackeray had evidently not read this letter of George Mason's: "You express a fear that General Lee will challenge our friend. Indulge in no such apprehensions, for he too well knows the sentiments of General Washington on the subject of duelling. From his earliest manhood I Have heard him express his contempt of the man who sends and the man who accepts a challenge, for he regards such acts as no proof of moral courage; and the practice he abhors as a relic of old barbarisms, repugnant alike to sound morality and Christian enlightenment."

Washington and Mrs. Washington were fond of dancing and, for the sake of Mrs. Washington's two children, Mount Vernon became one of the principal rendezvous of the dancing class conducted by Mr. Christian. This fashionable dancing master had pupils in all the great houses of tidewater Potomac. In its upper reaches the classes were held at Mount Vernon and at Gunston Hall in turn, when all the children of the neighborhood assembled to be taught the rollicking country dances or the formal minuet. When the afternoon had been danced away and candles were brought, Mr. Christian retired, and the young people romped at "Button to get Pauns for Redemption" or "Break the Pope's Neck." The fun was carried on with "sprightliness and Decency," but the "Pauns" were potent to wring "kisses from the ladies."

The river shore from the wharf. The high point of land in the distance is Belvoir. The lower shore line beyond is Gunston

The room occupied by Lafayette whom Mrs. Washington called "the French boy"—on the occasion of his visits to Washington at Mount Vernon

Relief that it was, after the war, to sheath his sword and retire to the quiet of his home, Washington was no longer wholly free there, and the character of its life changed. He now belonged to the country, for although there was no actual national entity, the pride and national aspirations of all the independent states in the confederation focused on their recent military leader. Mount Vernon as the residence of such a figure typified the capital of the embryonic nation.

His exalted position now attracted a constant stream of visitors. Among them were the recent French and American companions in arms, and even English officers; leaders in political thought from all over the country; a variety of strangers, distinguished foreigners from European countries. It is to some of these foreign commentators that the story of Mount Vernon owes many valuable sketches of the social life there.

With uniform hospitality for all who came under his roof, there was, however, no one else who received a welcome equal to that of General the Marquis de LaFayette—"the French boy" Mrs. Washington called him—who made two visits to Mount Vernon on his return to America in 1784. Washington's attachment to LaFayette was one of the unique affections of his life. On the occasion of his second visit Washington traveled all the way to Richmond to meet his friend and accompany him to Mount Vernon. And when the precious seven days had passed he was so loath to give him up that he journeyed on with him to Annapolis.

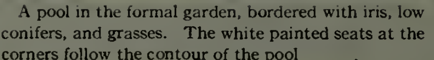
Whenever Washington was away from Mount Vernon not only a portion of his mind but all his heart seems to have been there. He had better control of his emotions in this respect than Mrs. Washington had, with greater need. She was downright homesick and said so. As the time approached to relinquish office and return to his plantation, he looked forward to this last journey with the eagerness of a freed schoolboy.

On his return he found life at Mount Vernon gayer than ever. Among the most notable public characters he entertained in his home at this time were the Duc d'Orleans, (afterward Louis Philippe) and his brothers, Montpensier and Beaujolais, and George Washington LaFayette, son of General Marquis de LaFayette. The General and Mrs. Washington defended themselves from the overrunning visitors, who would have left them no privacy of their own, by a well understood formality which restricted certain time for their own. It was at the dinner hour in the middle of the afternoon, after his ride over his farms, that Washington's visitors saw him first. After dinner he spent an interval talking with them, "with a glass of Madeira by his side," and then withdrew to his library again where he made a hasty survey of the newspapers, of which he received a great many, and retired for the night at nine o'clock, if possible without appearing at supper. He even called Lawrence Lewis, son of his sister Elisabeth, to reside in his house and take from him the burden of entertaining house guests.

A short time before his death Washington wrote: "Mrs. Washington & myself will do what I believe has not been done within twenty years by us—that is set down to dinner by ourselves." Earlier he compared his house to "a well resorted tavern"—and the hospitality of much less conspicuous Virginians than he had bankrupted them.

KRISHEIM ST MARTINS PA.

Landscape Architect G. Fred Dawson of Olmsted Brothers



A pool in the formal garden, bordered with iris, low conifers, and grasses. The white painted seats at the corners follow the contour of the pool

A rustic thatched summer house, overhung with wistaria

A path bordered with rhododendrons leads through the woods

The wall garden, looking toward the entrance. Here grow mountain pink, violets, columbine, and a host of other flowers, and above the wall a mass of flowering dogwood

A picturesque seat backed by the foliage of trees, and flanked by walls overgrown with ivy

The GARDEN OF Dr G^{eo} WOODWARD

Architects of House
Peabody & Stearns

Photographs by Martha Bunting

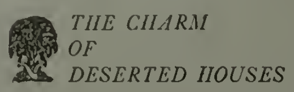
A Japanese tea house in the garden, reached by a path of stepping stones; these stones form also the floor of the tea house

Approaching the house from the floral walk one passes along a wooded path and then, upon stepping stones (left), through a laurel path that runs along the edge of the wood. Driveway at right

There are three pools at Krisheim, located one above another on the slope of the hill. At the left is shown the rock garden of the upper pool; at the right the central pool, which forms the nucleus of the formal garden. This latter picture shows also the wall of the upper and lower terraces

FROM A COUNTRY WINDOW

FRIENDLY AND SEDUCTIVE, the deserted houses of our countryside invite us to come, take possession, and renew their former youth. Age with them is not austere, nor partial demolition repellent, for time deals kindly with lifeless things, and anoints with the balm of the picturesque that from which it takes utility. Diffident, unaggressive, the old houses yet implore us to return them to the uses of man.



THE CHARM OF DESERTED HOUSES

Once knowing the ring of happy laughter, they now have the disconsolate chirping of chimney swifts to bear them company; once echoing to the patter of feet in and out of slamming doors, they now know only the rustle of furtive, padded wood dwellers; once the honored homes of nation builders, now the forlorn refuge of an occasional outcast. Boys have stopped to stone their windows, collectors to rob them of their hand-carved mantels, the winds to detach their moss-grown shingles—and yet their charm is ineradicable, for there is grace in every softened line, romance in each cobwebbed room, tradition in every rough-hewn timber. Character they have, as well, and humor, expressed in the disposition of the doors and winking dormer windows; a spirit of misfortune broods over one and an air of tranquility pervades another.

And so they stand, awaiting the turn of the tide, hidden from the road, forgotten of the world. But if you would know the real delights of home building, seek one out and make yourself its owner. A little money, a little work, and a little affection will transfuse the ideal with the actuality, and in gaining a home of homes you will both benefit yourself and dissolve an obligation incurred by a bygone city-seeking generation.

THE WOMAN OF THE HOUSE congratulates—we had almost said flatters—herself that she understands every whim, mood, and trait of that strange male being whose privilege it is to tramp mud into her parlor; and she humors with feminine wile such wild machinations of his brain as are indeed beyond her comprehension. Of these is the wellnigh universal masculine delight in knocking together useless odds and ends into an almost useless whole.

THE CONSTRUCTIVE SPIRIT

Every woman knows that her husband will prophesy cold and fever in the first person singular when he is asked to split kindling under a gentle summer drizzle. She knows too (if she has been married long enough) that this same husband is entirely immune from ill effects if he fritter away a rainy afternoon in building a wooden horse on which to saw a solitary log. The whole proceeding is incapable of plausible explanation and is senseless, rhymeless, and unreasonable—we speak now from the woman's point of view as we understand it.

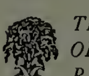
But man no less than woman has been given intelligence, which he, perhaps, more than she, is ready to utilize in lightening personal manual toil. And, calling constructive work play, he spends hours fashioning trouble-saving devices to conserve minutes of actual labor. This constructive spirit and its compelling motive has become with us a national characteristic, and where it has not been devoted to railways, telephones, and the other practical inventions, it has found its outlet in the home-made instruments of a thousand farm yards.

In the main, however, the results of this benignant dementia are of little value, the care-free, happy state of mind which it engenders being all-important. We know of a man, who, having nothing better to do, heats his copper and solders two pieces of tin together, firm in the belief that the work coördinates his thoughts, tranquilizes his soul, and quiets his nerves. His wife, come to think of it, is a partial exception to the general rule, for while privately contending that his mental processes are those of a child in the building-block stage, she admits that the constructive spirit has a wonderfully soothing effect on his temper.

NEVER TO BE FORGOTTEN or forgiven is one item upon the debit side of the ledger recording what the motor car has given us and what it has taken away. In being credited with greater luxury and a widely increased radius of travel, the motor must answer the solemn indictment of having robbed us of buggy ridin'. Does any one think for a moment that fifteen inches of upholstery, twelve cylinders delivering an oily stream of power, headlights that shame the sleeping woods, springs, tires, and shock absorbers that iron out any road—does any one claim that these atone for the loss of buggy ridin'? Can they even approximate the pulsating joy of driving with one's steady company under an August moon? The iron shod wheel strikes sharply against a stone and grinds off, but would we wish for shock absorbers? The horse, turned away from home, plods slowly along, clumping softly in the dust, but would we wish for speed? A soft linen dust robe, well tucked in, binds us closely together upon a hard seat, but would we question the depth of the upholstery? And the pure, unadulterated adventure of being caught in a thunder shower! No fussing with a three-man top in those days. We drive under a friendly shed and listen to the music of big drops on a dry shingle roof, the splashing from the eaves into gravelly puddles along the shed's open front. There is reassurance to be offered upon the lightning's blinding stroke and the quickly following thunder clap. The top bows are sprung into line, the rubber blanket buttoned snugly into place, the best spring hat covered with a handkerchief to keep off a chance drop, and if the inside of that buggy in the shelter of its leaky shed isn't the most delectable spot on earth, we'll *give* you a motor car.

THE END OF BUGGY RIDIN'

THE DELVER into American biography is gradually impressed with a certain point of similarity in the lives of our illustrious fellow citizens. It lies in the fact that these great men with remarkable unanimity have taken pains to be born and spend their early lives on farms or in the open places. At first one puts this down to accident, changing later to coincidence, and finally deciding that it is nothing short of habit.



THE SCHOOL OF SELF-RELIANCE

Analysis of the matter unmistakably indicates the condition and the result as being cause and effect. The early rural years of our great men are not merely fortuitous incidents but actual contributing factors to the eminence which follows.

To begin with, the country boy, performing the ordinary tasks of his kind, stores up a fund of rugged health and solid muscle, upon which he may draw heavily in later years. But more important, the country boy must largely depend upon his own initiative to solve the problems of his daily life, which enforces a lesson in self-reliance rarely achieved by the city lad, the problems of whose sheltered existence are decided for him until he reaches man's estate. So it is that the boy born and reared in the open places has an immeasurable advantage in the battle of life, in the possession of a character schooled during the impressionable years in the self-reliance entailed by country living.

Cleopatra. One of the finer yellow long trumpets, larger than Monarch of which it may indeed be called an improved form. The segments are broad and overlapping, and the flare of the trumpet well rolled back

Bedouin. One of the most enormous of the incomparabilis type, a glorified Flora Wilson, 4 inches across, with each segment 1 x 1¼ inches, cup ½ inch deep and 1¼ inches across flare. The broad overlapping perianth segments are sulphur white, the cup rich orange red

Corot. A very light colored large trumpet on the style of Cleopatra, but with a wider mouth. This flower, though quite large, has a definite refinement of appearance which is sometimes lacking in the larger types

NARCISSUS *for the* COLLECTOR

Modern varieties that mark the present day acme of development. Daffodil fanciers pay very high prices for exclusive novelties, even hundreds of dollars for a single bulb

Mermaid. A giant almost white Leedsii, having large white perianth segments and creamy primrose cup becoming lighter with age. The flower measures 4 inches across

Red Beacon. A 3-inch flower of the Poet's Narcissus type, with the conspicuous open orange-scarlet crown or cup measuring a half inch across

Sirdar. Another Leedsii (i. e., having moderately long trumpet) measuring 3¾ inches across, with perianth segments 1¼ x 1½ inches. Silvery white flower with delicately frilled cream cup

Czarina. A real giant (a Leedsii) 5 inches across, and the segments 1¾ inches wide; creamy segments and canary yellow cup

Peter Barr. A remarkably strong and rigid "white" daffodil. To be exact, the segments are palest cream, with whiter trumpet. Bulbs of this novelty sold on introduction for $300 each!

HEARD IN THE LOCKER ROOM

BY HERBERT REED

THERE are two men in the polo field—one from New York, the other from Chicago—who form not merely a winning forward line, because they do not always win, but an interesting, well-mounted forward line. With the Midwick team, Drury and Carleton Burke "feeding up," they proved that they were practically unbeatable. There are possibilities in these two forwards not found elsewhere. Both Frederic McLaughlin and J. Watson Webb are well mounted. Webb's string of ponies will match, I think, almost any other, and by the time these lines appear, probably will have been strengthened by purchase. The two men are faster down the field than any other pair it has been my pleasure to see, East or West, with the exception of genius in the persons of the two Waterburys. But this combination, although not rated so high as the Waterburys, has the striking—the term is used advisedly—advantage that Webb is left-handed, so that an entirely new brand of generalship can be built around his game, just as it was built around the work of the same two men in conjunction with Drury and Burke and their remarkable mounts in San Francisco only a year ago. Just how the season will turn out no one can tell, of course, but I believe it to be a certainty that a strong team can at any time be built around these men and their mounts.

Polo players are rather uncertain. They consult their own convenience to a large extent, save when organizing for battle against a possible foreign invasion. Now and then a real team is built up, as in the case of the Meadowbrook four, or the Cooperstown contingent that has been formidable for so many years. As already told in these pages, the future of American polo lies in the hands of the youngsters, but the fact remains that from older heads must come the generalship that is to be used in future campaigns. I believe that both of the men mentioned, McLaughlin and Webb, can add materially at any time to that generalship, and can even improve upon it.

Photograph by Paul Thompson

R. Lindley Murray, one of the California tennis players who has settled in the East, and who has a distinctive style of play all his own

In tennis we seem to be always facing westward. The newest product of the Pacific Coast form of preparation, Willis E. Davis, is, like R. Lindley Murray, a permanent acquisition of the East, since Murray has settled down to business in New Jersey, and Davis has become a student at the University of Pennsylvania. If they stay here long enough they will have our own Easterners worried, just as they have in the past, especially since Murray has been working up his ground strokes, and Davis, making a sensational debut, has already shown an all-round type of game that may, with a little luck, take him as far as William M. Johnston. Davis, as it turns out, has all the speed of the best of the California marvels, and a balance unusual and most promising.

Doubles play, frequently ill done by a combination of singles stars, has had its worth-while representatives, in Pell and Behr for instance, and McLoughlin and Bundy, but I doubt if it has been better done, considered as a team game, than by George M. Church and Dean Mathey. These men, in combination, seem to have mastered the court, and, the one short, the other extremely tall, have worked out a defensive game that is almost impossible to defeat. They won the Metropolitan championship by the process of coming up to half court when the play was on the net order, lobbing when driven back, and getting the ball down to their opponents' feet when the opportunity offered. It is a question whether a combination of a tall man with tremendous sweep with the racquet and ability to cover court, and a short one who is a fine tennis player with a thorough knowledge of his partner's ability, is not the best arrangement.

It seems possible that men of the temperament of the Dohertys might make trouble for the Metropolitan champions, but it is established that they have made a study of the court and that together they have worked out something that is close to a standard in this country.

Photograph by Paul Thompson

Dean Mathey, the shorter but none the less effective member of the doubles team of Church and Mathey, Metropolitan champions

Photograph by Edwin Levick

George M. Church, the other member of the Church and Mathey team which plays the difficult doubles game admirably.

Photograph by Edwin Levick

Willis E. Davis, the latest Californian to stir the Eastern tennis world, is probably a permanent addition to Eastern tennis ranks

A rowing season unusually difficult to analyze because of the problems faced by all the American coaches, has gone into the record book with the long credit marks against the names of Robert Herrick, of Harvard, and William Haines, the professional who assisted him. There was also the retirement of Charles E. Courtney of Cornell, who knew not only rowing but men—indeed, with all his rowing knowledge, he probably was a better judge of men than any coach who has ever had to handle collegians. It is a mistake, I think, to figure that Herrick, who handled the Harvard eight which two years ago brought home the Grand Challenge Cup from Henley (in the course of which his eight had to defeat in the finals the Union Boat Club, made up of Harvard men and coached by Herrick's assistant), can keep on with the work. He is one of the best coaches the country has seen, and, even better than that, an enthusiast. He would keep on if he could, I think, but he has so many other interests to handle that it is likely he will give way to Haines, the professional.

Photograph by Underwood & Underwood

J. Watson Webb, one of the few left handed players remaining in the game of polo, who is seen at his best when in combination with Frederic McLaughlin at No. 1

Courtney's picturesque history is an old story to rowing men. I wonder, sometimes, however, how many men have made due inquiry into the cause of his success. Cornell men seem to feel, not without reason, that it was largely because of his steady connection, from the beginning of his coaching career, with the same institution. He had developed American rowing successfully long before he went to Henley, but as in the case of Herrick, the amateur, he came back—as indeed, does every one—not a little the wiser for his trip. He was willing to adopt what he thought was good, and he was the first to do it—but he was not the first to admit it. However, we are talking now about his personality. And it is well to remember that that personality has won races—too many, indeed, to recapitulate here.

I am thinking, now, of the year in which he had on his hands a very nervous stroke oar—the type needed, indeed, to drive that very boatload. He wanted nerves, the crew needed nerves, and the man he picked to make the pace for the shell had, perhaps, too much of that commodity. So Courtney and the young man went up into the hills one night not long before the race, and talked things over. It was a talk between Courtney the man, and his stroke oar as a person, not as a part of a machine. Out of the talk came confidence and victory. And that is the man who has retired at Cornell.

Photograph by Paul Thompson

Robert Herrick (right), Harvard's amateur rowing coach, and William Haines, the professional who assisted him

There has been another personality in American rowing in recent years that has counted not a little. I mean Guy Nickalls, who has been in charge of the Yale eights for three years. Twice he won, and the third time he went through a disastrous season that concluded with defeat at the hands of boats coached by Herrick and Haines. Since the races there has been a tendency toward criticism of Nickalls. There cannot possibly be any valid criticism of his method of teaching rowing. The only criticism that will stand the test, I think, is that he selected just a shade too late the men who should sit in the 'varsity shell at New London. And yet that is the English way of doing things—getting men together in almost any sport at the last moment. It fared well in America for two years for the reason that the imported coach had at his disposal most remarkable material.

Copyright by Paul Thompson

Charles E. Courtney, of Cornell, the retiring builder of many successful crews, who was a judge of men as well as of mere oarsmen

We come around naturally and easily to Yale's prospects on the gridiron under the new coaching régime. If they are not all gone to war by the time these notes appear there is prospect of plenty of good material, which, under the new system, may be molded into a first-class eleven. There is more to be feared from Princeton, I think, than from Harvard, since the Crimson will be short of the high school stars who were first-class when they arrived, and since the Tigers will be old hands under the coaching of "Speedy" Rush and his assistants. Not the least of these is Cruikshank, from Washington and Jefferson, where, last year, he was a master of the art of forward passing—illegal perhaps, but the basis of a forward passing game that ought to be troublesome this year.

Amherst college does not get into the limelight often enough to be blinded by it, yet none the less it has its traditions, and, incidentally, it was the first of the colleges to live up to the motto of "a sound mind in a sound body," so well known and so seldom followed. Away back before the Civil War, President W. F. Stearns wrote that "it is the custom rather than the exception to find the health of the students better in college" than when they came to their work from a home summer of comparative idleness. He proceeded promptly to make that health better even while in college. He interested Nathan Allen, a trustee, and Elihu Barrett in the matter, the result being the Barrett Gymnasium, the first of its kind in the United States. The next step was to enlist the services of Dr. Edmund Hitchcock, and it was this same Dr. Hitchcock who installed physical exercise as an integral part of the college work.

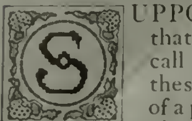
The Amherst men really caught their cue from Dio Lewis, a lecturer on physical culture, who was at the time making a tour of New England, and Dr. George R. Winship, who was traveling the same route lifting weights. Down from the hills came the Congregational clergymen to laugh at what Dr. Hitchcock was doing. They saw the good doctor's little band of students working with light dumbbells, and equally light barbells, and promptly condemned the proceeding. Sawing wood they could understand, but so little were they impressed by the performances of Dr. Hitchcock's pupils that they spoke of them only as "Hitchcock's hobbies," and so, in a large area of New England, they are called to this day, now that the burden of keeping a sound body around a sound mind has been turned over to Dr. Phillips.

There is another curiosity about Amherst that impresses the stranger, and that is a faculty, including President Meiklejohn (who is an internationalist in lacrosse) and Dr. Raymond G. Gettell, formerly the professor-coach of Trinity College, that can play a good game of tennis, and furthermore is willing to make it three sets out of five and not two out of three.

THE BLUEBERRY LADY

By H·W·COLLINGWOOD

Photographs by U. S. Department of Agriculture



SUPPOSE that we call this the story of a pimple on the face of nature which was brought back into a dimple by the application of wild roots and herbs. When the southern half of New Jersey rose up out of the water, many of these sour spots were formed. The soil was not quite ready for polite society when the forces underneath jumped it into the limelight and left out the lime. Thus ever since then the fine, sweet farming land on the higher ridges has suffered somewhat in reputation from the thin, sandy plains and low, sour spots through which nature still expresses a little of her disappointment in New Jersey. Now these spots are coming back into dimples, a credit to the state rather than a discredit and a joke.

Nature abhors a vacuum and never knew a waste. What men call wastes are only hard puzzles, which, when pulled apart by bright, orderly minds, are found to cover a pot of gold. Joseph J. White's great cranberry bog near New Lisbon illustrates this. It is about half way between the Delaware and the ocean. At night one may often see the glare of Philadelphia and Trenton on the sky.

Here was a sour spot of well nigh useless land, worth perhaps $10 an acre. Mr. White learned how to make it a suitable home for cranberries, and the sour spot became a dimple. It is the largest cranberry bog in the world—more than 600 acres—a princely domain of bogs and lakes and canals and dikes. As a sour spot at $10 per acre it produced a few cranberries, a few blueberries, and a good supply of bullfrogs and mosquitoes. As a dimple, the land is worth at least $400 per acre, since it produces 50,000 bushels of cranberries annually. Nature smiles and shows her dimples only to those who learn the habits of her wild things so well that they will eat out of the hand, come upon the farm, forget their freedom, and join the labor union of orderly culture.

This great feat of spreading cranberry sauce over the sour spot as though it were roast turkey is another story. We are more concerned with a new chapter in history which is now being worked out by Mr. White's daughter. If we call Mr. White the cranberry prince, we must call Miss Elizabeth C. White the blueberry lady, for she is now doing an important pioneer work with the wild blueberry. This plant, when civilized and induced to work in harness, will make these sour spots and thin soils into the most profitable fruit gardens of America. Here at New Lisbon is the foundation of a great industry, based on that surest road to wealth in all the world, the ability to make nature smile. Nature has little or no sense of humor, but she has a great number of unappreciated children, plants or animals which have never been introduced into society. Nature, like other fond parents, wants them there, and will pay for their introduction. Some of them are shy or cranky, or positively mean, but nature has given each one a vast fortune for spending money, and she intended that they should pass it all on to humanity when some one comes who is wise enough to understand them. Why should she not smile and heap favors upon a human being who gets into the confidence of the shy and cranky children? You would feel that way toward those who did the same thing to your own backward youngsters.

That is just what Miss White has done with nature's favorite wild daughter, the blueberry. Most of us who have any part of a farm in our pedigree have wandered off into the swamps and wild places after blueberries. The huckleberry cake at the old time Sunday school picnic beat the preacher as an inducement to attend the services. The child who would not stain his face from ear to ear with the juice of blueberry pie would hardly be worth raising.

A blueberry plant two years and four months from the time the cutting was placed in the propagating frames at Whitesbog

Section of one of the frames in the shelter, showing root cuttings from a selected wild blueberry bush

This is all true, and yet while blackberry, raspberry, strawberry, and currant have climbed out of the jungle into the garden, and taken up the fat, satisfied life of civilization, the best child of all, Miss Blueberry, has remained a gypsy, camping in swamps or sour plains, a wild thing preferring death to man's well meant nursing and care.

Some years ago a famous nurseryman took me out into a corner of his garden where stood a blueberry bush. A great scientist had found it in a New England pasture, where it grew tall and strong, with berries half an inch in diameter. The scientist expected to propagate it as he would a currant. The nursery man was to distribute it so that it would be found in a million gardens. Finally they were to cut up a fine, juicy, financial pie between them. That bush had the pick of the garden. The soil had been limed and manured, and treated as for onions, yet the plant slowly and steadily pined away and died. You may say, and truly, that it died of a broken heart, a wild gypsy longing for her old home.

I know a homesick boy who was raised in the Cape Cod district, where each year the trailing arbutus springs out of the thin, sour land, a rare joy after the cold, hard winter. This boy moved away and carried several plants of arbutus with him. They were planted in the garden and cared for lovingly, but with all the petting and care they faded away to death. As with the blueberry, prosperity only broke their heart, and man could not mend it.

My children caught a robin, and put her in a cage. Just like the blueberry in the garden, she drooped and disdained the comforts of civilization. Suppose some one learned how to bribe her, so that she would gladly exchange her freedom for the chance of civilized development! She would increase her size as she became domestic, her half dozen eggs per year would increase to a hundred or more, until she became more useful than some of our present breeds of poultry. It would not be a miracle, only an understanding of her nature, the trick of making her appreciate all the comforts of her new home. And this is just what Miss White has done with the blueberry. She has learned how to make it drop the stripes of captivity for the stars which have led so many other wild things out of the forest into orderly industry. It is the most interesting and the most promising taming of a plant gypsy that has yet been attempted.

Professor F. V. Coville learned by long experiment what was the matter with this plant gypsy, when you took her from the wagon and the camp fire and put her in a palace. The most natural thing was to assume that if the blueberry was tough enough to make a living in a swamp, or in poor, sour soil, she would immediately respond to a much better living in a finer soil. That might be true of potatoes. Some farmers prefer to grow their seed on thin, poor land, believing that such seed when planted on rich soil will produce a superior crop. As we have seen, the blueberry sickened of prosperity and refused to accept one of the most polished precepts of society.

Then it occurred to Professor Coville that the blueberry was an acid loving plant, and from its very nature as unhappy in a sweet, rich soil as alfalfa would be in a sour swamp. "Every man to his taste," and evidently nature has given this plant a special set of machinery for running an acid factory. Most agricultural plants which feed and grow along the lines of polite agricultural society have their roots covered with root hairs. These absorb moisture and plant food. They are waiters, conveying food and drink to the parent plant. The blueberry plant has none of these root hairs. Like all savages, it waits on itself. In the place of these root hairs is found a peculiar fungus, which appears to have the power of making the unavailable nitrogen in the sour swamp into a form which the blueberry can use.

See what nature has done here with an acid machine. If man would feed his cultivated plants on muck or peat soil, he must haul it out to dry, mix it with lime and manure, then induce a hot fermentation to shake up the muck and put its nitrogen at work. This mycorrhizal fungus on the blueberry root plays the very part of the compost heap, and forces the sour swamp to give soluble food to Miss Blueberry. In its way this is as wonderful as the work of bacteria on the roots of alfalfa.

Professor Coville also found that while the

blueberry wears rubber boots, it does not like to wade in the brook. Most of us would say that the berry bushes we find in the swamp are usually submerged in water. If we examine them closely, however, during the fruiting season, we shall find that they stand up on little mounds or hummocks, so that the air can reach their roots. Under cultivation the blueberry is not to be treated like a duck. It may safely pass the winter in a bath tub, but during its growth the roots must have air. Thus we see that in former years the inability to civilize the blueberry was due to the fact that we did not understand her nature or natural habits of life.

Professor Coville, the scientist, worked out the life habits of this gypsy among fruits. Miss White has done the practical work of gaining the confidence of this wild thing, and making it feel at home. This is the way such things are generally worked out, for science is often a giant in thought, yet as frequently a baby in practice. Miss White knows the soil and the people of the great piney region, for as she says "I am a 'piney' myself." She knew the needs of the country and its possibilities. Many of the inhabitants make a good share of their living picking wild blueberries. They know the plant and its habits. If it could be made into a cultivated crop, as the cranberry has been developed, the entire section and its people would be helped. So Miss White started her remarkable work of taming the blueberry.

It was like a man starting an apple orchard, without knowing one variety from another. Out in the woods or in old fence corners there might be red, green, yellow, or striped apples, seedlings unnamed and untested. What should he plant in the orchard? In like manner there are hundreds of varieties or seedlings of blueberries. They vary in their habit of growth, size, color, and ability to stand frost or drought, even more widely than the apple varieties. Miss White illustrates this by relating how shortly after a heavy frost she found two blueberry bushes so close together that the branches mingled. The fruit buds and most of the leaves on one had been completely killed by the frost, while the others were unhurt. She has one variety which gives a flower as delicate in color as arbutus.

In order to start with the finest wild varieties, Miss White among other ingenious devices arranged with some of her piney friends to mark the bushes carrying the finest specimens they could find. These pickers were provided with a small aluminum plate, with a hole nearly five eighths of an inch in diameter, and bottles for holding specimens. When they found bushes carrying berries so large that they could not pass through this hole, the bush was marked and report was made. In this way a few superior varieties were found for propagation. In 1911 Professor Coville sent sixty plants for test and propagation. These were seedlings from wild plants. All other seedling plants on the place were produced by artificial crossing very carefully done by Professor Coville at Washington. Crosses were made between the best wild stocks available, the work being done with the most patient and painstaking care.

There are thousands of varieties to be tested before the most suitable ones can be recommended, and already several kinds are named and known to be superior. Thus far it has been largely pioneer work, a task requiring the most glorious faith in the final outcome, for taking the wildness out of man or beast or plant is a thankless job until the results become evident.

The most difficult part of blueberry culture is the propagation. You may if you like handle the plant just as you would apple trees. The nurseryman will plant seeds of Northern Spy and thus produce little trees. Then he will bud or graft into them wood of the desired variety. This may be done with the blueberry, but it would be too slow for commercial work, and the plant would become jealous and send up new shoots of her own below the superior wood. Wild plants may be dug up and planted in an acid soil, but for commercial purposes more rapid propagation must be worked out.

The most interesting thing about Miss White's work is the nursery in which the little baby plants receive their start. It is ever true that if you want to study nature—human or other—at its best, you should go to the cradle. In this blueberry nursery you see little cuttings three or four inches long, and not more than half the diameter of a lead pencil, stuck into a mixture of sand and peat. These must be protected and shaded like feeble human babies in an incubator, until finally they strike out their roots and thus obtain a firm hold upon life. It seems absurd to put these little pinches of wild life out in the field eight feet apart each way, yet in time they will grow into great bushes meeting across the rows, and yielding a peck or more of beautiful berries nearly three fourths of an inch in diameter. Men say it requires faith to plant an apple tree and wait patiently for returns, yet that faith has been justified thousands of times. What would they say of the faith required by one who would put these little pencils into the soil and wait for nature to open her purse and pay the price?

The easiest way of propagation is to let the bush remain at home in its native haunts and give a fair imitation in half an hour of what nature might do in half a century. In late fall or winter the plant is cut off close to the surface. A rough box or frame is built on the ground around this stump and filled in two or three inches deep with a mixture of three parts of sand and one part of peat. This is what nature might be expected to do by blowing sand, leaves, and trash over the stump. With this covering over of the root a strange thing happens. Left without covering the new growth would consist of stems which would come up, depending on the old roots for their support. Working up through the sand, however, these stems are transformed into root

Trial field of blueberries at Whitesbog grown from seed produced by hand pollination of selected wild stocks by Professor F. V. Coville of the U. S. Department of Agriculture

stocks, which when they reach the surface change into leafy shoots, each one thus becoming a true plant with power of self support. We might compare the original bush to some substantial citizen, well-to-do and with a large family of boys. If these boys grow up without effort, or without being forced to face obstacles, they will never be anything but stems, looking to the family for support. If they are forced to work and fight through obstacles, they will form roots of their own, and become independent.

These rooted stems are cut away from the stump and set in pots containing a mixture of two parts rotted peat, and one of sand. That is their nursery, and they go on drawing the bread and milk of life out of this sour soil until they are large enough to be transplanted. The credit for suggesting this method belongs to Professor Coville. It would be in most cases impractical since the best wild plants are off in inaccessible places. The method is described merely to show the nature and habits of the plant.

Miss White has developed a more rapid method of propagation, based upon much the same principle. Small cuttings are made from outdoor plants, and these are put in boxes covered with a thin layer of mixed sand and peat. They are kept moist, and in time these cuttings throw up shoots in much the same way that the seed piece of potato sends up sprouts from its eyes. Just as is the case with the big parent stump, these shoots form root stocks in the sand and leafy shoots above. Thus we have a tiny rooted plant from each shoot. As with the potato seed, the cutting finally dies, but the little plants root and live. When the Early Rose potato was first introduced at a very high price, a number of nurserymen bought a few pounds of the seed and propagated very much as Miss White does these plants of the blueberry.

Miss White has thousands of the plants growing, and a good acreage more under field cultivation. The soil around the cranberry bogs is admirably suited to blueberry culture, and there seems no reason to doubt but that within a few years the industry will grow into large proportions. It will be what may be called a limited industry, because of the skill required in propagation and starting the plants, and the fact that the blueberry will thrive only on certain sour soils. It may in time shake off some of its wild tastes and habits, as asparagus or celery have done, but for years it will prove a fair companion for the cranberry and the laurel, and it will bring the poor piney district of central New Jersey right on the map in blue ink, as bright as the red of New England orchards, or the yellow of California orange groves, or the green of the Kansas alfalfa.

Nature will always pay the price when her wild children are introduced to polite society and trimmed and trained to meet its requirements. Suppose the world were still forced to depend on the seedy wild raspberries and strawberries as it was before these fruits got into society! That will give you an idea of what is coming from the taming of this plant.

There is one other cultivated blueberry plantation in existence. That is in Indiana, where a bog was drained and planted with unselected wild bushes. There are some misses, but in 1915 the plantation averaged 2,214 quarts per acre. They sold at 14½ cents a quart, which meant $321 income per acre. This was wild fruit of small size, while Miss White has varieties which give fruit nearly or quite three fourths of an inch in diameter. She will make no figures of probable income, but we may safely do our own figuring. Planted eight feet each way, there will be about 680 plants to the acre. At full size they may well average one peck each, or 5,440 quarts per acre. Plenty of vigorous wild plants can be found which will do better than that, and keep up for fifty years or more. Take the price at which these Indiana berries were sold, and you may see the possibilities of this ten-dollar land when it comes back as a workshop for these wild, shy sisters of the swamp.

An outside view of the blueberry propagating shelter at Whitesbog

THE LORD HOUSE EDGEWORTH PA.

Charles Barton Keen, Architect

The Lord house is a development of the old Pennsylvania Dutch style of architecture. One can see at a glance how the great projecting eaves, so suggestive of coolness and comfort, are an outgrowth of their less daring prototype

FIRST FLOOR PLAN

Plan of the first floor, showing how the garden is included in the scheme and made a part of the house

The porch is an integral part of the main structure, obtained by recessing the first story

At each end of the porch is a huge stone pier which helps to support the heavy superstructure

Detail of the enclosed court, showing the wall fountain. Note provision for draining off the overflow

Vistas through stone archways and extending under shady pergolas, and—from the garden housewards—of patches of white-jointed, old-fashioned stonework half hidden under vines, give the place a sense of completeness that excludes the outside world

NOW THE HOME OF GEO J SCHMITT ESQ

Photographs by Henry Troth

The enclosed court is in reality an extension of the living room, from which you look across to the sun-dial and wall fountain, just as, in the opposite direction, you look across the hall to the dining room

Generous closet space is a distinguishing feature of the second floor. Three of the bedrooms are provided with fireplaces

The brick walks and the pergolas are simply continuations of the front and rear porches

Showing detail of the pergola construction and planting. The columns are covered with stucco

Looking across the sun-dial toward the pergola. The arched way to the porch is just behind the right hand column

A generous diameter for the pergola supports was necessary to accord with the air of Dutch substantiality about the house, but if these had been crowned by heavy timbers instead of light lattice the effect would have been ponderous

CONDUCTED BY T. GILBERT PEARSON

Secretary of the National Association of Audubon Societies

[*Mr. Pearson will be glad to answer any questions relating to birds; for convenience, kindly address Readers' Service,* COUNTRY LIFE IN AMERICA, *Garden City, N. Y.*]

THE GREAT HORNED OWL

By MARGARET WENTWORTH LEIGHTON

A MIGHTY hunter is the great horned owl. When his "boom, boom" sounds through the dark forest all the small wood folk shudder and lie low. Brains are his chosen diet and the "kill" must be large to satisfy his appetite. While Great Horn lives high, many another forest dweller seeks in vain enough food to keep himself alive.

This great owl is a lover of solitude, choosing for his home wooded districts generally far from civilization. The farmer's hens and ducks, pigeons and turkeys have an enticing flavor, and of them all the brains are regarded by him as the choicest dainty. Visits to outlying farms are frequent.

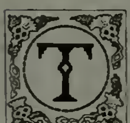
In the dead of winter Great Horn's fancy turns to thoughts of love—not lightly by any means, for courting is a serious business to him. When the lady of his choice has been wooed and won, together they seek a suitable nesting site, nothing daunted by the thick blanket of snow which wraps all nature. If a hollow tree with an opening large enough to accommodate the owls can be found, it is thankfully appropriated. If not, there is perhaps an old nest of crow or hawk, high in a hemlock, which with a little repairing will answer quite well.

Though Great Horn has faults he also has his virtues. He is a model husband and father. While his mate is sitting and he is off on a midnight raid, every now and then his wierd "boom, boom" reaches her, and she signals back that all is well. He takes his turn in keeping the eggs warm whenever his spouse wishes to try her luck at hunting. As the eggs are often laid in February, it will not do to leave them for a moment exposed to the biting wind and frigid temperature.

When the little balls of yellowish-white down appear there are lively nights in the forest. Great-Horn is a liberal provider. There is always variety in plenty for his loved ones. If you pay a visit to his home you may see ranged about the edge of the nest a rabbit or two, perhaps a chipmunk, very likely a skunk—for even wood pussy's scent bag is no adequate defense against the swift, silent rush of the owl. There will no doubt be some birds, a crow, robin, and grouse, and mice and rats of various species in plenty.

This voracious slayer is reckoned, along with two of the larger hawks, to be one of the most destructive birds. But on the other hand we must remember that besides the great numbers of rats and mice which he destroys, in the summer vast quantities of grasshoppers, locusts, and other injurious insects fall victims to his huge appetite. When small animals are plentiful Great Horn seldom kills song birds.

THE OWLS



THE owls are one of the most abused families of wild birds. Through a misunderstanding of their value to mankind they have few human friends, for there is a widespread misconception as to their food habits. Many and many a farmer throughout the broad land will shoot at sight any owl he encounters, on the supposition that the owl is an enemy of the poultry yard.

The facts in the matter are these: we have in North America a number of varieties of these night-flying feathered neighbors. There is, for example, the big snowy owl, which breeds chiefly on the Barren Ground from the islands of Bering Sea and the Yukon delta, across the continent to northern Greenland. On the approach of winter the birds drift southward over Canada and northern United States, and when the weather has been particularly severe they have sometimes been found as far south as Texas. These birds visit poultry yards occasionally and are particularly fond of ducks.

Then there is the great horned owl, referred to by Miss Leighton in her article on this page. This is a bird of very wide distribution throughout the United States and Canada, and is divided into many sub-species, or climatic varieties. In fact, no less than eight kinds of great horned owls are recognized by ornithologists.

A pair of great horned owlets four weeks old, and still in the partially downy stage

Next in size is the barred owl that inhabits the deep woods, particularly in those regions covered by swamps. Besides the typical representative of this species, there are two other varieties, one found in Florida and the other in Texas. This bird occasionally comes to the farmer's hen-coop, but as a general thing feeds on field mice and other rodents which infest the farmlands.

Then there is the grotesque barn owl, often called the monkey-faced owl, because of its weird countenance. For a nesting site this species often seeks barns, abandoned dwellings, church-steeples, and I once found a pair nesting in an old deserted rice mill in South Carolina. For many years a pair made their home in the tower of the Smithsonian Institution building at Washington, D. C. These owls are among the most valuable of all our wild species, because of the numbers of rats and mice which they destroy.

Other varities are the long-eared owl found in northern United States and Canada; the short-eared owl which we usually discover in the marshes; the spotted owl of the deserts of the Southwest; the great gray owl of Canada and the West; the little saw-whet owl; and eleven varieties of the common screech owl, which no one should ever kill under any circumstances. In fact, there are thirty-seven species and varieties of owls in North America and it is doubtful whether a single one of them does more harm than good. Should any one doubt this, or should any student of the subject desire more information along these lines, it would be well to write to the United States Department of Agriculture at Washington, and make request for one of their bulletins on the food of hawks and owls.

In time I hope that this much persecuted family of birds may be generally recognized by their human neighbors as being entirely worth while.

Now owls have another set of enemies whose good opinion I doubt if we will ever be able to secure for them. These enemies are not very dangerous, but at times are exceedingly annoying to the owl family. I refer to the wild birds, for no little bird of forest or grove has a good opinion of any owl that flies.

It is a fact which must be admitted, that many of them are fond of small birds, and as they fly about at night when most well behaved birds like to sleep, there is, of course, always a chance that when a small bird gets drowsy and tucks its head under its wings, or among the feathers of its back, it may awake in the clutches of one of these yellow-eyed feathered tigers of the night. Many a bird in the daylight escapes the feared hawk by seeing it before it is near and by remaining concealed until it passes; even when the hawk makes a sudden plunge, the noise of its wings often warns its intended victim and escape is possible. But all this is changed when it comes to dealing with the owl on a dark night.

The little birds know these things in substance, so when a bird finds a drowsy owl asleep in a tree in the bright daylight, it at once sets up a shout and soon all the feathered tenants of the neighboring woods have gathered about the unlucky fellow and their vituperative cries and screams fill the air.

At seven weeks of age they are pretty well feathered

THE NEW BUSINESS OF FARMING

CONDUCTED BY F. D. COBURN

[Mr. Coburn will be glad to answer any questions relating to farming; for convenience kindly address Readers' Service, COUNTRY LIFE IN AMERICA, *Garden City, N. Y.*

LIVE STOCK ON THE FARM

ANIMALS are farm machines. They convert the farm's raw materials into manufactured products. Grain, hay, straw, and other growths of field and pasture are condensed into beef, mutton, milk, butter, and eggs. In these forms their transportation costs are greatly diminished and distant markets are made available.

The manufacturer must watch the efficiency of his machinery, and when a given type proves a losing proposition it must be replaced by a better type. Most farms have animals that should go to the slaughter house or the fertilizer factory, and few dairy herds, for example, are without cows that are kept at a loss.

There are, of course, risks in live-stock farming. Disease may destroy the capital invested in animals, tuberculosis may wipe out a dairy, cholera may obliterate a herd of hogs, liver- or foot-rot may devastate a flock of sheep. Scarcity, too, may put the price of hay and grain at figures that spell loss, for live stock must be sold when finished or they will "eat their heads off." But live stock is needed on the business farm to provide continuous work for the men, to convert low-grade feed stuffs into high-grade or merchantable commodities, and economically maintain the fertility of the land.

Animals require more care in winter than in summer. The winter care comes at a time when the farmer would be but partly employed otherwise, therefore it may be considered as cheap labor. Much of the summer chore time comes before and after regular hours of work in cultivating and harvesting the crops, and so summer care of the dairy does not come into direct competition with labor done within the usual working hours of the day.

Cows will eat hay that would not command a market price and convert it into milk and cream; sheep will clean up much that the cows leave, and goats will nearly live on brush, while grazing animals of all sorts will live on pasture land that could not profitably be used in any other way. Pigs and chickens permitted to run at large will gather much of their living and act as scavengers in doing it. Grasshoppers, bugs, windfall fruit, weeds, and deleterious seeds will be transformed into eggs, broilers, and pork. Skim milk will be converted by the same means into salable products.

Hens are fed on these growths, wastes, and table scraps, and are looked after by women and children; the food costs little or nothing, and the care is by unpaid labor. Eggs produced at such small cost are sold at a low price, and when one considers that the main supply of eggs of the country comes from these small farm flocks, the difficulty of the competition confronting the specialized egg farm is apparent. The specialist must meet it by improved breeds, forced egg-laying, and higher grade products. Fortunately for him, the owner of a few hens cannot afford to ship eggs often enough to meet the requirements of the extra fancy trades.

It is evident that livestock, under such conditions, can be produced at a small margin of profit, and it is nearly as difficult for the specialist in beef, pork, or dairy products to compete with the main supply of the country as it would be for the manufacturer to attempt to provide gasolene without taking into account the products that come off in the same distillation.

The farmer who is figuring on the cost of fertilizing his land can study with profit the following values based on a before-the-war scale of prices for chemicals.

The value of the fertilizing constituents of the manure made in a year per thousand pounds of live weight, if purchased, would be as follows: cow $31.20, sheep $36.84, pig, $64.48, fowls $54.52. If the farmer is wondering whether it is better to sell his corn as grain or convert it into pork, the matter of $64.48 for each half ton of pork (the equivalent of 6,000 pounds of corn) would be found a decided factor.

When he sells a ton of timothy hay for $15, he sells $6 worth of manure—capital in the form of farm fertility, as it were—and receives $9 for the crop. But in selling a ton of pigs worth perhaps $180, he disposes of only $8.17 worth of fertility, and receives nearly $172 for the crop.

The cost in farm fertility to be charged against the capital account on a 160-acre farm runs as follows, for three systems of farming:

	NITROGEN IN LBS	PHOSPHORIC ACID	POTASH
All grain farm	5,600	2,500	4,200
Dairy farm	800	175	85
Live stock	900	150	60

G. F. Warren says: "There is no merit or demerit in selling any particular crop. If one sells everything that grows, including the straw and hay, and gives no attention to the soil, he is sure to get into trouble sooner or later. But there are many ways of keeping up fertility. The question is which way pays best."

In a study of the business of farming the one point for us to consider is, which way pays best—not alone in the immediate present, but taking account of the future and carefully balancing the demands of to-day and to-morrow.

As a rule it may be stated that the sale of crops is more *directly* profitable than the using of them for feed on the place. In part this is because one sells the higher grade stuff, and in part because when selling crops instead of animal products one draws on the bank account in farm fertility.

If the farmer raises only live stock, his animals are competing with those fed only on low-grade feeds, while his consume both grades. If he raises only crops, he is throwing away the low-grade material which might be producing low-cost live stock. A proper balancing of live stock and crops is the profitable farm management. The specialist makes money, but he would make more if he could combine successfully the two types of farming.

Deduction from the foregoing is plain that, under average conditions, enough live stock should be kept to utilize the low-grade products. By transforming these into fertility we are raising the grade of our output. Moreover, in many cases the cost of harvesting may be wiped out by turning the animals into the fields to harvest their own food. If the cost of harvesting a bushel of corn is 10 cents, and a pig turned into the field will do the work, he should be credited with the value of the labor he thus performs.

Investigation has shown that when the yield of crops has reached about 150 per cent. of the average, the curve of profit begins to go down. No apex has been found to animal production. The average hen lays, perhaps, 100 eggs per year; the 200-egg hen does not cost twice as much in feed and care as her ordinary sister, and she yields a correspondingly greater profit. The 300-egg hen will not cost 50 per cent. more to keep than the producer of 200 eggs. The cow that fills the pail with rich milk costs more to feed than the poor type which gives only half as much, but the cost is not in proportion to the additional yield. The calf from the poor cow takes nearly as much food to grow as the youngster raised by the good cow, but it is sold, say, for $5 as against a price in proportion to its mother's worth on the part of the pedigreed calf.

The dairy farm which is large enough to warrant the manager's taking the time to test properly the product of each cow has an advantage over the small farm where a rush of work prevents the keeping of records. No man on earth can tell accurately the quantity or quality of the yield of any cow by simple inspection. Every dairyman knows which are his best cows, but he often knows wrong, unless the milk is weighed every day and the Babcock test used to ascertain the butter fat content.

The farmer who raises pure-bred stock has a proposition different from that of the man who keeps scrubs. It has been carefully figured out that a $40 cow depreciates 4 per cent. each year, while the $200 cow loses value at the rate of 12 per cent. This plus 6 per cent. interest on the cost, makes the $40 cow worth $36 at the end of the year, while the $200 cow has come down to $164. To compensate for her increased cost the higher grade cow must make a net return of more than $32 over that of her $40 competitor.

The man with small capital can best begin with low-cost cows and improve his herd by means of a good sire. Incidentally it may be remarked that he can improve the offspring from low-priced registered stock as rapidly as he can that from grades, and in the end he will have good producing pure breds.

"Animals are farm machines. They convert the farm's raw materials into manufactured products"

BETTER STOCK

CONDUCTED BY E. L. D. SEYMOUR

[*Mr. Seymour will be glad to answer any questions relating to live stock; for convenience, kindly address the Readers' Service*, COUNTRY LIFE IN AMERICA, *Garden City, N. Y.*—THE EDITORS.]

THE AMERICAN SADDLE HORSE IN THE MAKING

By E. A. TROWBRIDGE

Professor of Animal Husbandry, University of Missouri

AUTOBIOGRAPHIES of some of the champion saddle horses of our national shows would make fascinating reading for horse lovers. It would be more than interesting to know at first hand something of the impressions made upon the susceptible animal natures by their almost constantly changing environment. The most that any of us can do is to guess, but the strange part is that many people who actually own and ride prize winners, not only do not bother their heads to do this, but even know little or nothing of the previous history of their mounts. Stranger still, many breeders and dealers lose all trace of the horses they produce or sell as soon as the animals leave their farms or stables.

This is unfortunate for two reasons. As a business proposition it is worth a good deal to a breeder of horses to keep in touch with their progress, their successes and failures. Such knowledge applied to breeding operations is bound to lessen the production of animals predestined to failure and to encourage the production of animals that are most likely to make good. Satisfied owners are excellent advertisements, and a list of them kept up to date is an invaluable asset in the hands of the owner of the sire of animals that have turned out well. In the second place, an owner's knowledge of his horse's past history enhances its value, just as intimate acquaintance with a friend's past makes him a closer and truer friend.

On the University of Missouri farm. Typical of conditions under which many famous saddle horses begin and end their eyentful careers

A future contender for saddle horse honors. He has never been out of the "big pasture"

About four fifths of the horses in the United States are owned on farms; practically all of them were born and probably spent at least two years there. The farm is the natural place for horse production; pasture and other economical feed is available, brood mares and even stallions can do more or less useful work in addition to producing colts, and foals can be more economically raised there than elsewhere. Consequently, though we may not at first connect the stylish show horse with simple rural life, the chances are that he or she began life on a typical farm in one of the centres of saddle horse production—central Kentucky, eastern Missouri, Virginia, and southern Illinois.

There are a few large establishments that make a specialty of raising saddle horses, but the great majority of notable animals come from smaller farms where from one to half a dozen mares are kept under the simplest and most ordinary conditions. Where saddle horses abound, as in the sections already mentioned, they are an important part of the lives of their owners; a source of pride, of pleasure, and of profit; and one of the strongest factors that tie the people to their home farms and communities.

Most of the foals are born in the spring, and at this time much interest attaches to brood mares whose previous progeny has made them famous, and predictions are freely made as to the prospects of the latest offspring. Picture a quiet, peaceful farm country of green pastures and beautiful trees, the heavy dew of a spring morning still sparkling on the foliage, and the fresh, pure air slightly astir; imagine the matronly pride of the farm and her much looked-for offspring with its wobbly legs but bright eyes and erect ears, approaching from some hidden nook or grove—and you have sketched the conditions under which many a show ring star has had its first view of this very interesting world.

Less fortunate mares are kept in the harness until just before their foals are expected, given a few days of rest after its arrival, and then put back at work. Really good mares are usually given extra care and a much longer rest—largely because it has been proven profitable to do so.

Many good saddle horses, and most successful brood mares and stallions, not only are produced in the country, but spend their entire lives there, frequently taking part in the farm operations. Of course there are colts of aristocratic lineage which are not required to exhibit their ability at such work, but unfortunately some so-called blue bloods among horses, as among people, ultimately find their way back to the more menial tasks after failing to come up to the requirements of a real try-out in the world's show ring.

The possibilities of a saddle horse have their beginning in the selection of its parents. Occasionally good individuals are produced by mediocre matings, but such cases are exceptional. The lack of knowledge previously cited often credits a good horse to haphazard breeding, when later, careful investigation reveals an ancestry of the very best, temporarily lost sight of amid frequent sales or changes.

Some of the best brood mares whose pedigrees are reviewed with pride have been produced and reared on the farms where they now occupy prominent positions among the matrons, with an idea of stocking those farms with horses of the best type for the use of the owner and his family. They have never been in the hands of professional trainers but have received their education at the hands of some member or members of the family. Frequently this is the best possible training because it most perfectly fits a horse for the service it is to perform. Other mares have been sent to the trainer at two or three years of age, developed, then shown for some years, and finally returned to their birthplace and made a member of the breeding stud. Some mares are purchased when young, primarily because of their promise for breeding purposes. Others are reared, developed, and sold as pleasure or show horses, and after an active show career or enough hard service to unfit them for further use, are returned to the country where, frequently, they become remarkable matrons. Many good mares are registered in the books of the American Saddle Horse Breeders' Association; others are registered Thoroughbreds; some are unregistered but descended from high-class animals of those two breeds, carrying also, in some cases, a dash of trotting blood.

Receiving his first instruction. A weanling son of the noted stallion Royal Chester

The close of his career. Rex McDonald (left), the "greatest saddle horse that ever lived," exhibited at twenty-two years of age with some of his noble sons and daughters

The height of his career. The $10,000 saddle stallion, My Major Dare, winner of the Panama Pacific championship

Exhibitions of saddle foals and colt shows are among the most interesting events of the year. A few men do not believe in exhibiting colts, but the average man who thinks his foal can win is not likely to keep him out of the competition. Consequently he gives his charge extra good care, feeds it well, grooms it regularly, and trains it to stand and move to the best advantage. He may even provide fly blankets, shoe the foal with miniature plates to show up its way of going, and teach it to lead with bridle and bit. It seems to be the height of the ambition of exhibitors at these shows to spring a surprise. Frequently foals are brought to the grounds late in the evening or early in the morning, and kept in a secluded stable until the appointed hour. Other colts are, of course, shown with less mystery and anxiety, but to an outsider it is always a sign of favor to

Major's Hilda did credit to her triumphant sire by winning the weanling futurity at the same Exposition

As to the sires, high class saddle stallions have got most of the saddle horses produced in the Central-Western sections, but some Thoroughbreds have produced phenomenal performers. In nearly every case, however, the sires have pedigrees warranting the confidence placed in them, usually backed up by excellent show records.

Touching the chances of any young horse becoming a champion, it may be said of horses as of men, "Some are born great; some achieve greatness, some have greatness thrust upon them." A few, born of exceptional parents, are exceptional individuals, and their superiority is never questioned, others by virtue of their ability demand prompt recognition; while still others, though of average ancestry, have "greatness thrust upon them" in the form of unique opportunities for development.

The age at which merit is recognized varies with individuals and their environment. Some horses give promise from the day they are born. Occasionally good foals do not present, to the average eye, externla evidence of superiority, but as they grow they show improved form and ability that inevitably attract attention. Sometimes it is as a yearling that a good one is discovered; again, quality may not become evident until the colt has passed two or three years. There are cases in which a horse of real merit has not been known until four or five years of age.

In this search for meritorious performers, county fairs and colt shows are of great importance. It is there that promising youngsters make their first public appearance and meet their first real test; that the previous year's winners are met and either defeated or again declared victorious; that sires and dams, as well as brothers and sisters, of embryonic champions battle together for supremacy in the eyes of men. With matters of such importance at stake the interest that these events arouse in a saddle horse country may be imagined.

Johnnie Jones, never seen by the public until he was five years old, has since won many a championship

enjoy the privilege of seeing a foal before the show. The appointed hour arrives and there is great hurry and excitement about the stables. The final touches of brushing, braiding, and trimming are given, and the beautiful little creatures go forth to their first battle with all the confidence and determination to win that characterize a contest between youthful athletes of the human race. A year later many of these colts appear as yearlings. A few new ones may have come to light, but most of those not shown as foals are still running in the pastures.

Most saddle horses are broken to ride and drive the summer after they are two years old, some at home and others by professional trainers, the more farsighted of whom keep in close touch with the best mares and stallions and on the lookout for good prospects. Horses two years old or older are usually shown in harness or under saddle. By this time some of the colts seen as weanlings and yearlings have been discarded and fail to appear. But others are seen—colts that have had comparatively little attention until they were broken, but whose subsequent development has been rapid. Often these hitherto unknowns upset the plans of the most crafty and certain exhibitors and cause many changes in the rating of the more prominent contenders. It is here that the first information is gained concerning a colt's ability to wear a saddle, and here the dealers, though not interested in two- and three-year-olds as purchases, get a line on colts with which they wish to keep in touch until the youngsters are more fully developed.

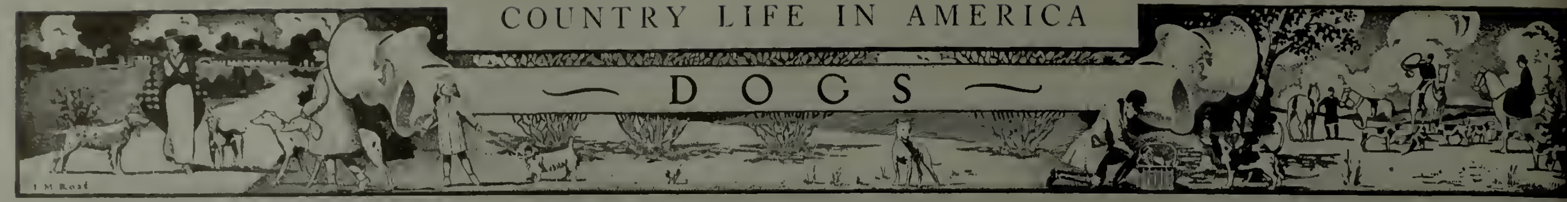
The successful horse dealer is always on the alert for such prospects, and not only secures an intimate knowledge of horses that have been shown from foalhood, but also keeps an eye on horses that have never been shown but have been more or less handled in private. Since most horse dealers buy almost any kind of a horse that promises to return a profit, they frequently make remarkable discoveries. Good feed and care soon bring out the best that there is in a horse, and there is at least one case on record of a Madison Square Garden champion saddle horse that was hauling wood when purchased by a farsighted dealer!

Thus it is clear that the saddle horses which ultimately win success have, in most cases, passed through a variety of experiences. No one can tell just when or where a high-class horse is apt to put in its appearance. The price of success in locating such horses is eternal vigilance, whether on the part of the dealer, the trainer, or the breeder.

But it is usually found that the really great achievements are built upon a foundation of good blood, and that in nearly every case the ancestry of a conqueror includes the names or more of less of the famous individuals of saddle horse annals. And thus it is that a more general knowledge of horses from birth until late life by both users and producers must be conducive to greater success in production and will add much to the interest which good horses hold for all concerned.

Greyhurst, son of "old Rex," and first in the middleweight three-gaited class at San Francisco, pulled a doctor's buggy for two years before he was "discovered"

Gypsy Dare, owned and ridden by Mr. Avery Cronley of Chicago, is a typical five-gaited saddle mare. "She's more than a good ride — she's a companion"



DOGS

CONDUCTED BY WALTER A. DYER

[*Mr. Dyer will be glad to answer any questions relating to dogs; for convenience, kindly address Readers' Service,* COUNTRY LIFE IN AMERICA, *Garden City, N. Y.*—THE EDITORS.]

Mr. J. W. Stott's bull terrier, Fort Orange Patroon

THE WHITE CAVALIER

AMONG ill-informed laymen there appears to be an extraordinary mixture of names applied to the bull terrier, such as brindle bull, Boston bull, etc.—names that do not exist in the stud book. Bull terrier is the proper name for both the white and the brindle varieties, as well as the spotted nondescripts, which are often good dogs in their way. The name pit bull terrier has been given to the heavier variety, and the effort is now being made to make a distinct breed of this and classify it as the American bull terrier. Of this variety I expect to have something to say later on.

To the modern fancier the term bull terrier always means the pure white English bull terrier, which has become so far Americanized that the word English has been generally omitted. Brindles and mixed colors have sometimes been shown and classed as "bull terriers of other colors," but the fancy has been generally strict in adhering to the pure white. The brindle is surely a good dog, and there are English authorities who have advocated his admission along with the whites, but American fanciers and judges have always been against it.

The modern bull terrier, then, in the accepted application of the term, is the pure white, long-headed, clean-cut dog that one sees in the shows. That it was developed originally from a big, brindle fellow does not matter.

The breed's origin dates back to the close of the eighteenth century. It was a made breed, based on bulldog and terrier blood. The fighting English terrier had a large part in its make-up, and probably the black-and-tan and the small white English terrier, with subsequent dashes of Dalmatian, and in some cases whippet or greyhound to refine the lines.

This early dog was developed around Staffordshire and was first recognized as a breed about 1820 or soon after. He was patched white, brindle, fawn, black-and-tan, almost any old color in fact, and was heavier and more powerful than our present-day dog. He was used for pit fighting and bull baiting by the lower classes and the young bloods, as a vermin catcher, and possibly as a thief's accomplice. His breeding and training made him intelligent, fearless, alert, and useful, if not sweet-tempered. British university men took him up as a sporting dog about 1850 and lifted him out of low life.

Fanciers began to take an interest in the breed, especially around Birmingham, and about 1860 white became the accepted color for exhibition. As a show dog, the bull terrier became quite popular in Lancashire and Yorkshire, and improvements in the breed were continuous, so that he is now no longer a low-life fighter, but distinctly a gentleman's dog.

The bull terrier's salient characteristic, aside from his color, is his well developed muscular system combined with medium size. The skull should be long and wide between the eyes. The eyes are small, black, and almond shaped. The jaw must not be undershot. The waist is small, and the shoulders, back, and loins nearly all muscle, with the chest deep and the ribs well sprung. The tail is long, straight, and tapering. The coat is stiff, short, and dense, with a good lustre. The Standard does not limit the weight, but 45 or 50 pounds are generally preferred.

Wyldemere Wideawake A.K.C. 187486, a Western dog owned by Mr. J. B. Benedict, and a consistent winner, East and West

A successful and consistent winner is Ch. Wyldemere Mediator, owned by Mr. Joseph C. Crotty. He is two and a half years old and weighs fifty-five pounds

In England the breed experienced a severe set-back following the anti-cropping regulation, but it is gradually coming back into favor and the law is generally recognized as beneficial, humanitarian, and wise. In other words, the English are getting used to the natural ear, and it no longer looks strange or ugly to them.

However, in this country, where cropping is the rule, the breed is far more popular than in England, and bull terriers are bred here in far greater numbers. The breed was first shown here in 1880, when Tarquin and Superbus were exhibited in New York. Since then white bull terriers have appeared at our bench shows in ever increasing numbers. Forty of them were entered at the last New York show. Mr. T. S. Bellin's Ch. Heamoor Ted took first winners, dogs, with Mr. T. Munroe Dobbins's Epsom Confidence reserve. In bitches, Manchester White Rose (T. D. Smith and R. G. Carpenter) took first, with Mr. Bellin's Burning Daylight reserve. The Bull Terrier Club conducts a well supported specialty show, also. At the last one Ch. Heamoor Ted took first dogs, and Manchester White Rose first bitches.

In character, the bull terrier is a dog of wonderful brain and courage, and companionable withal. He should make a perfect police dog by reason of his build, character, and ancestry, and as a watch dog he is unsurpassed. His appearance of alert aggressiveness is a sufficient menace to transgressors.

Like all pure white dogs, the bull terrier requires care to keep him presentable. He may be readily trained to catch vermin and to take to the water. In purchasing one of this breed, care should be taken to ascertain if he is sound of hearing, for deafness is a not uncommon defect. Authorities seem to be divided in their opinions as to whether this is a weakness common to all white dogs, or whether it is the result of persistent and close cropping. In England, an effort is being made to eradicate it, and exhibitors are required to sign the following: "I, the undersigned, a member of the Bull Terrier Club, do undertake not to exhibit for competition a deaf bull terrier; and, furthermore, that I will support the Club in every way practicable to stop the exhibiting of deaf dogs whether owned by a member or any one else."

That the best friends of the breed may have a chance to say a word in its favor, I append the following from Mr. J. B. Benedict of Denver:

"The bull terrier of correct construction and breeding is nearer to the classic ideal of 'man's best friend' than almost any other breed of which we have knowledge. Observe the old prints and ancient marbles and note that the dog is portrayed as a graceful, muscular, substantial animal. His pose is one of action and concentration. He is a suitable figure to group with a Diana or a Hermes, beautifully furnished in bone and muscle, alert and intelligent. Noted for his loyalty and valor, bred for strength and action, there is nothing awkward or distorted in his make-up. He embodies all the refinements of the canine family.

"Such is the animal which the bull terrier Standard describes. With this pure white, short-coated dog one is not apt to associate any freakish peculiari-

ous drolleries, or ungraceful monsters. He is a conventional dog in build and disposition, serious and agreeable, and because of these qualities is often misunderstood and not so much admired as many of the flighty burlesques of dogs.

"Those fanciers most devoted to this valiant dog refer to him as the 'white cavalier,' a name far more expressive than bull terrier. There is nothing of the bully about him and he is far too aristocratic to fight. We expect in the bull terrier protection and interest in our affairs in the home, the field, and wherever he joins us. I have hunted them successfully, and in the water they can discount any breed for strength and activity. They can go through reeds and rushes that a spaniel could never penetrate, and they return the smallest birds without ruffling or mangling. They work through thickets, hedges, and underbrush undeterred by obstacles. They are untiring and fearless, and pound for pound have greater strength than any other breed of dog. They love their masters and their homes and protect them with their lives. One fault I will admit—they are snobs and not nearly democratic enough." W. A. D.

As they are shown in England, with uncropped ears. A group of the Ennerdale bull terriers owned by Mrs. Boteler

THE LONG-HAIRED DACHSHUND

I SUPPOSE there is no dog that has been made more a subject of ridicule than the dachshund, or German badger dog—"the dog sold by the yard," "born under a bureau," etc. In spite of this fact the queer little dwarf has a host of friends in this country as well as abroad, and not without reason. He has many engaging characteristics, and generally his honest, intelligent, really handsome face is enough to make friends for him.

The dachshund's appearance is so striking as to attract universal attention; everybody knows what one looks like. But nearly everybody thinks a dachshund is always a smooth-coated dog. He is, usually, but not always.

At the Westminster show last February there was a long-haired dog among the dachshunds that a good many people stopped to look at, wondering why he was there. Upon close inspection he showed the dachshund conformation, but his long hair disguised him. In many respects he was a handsomer dog than his short-coated brethren. He was entered as a long-haired dachshund, and his name was Dirk von der Dune. At the Mineola show in June he was placed in competition with the rest of the breed, and came out on top, taking first winners. It appears that his kind is not to be disregarded in the future.

Regarding this long-haired sort, Leighton, the English authority, writes as follows: "There are, strictly speaking, three varieties of dachshund — (a) the short-haired, (b) the long-haired, and (c) the rough-haired. Of these we most usually find the first named in this country, and they are no doubt the original stock. Of the others, though fairly numerous in Germany, very few are to be seen in this country, and although one or two have been imported, the type has never seemed to appeal to exhibitors.

"Both the long-haired and rough-haired varieties have no doubt been produced by crosses with other breeds, such as the spaniel and probably the Irish terrier, respectively. In the long-haired variety the hair should be soft and wavy, forming lengthy plumes under the throat, lower parts of the body, and the backs of the legs, and it is longest on the under side of the tail, where it forms a regular flag, like that of a setter or spaniel."

Dirk, be it said, is a remarkably good example of this variety, being genuine dachshund in head and body, and with a beautiful coat and ears.

W. A. D.

Mr. T. S. Bellin's Ch. Heamoor Ted A. K. C. 185100, first winner at New York in 1916, and first at the 1916 Bull Terrier Show

The Greentree Kennels' long-haired dachshund Dirk von der Dune, first in the dachshund class at Mineola

DOGS IN THE WAR

THAT dogs are being used in various capacities on the battle fronts of Europe is a well known fact, but the accounts of their activities that have reached us have been fragmentary. We shall have to wait until after the war, when its history has been written, to gain a comprehensive idea of the remarkable work done by these faithful and heroic comrades of the soldiers.

Probably the most effective service rendered by the dogs is in connection with Red Cross and other work with the wounded. Dogs have been trained to seek out the wounded on the battlefield, furnish water and restoratives, and direct the ambulance drivers thither. Terriers, too, have been employed in driving rats out of the trenches, where the disease-carrying rodents have become a pest and a menace. There have been rumors, also, of dogs used in scout work and actual fighting, but these hardly bear the marks of authenticity. We shall know some day, and the dog will wear his share of the bloody laurels.

Pictures of war dogs have been thrown on the screen in this country occasionally, and sometimes there is a newspaper story which is worth repeating. Here is one dated from the headquarters of the First Russian Army:

English police dogs, of which there are six attached to the Twenty-first Flying Column of the Russian Red Cross, have proved their worth in many instances on Russian battlefields. In one night near the village of Kute (vicinity of Lovitch) these wise animals hunted out in grain fields over which the battle surged and brought relief to forty-nine wounded men.

The dogs had been brought from London by authorities of the city of Vernaya for use in tracking down thieves and murderers with which the place was infested. Within a few weeks they enabled the police to round up these criminals. One dog, who still retains his English name of Jack, slightly Russianized, was several times sent to Moscow, Kief, and Odessa to aid the police of those cities similarly.

In times of inactivity of the troops the dogs are frequently used to convey dispatches from one section of the column to another, and always perform their task with unerring fidelity. During battle even under heavy fire they search out the wounded by scent, and the sanitars may be certain that the man to whom they are led is still alive since the dogs instinctively ignore the dead. Having found a wounded man, the dog will carry his cap or a mitten back to the sanitar, who follows to the spot. Each animal wears a pair of miniature saddle bags in which he carries flasks of brandy.

In appearance the dogs resemble the Airedale or the Irish terrier. An exhibition of man hunting was given for the benefit of the correspondent at Headquarters of the First Siberian Corps. A soldier was directed to hide in a clump of bushes two blocks distant in a field. The sanitar released the dog and directed him in the general direction of the spot.

After making several wide circles the animal caught the scent and made straight for the hiding place at top speed, returning presently with a glove. The sanitar tucked a small package in the saddle pocket and away went the dog on his return journey. The sanitar, to carry out the deception, followed and appeared to assist the hiding man, while the dog looked on with apparent interest.

In the days of ancient Greece and Rome great Molossian dogs, according to Plutarch, were occasionally taken into battle, provided with spiked collars. It is known, too, that dogs were used in the Middle Ages, fully dressed in suits of armor. Their duty was probably to attack and disconcert the enemy's horses.

Before the present war most of the armies of Europe had dog squads trained to carry messages into the firing lines and succor to the wounded. The French army has favored a cross with the Pyrenean dog on account of his strength, which enables him to carry as many as 500 cartridges. In Russia, Austria, and Italy, St. Bernards, sheep dogs, and spaniels have been used, while Japan and Turkey decided in favor of the collie. In the British army the collie has been most used for ambulance work. In the present war it has been necessary to enlist all sorts of large breeds. What the casualties have been may never be known, but some day monuments will be erected in honor of their memories. W. A. D.

POULTRY

CONDUCTED BY F. H. VALENTINE

[*Mr. Valentine will be glad to answer any questions relating to poultry; for convenience kindly address Readers' Service,* Country Life in America, *Garden City, N. Y.*—The Editors.]

A VILLAGE POULTRY PLANT

WHEN the latest United States census enumerated poultry, it took no account of any except that kept on farms, and thereby committed an egregious blunder. Not only are large numbers of poultry kept in towns and villages, and to a lesser extent, in cities, but some of the best and most valuable birds are here found. When it comes to the largest specialty farm for a single breed in the midst of a village of less than 2,000 souls, it would appear that not all the bird values are on the so-called farms. Such a plant has much of interest and instruction in the details which I obtained from Mr. S. V. R. Martling, the owner and working manager.

It covers, probably, three or four acres on high ground with a westerly slope giving good drainage. The long houses facing the south and extending up and down the slope are of the familiar shed-roofed type, but very durably and substantially constructed, and stepped to conform to the slope. They are high enough in front to give ample head room, and here one passes from pen to pen. There are no alleys or waste space. The roosting platforms and with nests suspended under them are at the back. The inside is double boarded up the back and over the roosts, while under the eaves a narrow, hinged drop board opens, giving ventilation when needed, with no drafts.

The front of Mr. Martling's 130-foot breeding house. There is an indirect ventilating system at the back, and the front windows are placed at different heights to facilitate control of ventilation and temperature

Practically the whole area is covered with houses and yards, except the grounds around the residence, and the basement of the latter houses the incubators, packing-room, oats sprouters, and storage room. Houses and yards are on both sides of a runway extending through the centre. The plant is run, not as a fad, but solely as a business proposition, for the production of the best Campines that long study, hard work, skill, and years of experience can produce. Yet the fact is not lost sight of that, back of this, must be health, vigor, and strong constitutions, so that those birds lacking in the points necessary for show birds may have the size and stamina to make good business layers. Careful records are kept of the line breeding so that intelligent selections of birds may be made at any time for any purpose. Some of the practices are radical, but experience has proved their value.

Head of the prize winning Silver Campine pen at the Panama-Pacific Exposition. Bred and owned by Mr. S. V. R. Martling

The packing table is a model of convenience. Underneath it are two large drawers, one containing bran and the other excelsior. The eggs are packed in wooden boxes holding fifteen, with double pasteboard fillers, and with sliding covers. After the eggs are placed in the compartments, bran is shaken around them till every egg is completely imbedded in it. Then this box, surrounded with excelsior, is placed in a covered, handled basket, the cover tied on, and the basket carefully corded so there is no possibility of damage unless the basket be smashed. Mr. Martling says that it costs 50 cents per setting to pack in this thorough way, but that it pays.

Eggs from special matings and others not required to fill orders are incubated in ordinary small, gas-heated incubators; sand trays are used, and the eggs are sprinkled just before the end of the hatch. Special mating eggs are put into pedigree trays, and every chick is banded so that a record may be kept of its ancestry. These bands are changed for larger ones as the chicks grow. The chicks are raised in outdoor brooders, afterward being put into colony houses with large yards

The little chicks are banded as soon as they are taken from the incubator

attached, the latter being sowed to rape and possibly to some other crop. This sweetens the ground and furnishes succulent feed.

Sprouted oats are fed to all birds once daily. No patent sprouters are used, but large, flat boxes such as are used for packing cereals, each holding about one bushel. These are mounted in a frame, like drawers, and slide in and out. The bottoms are of narrow strips about one quarter inch apart, the cracks nearly closing from the moisture when frames are in use. The oats are sprinkled and stirred twice daily, and the product is a wholesome mass of tender roots and sprouts which are all consumed with relish and benefit. No formaldehyde is needed on oats treated as these are. Cabbages are also fed during a part of the year.

The floors of the house are all heavily bedded with pine shavings and rye straw in which a small quantity of scratch feed is thrown twice daily. Automatic feeders also scatter grain on demand. Mr. Martling says that some males are so intent on scratching for their hens and feeding them, that they do not get enough themselves to keep in condition, and it is necessary to feed them separately. This scratch feed is made up about as follows:

Oats, 320 pounds
Cracked corn, 200 pounds
Kafir corn, 100 pounds
Buckwheat, 55 pounds
Barley, 400 pounds
Wheat, 500 pounds

It will be noticed that the proportions of the fattening grains, corn and buckwheat, are very small. The quantities given are those purchased for one month for approximately 900 birds, but really lasting more than a week into the next month, and this at the season of heaviest egg production. The different grains are purchased at the local dealers, and thoroughly inspected and found to be all right before mixing.

The dry mash for the same period is made up as follows:

Bran, 150 pounds
Ground oats, 128 pounds
Middlings, 100 pounds
Oil meal, 17 pounds
Alfalfa meal, 50 pounds
Beef scrap, 75 pounds

For the first five or six weeks the chicks are fed on a special commercial chick feed, and are not encouraged to scratch. After that, they are given the mixed grain chick feed in litter. The chicks are fed every two hours.

Some of the birds in the utility class are housed in semi-detached colony houses in large yards. The special breeding pens are in the long houses with fair-sized yards on each side for each pen of birds. For every two yards, a larger grassy paddock is provided, into which each pen of birds is admitted on alternate days, thus af-

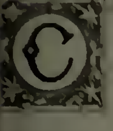
Mr. Martling's pullet which won the World's Championship award at the Panama-Pacific. Note shape of body, denoting prolific egg production

First prize Silver Campine hen at the 1915 New York Show. Bred and owned by Mr. C. A. Phipps

ading considerable range. Everything about uildings and yards is kept scrupulously clean, nd health is a leading consideration. The runs re all wire covered. All the yards and houses re guarded by an electric circuit through which x volts are passing all night. This service is nexpensive but effective.

Were I to guess at the secret of the success of his plant—that is, if there is any secret about it—I should say that it lies in the choice of a single reed personally pleasing to the owner, close pplication of business principles, thorough upervision in every detail, strict cleanliness, nd the determination to make every customer pleased customer. F. H. V.

THE CAMPINE FOWLS



AMPINES have been bred for centuries as utility fowls, especially for egg production, in the rigorous climate of Belgium. In comparatively recent times, they were brought first to England and then o this country. They are extremely hardy, ctive, and alert. The body is deep and long, ack long and rather flat. They are closely athered and are heavier than their appearance ndicates. Standard weights are: cock, 6 ounds; cockerel, 5 pounds; hen, 4 pounds; ullet, 3½ pounds. These are the same as Legorn weights for females, and a half pound more r males.

The Campines were formerly in the American tandard, but interest in them declined to such n extent that they were dropped. Later they gain attracted attention, and the number of heir admirers has considerably increased. They ave been again admitted, and have a class to hemselves, the Continental. They are handome birds when well bred, but some say that they are harder to breed true than are Barred Rocks, though the utility birds are easily raised. Males and females have the same markings, and single mating may be followed. The primary colors of the plumage are black and white, the black with a beetle green sheen. The markings are well shown in the illustrations. They have single combs, but of medium size. The shanks are leaden blue in color.

Not only are the hens prolific layers of white eggs, but the claim is made that well-grown, mature birds lay the largest eggs of any breed of fowls.

Breeders say that the problem in feeding Campines is not to overfeed, as they are easy keepers and small eaters, and may very easily be made too fat to be in the best laying condition. It is claimed that Campines can be kept in the pink of laying condition on two thirds the feed required for Leghorns. If this be proved true in general practice, it will be a strong point in their favor in these times of high prices.

The Silver Campine is the variety most largely kept in this country. The Golden has not been so long and carefully bred, but is being improved by its admirers. It is the same as the Silver except that it is golden bay where the other is white. Both varieties offer an inviting field for the skill of the fancier as well as for the utility poultryman. F. H. V.

The Rose Comb Black Rhinelander resembles the Leghorn in shape, but is slightly more compact in build

ROSE COMB BLACK RHINELANDERS

S MIGHT be inferred, these come from the land of the Rhine. It is believed that they were brought there by the Romans, but did not attract particular attention till toward the end of the last century. The birds were then about the size of the Hamburg, and in shape resembled the Leghorns, which they still resemble, but are slightly more compact, the breast being deeper and the legs shorter. They have small rose combs. The color of the legs ranges from blue slate nearly to black. A full-grown cock weighs 7 pounds, a hen 5½ pounds. To get this increased size and also to improve the laying qualities, various crosses were used. The primary object was fecundity, though an effort was made to retain the glossy black plumage. No hens were selected for breeding purposes which laid less than 170 eggs per year. Single hens are said to have laid as high as 300 per year. The hens have made good records in the laying contests at Storrs, Conn. The eggs are white, averaging about two ounces each, and are said to be very uniform in color, weight, and size.

As table poultry, they are said to be unsurpassed, "the flesh being delicate, juicy, and of delicious flavor." It is also claimed that they are small eaters, hardy, easy to raise, and remarkably free from attacks of lice. F. H. V.

SINGLE BREED STANDARDS

ID some one mention single breed Standards? The subject has been discussed for many years. The idea back of it is the fact that many breeders have only one breed, and care nothing for a Standard except for that one. As it is, and has been, and apparently will be for many years to come, such must purchase the Standard containing all recognized breeds and varieties of fowls, turkeys, ducks, and geese, and now at a price double that of years ago. The subject has been agitated in the meetings of the American Poultry Association for more than a score of years. The thought was that a Standard for a single breed could be sold for 10, or at most 25 cents, a popular price that almost any one could afford. Nearly ten years ago action was taken, and for a half dozen years, a committee has been struggling with the arduous task of getting out a Standard for the Plymouth Rocks, the first breed to be thus honored (?), plus a lot of other matter about the breed. Meanwhile the proposed price has risen till now $1 or $1.50 is suggested. What the end will be, or when the first of the proposed single breed Standards will be issued remains to be seen. F. H. V.

Another of Mr. Phipps's birds—first prize cockerel at New York in 1915. Note the white hackle and clean barring

FALL-HATCHED CHICKS

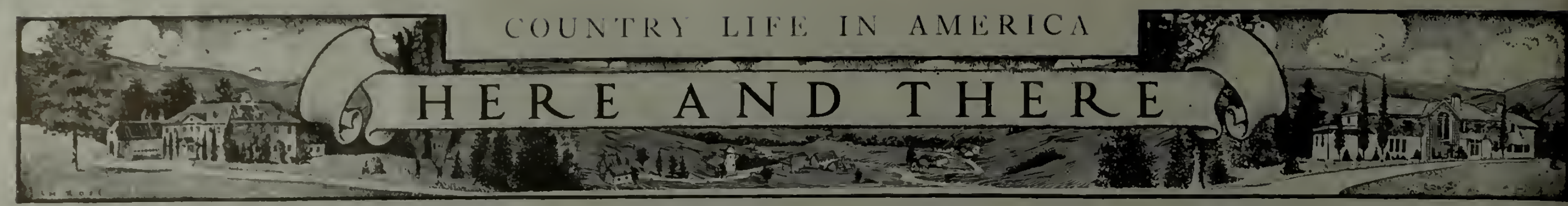
ANY small poultrymen could raise a few of these to good advantage. August or September are good months for hatching. Chicks properly fed and cared for will be well feathered by the time cold weather arrives. Insects, green stuff, and other grist for their little mills are plentiful, they can have the run of the garden to advantage, lice are less liable to molest them than in the spring, and broody hens are usually more available at this season. There seem to be numerous advantages over spring hatching.

But it should be remembered that the chicks must have a comfortable place when cold and stormy weather comes; they must be given quarters by themselves, and be especially well fed and well cared for if they are to thrive.

As to the product, fall-hatched chicks make good broilers for which the demand is brisk in winter. But if they are of the large breeds, the cockerels and poorer pullets may be grown through the winter, and made into roasters in the spring at the time of highest prices. The pullets will begin to lay in spring or late winter, sometimes not so far behind those hatched the previous spring, and will lay later the following autumn at the time of the greatest scarcity of eggs. If a snug place for keeping the chicks in winter is available, the advantages of fall-hatched chicks seem to outweigh the disadvantages.

F. H. V.

Rose Comb Black Rhinelander cock bred and owned by Mr. A. Schwarz, who also bred the hen at the left

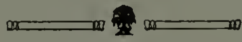


The Gold Cup Races

With the seafaring men of Great Britain engaged in other pursuits, the races for the *America* Cup and for the British International Trophy are once more postponed, the chief interest among yachtsmen thereby reverting to the contests for the motor boat championship of North America. This year the Gold Cup races will be held in September in Detroit, to which city, last summer, the costly trophy journeyed on its first trip away from the Atlantic seaboard; and it is confidently predicted that more speed and greater enthusiasm will be shown than has attended this classic contest in the twelve years which have passed since its inception.

Raced for twice in New York waters in 1914, this perpetual challenge cup was next carried to the St. Lawrence, where it stayed, shifting only from one local club to another, until 1913, when the famous *Ankle Deep* won it to Lake George. During its stay in Northern waters it had caused the development of the famous and invincible line of *Dixies*, and had done much for the advancement of the marine motor industry and sport.

Only one year did it remain in fresh water, for the swift and skippy hydroplane *Baby Speed Demon II* caused its transference to Manhasset Bay by attaining a speed of nearly fifty-one miles an hour. That was in 1914, and in 1915, *Miss Detroit*, a newcomer from the West, built by popular subscription, came East and romped away from an inferior field, and in less than the previous year's record captured it for the Watch-Us-Growites. And this year there is a better *Miss Detroit* and a *Miss Minneapolis* and goodness knows what all, and the East will have to build something with a mighty clean pair of heels to bring the treasured Gold Cup back to its salt-water heath.

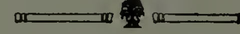


Another Highway Memorial

One of the theories that we are fortunately leaving behind us as the world progresses, is that any memorial, any expression of sentiment, may be a thing of beauty, but *must* be purely esthetic, with nothing of the utilitarian about it. No better illustration of our modern broad-mindedness in this respect exists than the various interstate and transcontinental highways that are being projected and constructed in different parts of the country. Several have already been mentioned on this page in the past. Recently a new one has come into being under the auspices of the Jackson Highway Association formed at Birmingham, Ala. This roadway, named as a tribute, after that vigorous statesman and pioneer, Andrew Jackson, is to connect Chicago and New Orleans, passing almost due south through a country of vast wealth, both in natural resources and historic associations.

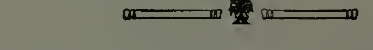
Stop This Rural Recklessness

A favorite justification for maintaining a garden on the restricted area of a village or suburban home is the claim that it is "such an economy." Yet of the hundreds of persons who pride themselves on this form of thrift, the vast majority practise one of the most shortsighted and least defensible forms of wastefulness that could be imagined, This is the conscientious raking up and burning each autumn of the leaves that fall on lawn and border. It is wrong, because those leaves are nature's mulch for the plants and herbage upon which they accumulate—a mulch that man with all his ingenuity cannot improve upon. And it is wrong further because, even if the owner insists upon his grounds being kept neat, in burning the gathered leaves he is virtually burning wealth! For leaves are potentially admirable plant food, fertilizer, and to-day that is synonymous with real value. Let him rather dig a pit and fill it with the tramped down and thoroughly wetted leaves; or let him make a pile of them together with all the other vegetable waste from his garden, and some stable manure if he can get it. Then in a year or so let him go to that compost pile and he will find it a mass of humus, ready to be plowed into his soil and worth, according to present day prices, more than $6.50 a ton! Here is a chance for a community economy campaign that is worth while all around.



Eliminating The Leopard Moth

A few years ago there was chronicled and deservedly deplored the doom of the Harvard elms, whose lives of dignity and beauty were being brought to an untimely end by leopard moths and other destructive insects. It is a pity that the information and advice now available from the Department of Agriculture could not have been invoked at that time; however, even now enough valued specimens of elms and other species of shade tree are in danger of a similar fate to make the Department's recommendations of infinite value. First, it says, prune off all twigs and small branches which, by wilting, show the presence of the leopard moth larvæ. Gather these and all windfall fragments and burn them promptly to destroy the grubs that usually come to earth in their tissues. The second step is the removal and destruction of larger, seriously injured branches and the painting or waxing of the wounds to keep out other invaders. The third consists of injecting carbon bisulphide into all accessible burrows in the trunks of the trees, each opening to be closed immediately with a bit of grafting wax. The bisulphide, which can be bought at any drug store, is a colorless liquid harmless to hands or clothing, but producing fumes which should not be inhaled and which are highly inflammable. It is best handled in a long spouted oil can or squirt gun.



To Conserve Printer's Ink

Any one who is so fortunate as to be on the mailing list of the U. S Department of Agriculture is impressed by the great annual waste of Government printed matter which results from imperfect methods of distribution. The apple grower in Oregon can hardly make use of a bulletin on cotton, yet the only way for him to be sure of securing all the publications of interest to him is to be put on the general mailing list of the Department and receive the fat with the lean.

During the last fiscal year 913 separate documents were printed; 77 of these were new Farmers' Bulletins, of which 5,870,000 copies were printed. Including reprints, a total of more than 36,000,000 copies of various documents were printed during the year, at a necessarily large expense

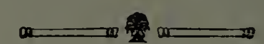
If some way could be found to place these only in the hands of those who really need them, a great waste would be avoided. At present a large proportion of them undoubtedly find their way promptly into the waste basket. It has been sugested that the coöperation of the Post Office Department might be secured, and lists of documents posted in every post office. The postmasters might act as agents, selling the bulletins to all applicants for a cent or two apiece to cover a part of the cost and to eliminate the waste. But the bulletins have been free for so long that there would doubtless be opposition to such a plan, and it would involve serious problems of operation.

The Superintendent of Documents, however, has been conducting a paying business which might be extended. He is authorized to reprint and sell publications the supp y of which for free distribution has been exhausted. Last year he sold 335,863 such documents, with receipts amounting to $23,011.10, which indicates a willingness on the part of the public to pay for what they receive. "If some more convenient means could be adopted," he reports, "the sale of these publications would be greatly increased."

The Nucleus Of a Motor Patrol

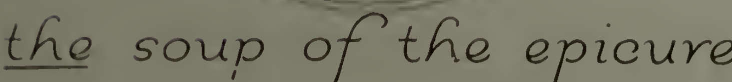
At a time when preparedness is in the air (chiefly in it) the action of five Eastern yachtsmen in forming a volunteer patrol squadron is of particular interest. These men who have taken the first step in the direction of providing our Eastern seaboard with the nucleus of a despatch fleet commissioned a prominent boat builder to construct five identical motor cruisers of a type which showed remarkable speed in last summer's races. The boats, which are now completed and have been approved by the Navy, are forty feet in overall length with the proportionately narrow beam of torpedo destroyers, and have a cruising speed of twenty-four miles an hour. A six-cylinder motor of 135 horsepower is installed in each, but provision is made for the equipment of higher power if it should be deemed necessary. Gasolene tanks to give a cruising radius of 300 miles are installed, and the forward and after decks are braced to receive gun mountings.

The owners of these craft have associated themselves each with three other motor boat enthusiasts and all have signed articles to bind themselves to two or three weeks of summer cruising in squadron formation. Regular crews have been engaged, and these, as well as the "officers," are subject to a call from the Navy Department in time of need. Closer acquaintance with the Atlantic coast and a thorough study of squadron tactics and signalling will be among the first subjects taken up by the squadron.



New Theories As to Thread

In 1914, when Germany was still a respected, even if not a well beloved, participant in the world's commerce and trade, its imports of cotton from this productive land amounted to 1,442,161,777 pounds. In 1915 they had shrunk to less than 150,000,000 pounds and presumably the supply from other sources had decreased in like proportion, rendering the prospective, if not the immediate, Teuton textile situation decidedly alarming. Entered then the resourceful German scientist, whom success has already crowned to the extent that two substitutes for the cotton plant are reported to have been discovered among the common plants of the Empire. One is the lupine, a close relative of alfalfa and a plant that few farmers will have to be urged twice to grow, since it is a soil enricher as well as a source of oil—and now, it seems, of fibre. The other is the nettle which has been found to yield a fibre resembling that of hemp, and an excellent grade of thread and yarn. This crop, it is said, will be extensively planted on soils that are not fit for other purposes.



the soup of the epicure

Dining well— and economically

They dine best who dine wisely. This implies the *best* food, the most nutritious food, the food which in the last analysis *costs the least.*

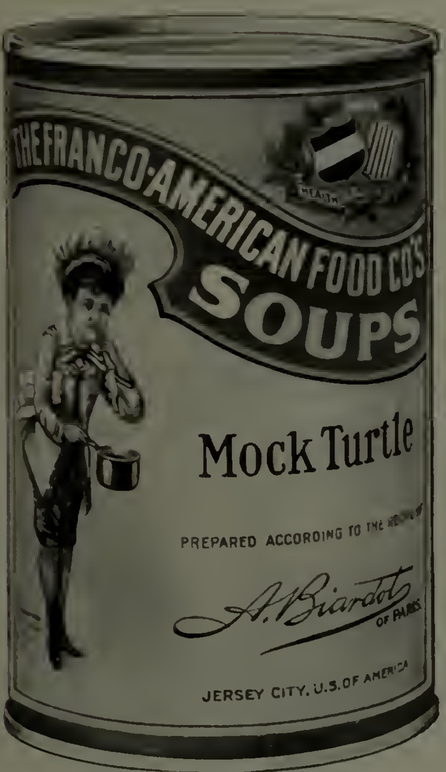
The superior and exclusive quality of Franco-American Soups yields not only that higher enjoyment so prized by a cultivated taste, but also the largest return for the expenditure, measured in terms of sound health and bodily vigor.

For example, our Mock Turtle Soup. The spotless white heads of young calves and finest selected beef from the fore quarter yield the meat stock, blended with a rich, thick vegetable purée of juicy tomatoes, red-hearted Chantenay carrots, tender little onions, crisp chopped celery, and parsley—all specially grown for this use. Marjoram, savory, sweet basil, dry thyme, bay-leaves, nutmeg, and sherry are "touched in" with an artist's fine hand.

Succulent cubes of calf's head meat top this dish to grace the table of an epicure—and your menu this evening, if you will but telephone your grocer!

Twenty cents the can

Merely heat before serving *At the better stores*



Franco-American Soups

Selections

Tomato
Mock Turtle
Ox Tail, thick
Clear Ox Tail
Consommé
Bouillon
Julienne
Mutton Broth
Clear Vegetable
Vegetable, thick

Chicken Consommé
Chicken Gumbo
Clam Chowder
Clam Broth
Chicken
Beef
Pea
Mulligatawny
Green Turtle thick (45c)
Clear Green Turtle (60c)

Makers of Franco-American Broths for Invalids and Children
Beef—Chicken—Mutton—Clam—15c the can

THE FRANCO-AMERICAN FOOD CO.

General view of Mrs. F. C. Howard's three-acre bee farm, at Wakefield, Mass. She lives here only six months of the year, the camp consisting of two rooms, a living room and a work room where the honey is extracted and stored

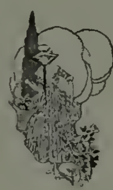
Opening a hive and taking out the frames

A WOMAN'S BEE FARM

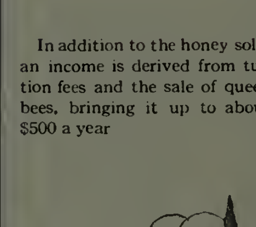
Photographs by George Oakes Stoddard

Placing a queen in the mailing cage

Prying the frames apart. Undertaken primarily to occupy her mind while convalescing, Mrs. Howard has found bee keeping a lucrative employment



In addition to the honey sold, an income is derived from tuition fees and the sale of queen bees, bringing it up to about $500 a year



Taking out the honey. Each hive yields about $10 worth a year

Forcing a swarm. Mrs. Howard herself does all the work in connection with the apiary

Roadway at Green Lake, Wis. Constructed with "Tarvia-X," penetration method, in 1913. Note smooth, dustless surface.

The use of Tarvia means *better* roads and *lower* taxes

TWENTY-FIVE years ago, smooth and well-kept roads were the special pride of Old England, where they were the product of two centuries of incessant road improvement.

But those fine roads were only macadam and they were not fitted for the gruelling of automobiles.

Now, with the automobile everywhere, you find in all sections of America examples of better roads than Old England's best roads of twenty-five years ago.

Tarvia has been an important factor in this development.

Good roads now don't require generations of labor nor immense outlays from the taxpayers.

The use of Tarvia on an ordinary macadam road will make it the pride of a community; it will give comfort to all the citizens; it will be a delight to visitors; and most important perhaps, it will result in reduced taxes.

Recently a town celebrated the completion of a Tarvia road by having a civic dance on it in the moonlight, helped by the electric lights. The road was almost as clean and resilient as a waxed floor.

Do you know what Tarvia is, and what it does? It is a special coal tar preparation peculiarly fitted for binding as well as reinforcing the surface of macadam roads.

What Tarvia does to a road is almost magical.

It makes it smooth, resilient and dustless.

It gives to the automobile a glide that makes a mile seem like a quarter. It gives to carriage riding a welcome comfort and to teaming an easier pull. It abolishes the curse of dust and the messiness of mud.

A Tarvia road brings the farm, the town and the city closer together. It is an asset to the community.

Tarvia roads often last years without any renewal. But even renewals of Tarvia are the lowest cost road improvement that has been invented.

The reduction in maintenance expense, for a Tarvia road, in most cases more than covers the total cost of treatment.

There are three kinds of Tarvia. "Tarvia-X" is very heavy and dense. It is used as a binder in road building and is the most thorough and permanent of the Tarvia treatments. "Tarvia-A" is a lighter grade, used for hot surfacing applications. "Tarvia-B," which is fluid enough to be applied cold with modern spraying apparatus, is for dust prevention and road preservation.

Illustrated booklet on request. Address nearest office.

Kingshighway, St. Louis, Mo. Constructed with "Tarvia-X," penetration method, in 1915

Special Service Department

In order to bring the facts before taxpayers as well as road authorities, The Barrett Company has organized a Special Service Department, which keeps up to the minute on all road problems. If you will write to nearest office regarding road conditions or problems in your vicinity, the matter will have the prompt attention of experienced engineers This service is free for the asking.

If you want *better roads* and *lower taxes*, this Department can greatly assist you.

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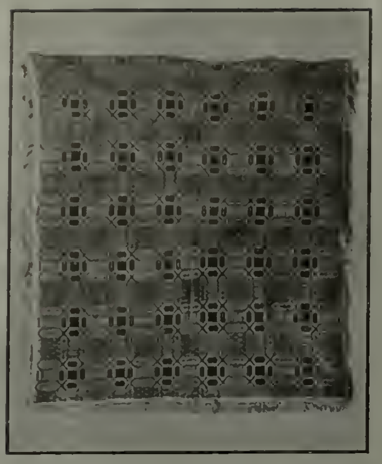
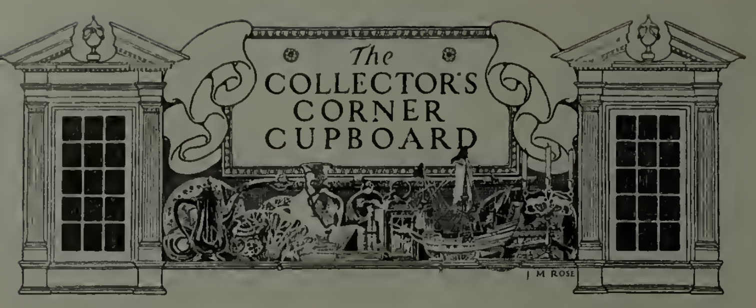
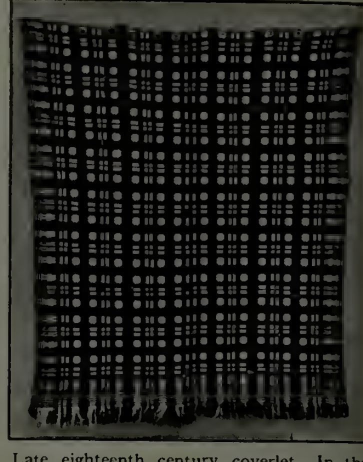


Hand-woven American coverlet, early nineteenth century



CONDUCTED BY WALTER A. DYER

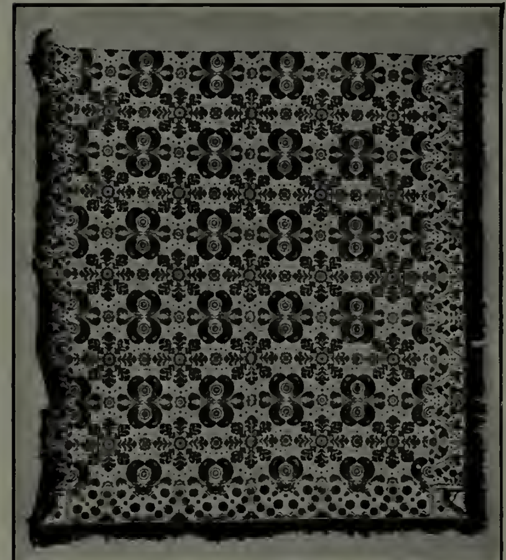
[*Mr. Dyer will be glad to answer any questions relating to antiques and collecting; for convenience kindly address Readers' Service,* COUNTRY LIFE IN AMERICA, *Garden City, N. Y.*]



Late eighteenth century coverlet. In the Metropolitan Museum

HAND-WOVEN COVERLETS

I RECENTLY called at the home of an elderly New England lady and her daughter to inspect a mahogany four-poster bedstead, and found myself in the midst of a collection of rare treasures. It seems that the elder woman had been gifted with a discernment beyond her time, and years before collecting had become a widespread hobby she had gathered together a number of pieces of furniture, china, etc., of unusual artistic value. They were not the usual things one sees in such collections, but included several beautiful pieces of American craftsmanship. Exquisitely proportioned tables and other pieces in pine, apple wood, and cherry told of the existence, long years ago, of craftsmen of rare artistic gifts in Conway, Mass., and other New England towns. Just as I was leaving my eye was caught by a pair of red and white portières hanging between two of the rooms.



American hand-woven coverlet, early nineteenth century; probably the work of a professional. Bolles collection

"Why," I exclaimed, "these are old coverlets in splendid condition."

"Yes," replied the younger woman, "and we have two blue and white ones, too. I don't know how old they are."

We talked of the ancient art of weaving for a few minutes, and then I asked her if she had seen Eliza Calvert Hall's "Book of Hand-Woven Coverlets." Her eyes shone with pleasure.

"Yes," she said, "and our patterns are illustrated in it."

Miss Hall has done us a lasting service in calling our attention to one of the most fascinating fields open to the collector. For the lives of our grandmothers and great-grandmothers are woven in to the warp and woof of these old textiles, and much of genuine folk-lore besides. Furthermore, the old patterns and colors are a never-ending delight to the connoisseur.

The word coverlet, or coverlid, comes from the French *couvre lit*. In this country it was often called by the simpler name of "kiver," and the coverlet was the bedspread of a past generation. Its weaving was a truly American art, but American with an Old World ancestry as ancient as

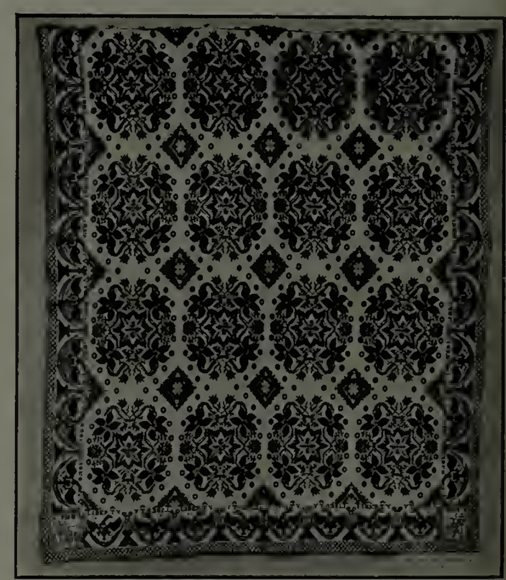
"Made by Peter Leisey, Lancaster Co.," who was one of the professional weavers

history. The women who first wove them here had come from the Rhenish Palatinate, from Huguenot France, from England, Scotland, and Ireland, from Holland and Switzerland, from Norway and Sweden, and from all these countries they had brought the traditional patterns and their knowledge of the household arts of spinning, dyeing, weaving, and design.

Weaving on the hand loom was one of the common household accomplishments, North and South. The women of New England, the Middle States, and the Southern mountains all practised it in much the same way. In parts of the South the work was taught to the domestic slaves. It took nearly a year to complete a "kiver" from the first spinning of flax and wool to the final touches on the fringe, but in those days patience was a cultivated virtue. Handweaving was the only kind practised in this country up to 1785, and the art persisted in the rural districts long after. In such remote sections as the Southern Appalachian Mountains it has never died out. Let us hope that it never will.

To-day these coverlets are made of cotton overshot with wool, but in the old days the warp was made of flax, home-grown, hackled, and spun into linen thread. The wool was also grown on the farm, spun into yarn by the women, and colored in the domestic dye-pot.

No modern aniline colors can ever give the soft, rich, lasting effects produced by the home-made



A "Liberty" coverlet, signed "A. Parsils, Millstone, N. J., 1838"—one of the professional weavers

American-made roundabout in Queen Anne style, with cabriole legs, Dutch feet, solid splats, and removable upholstered seat. Owned by Mr. W. A. Dyer

An unusual form of roundabout in Chippendale's Gothic-Chinese style, with upholstered seat. In the Metropolitan Museum

dyes of an earlier day. Red was commonly made from madder and blue from pure indigo. These and other imported ingredients, such as turmeric, cochineal, etc., were kept always on hand in the family cupboard. But most of the women knew how to brew dyes also from the leaves, roots, and bark of native trees, shrubs, and herbs, from which they were able to get all sorts of beautiful colors—black, purple, brown, red, yellow, blue, green, and various combinations of these. When properly concocted, these home-brewed dyes were of a quality as lasting as the wool itself.

Miss Hall gives a number of recipes for dyes from the Kentucky mountains and elsewhere which are most interesting, and of which the following is a brief example:

26 Extra Features
73 New Attractions
7 New-Type Bodies

Mitchell MID-YEAR MODEL

$1325 f. o. b. Racine
For Standard Models
127-inch Wheelbase

Now 55,000 Friends

Experts the World Over, Own Bate-Built Cars

Over 55,000 men are now driving Mitchells built under John W. Bate, the efficiency expert.

Most of them, our dealers say, seem to know mechanics. Many are noted engineers. Every Mitchell dealer has a list of famous owners.

This seems to be so the world over. Mitchell buyers are largely experts. Now we wish to argue that this engineers' favorite is the car for laymen too.

A Lifetime Car

What these experts seek is a lifetime car. And that is what you should seek.

Five years have proved that this Light Six type is going to be the car of the future. Despite all innovations, it has constantly gained popularity. The great majority of the best engineers consider it the permanent standard.

So men who buy this type to-day should buy their cars to keep. Most such men, when they know the facts, will choose a Bate-built car.

The Bate Standards

Mr. Bate's standards, employed in the Mitchell, call for 50 per cent over-strength. He applies them to every part. And, by countless tests and inspections, he sees that we get them.

There are 440 parts in the Mitchell which are either drop-forged or steel-stamped. They are three times as strong as castings.

All the main strains are met with Chrome-Vanadium steel. The steering parts, driving parts, axles and gears are entirely of that steel.

The Bate cantilever springs, used in the Mitchell, have a perfect record. Not one has ever broken. Think of that.

As a result of those standards, one Bate-Built Mitchell has run 218,734 miles. It's a good car yet. Six have averaged 164,372 miles each, or over 30 years of ordinary service. We learn of one which has run 150,000 miles at a cost of $8.90 for repairs.

Extras Without Cost

You get these standards at the Mitchell price because of this wonderful factory. It was built and equipped by Mr. Bate to produce this car at minimum cost. It has reduced our factory costs by 50 per cent.

You also get in the Mitchell 26 extra features, paid for by factory savings. They will cost us this year over $2,000,000. Each is something you would miss. They all come in the Mitchell without extra price.

$1325 F. o. b. Racine

For 5-Passenger Touring Car or 3-Passenger Roadster

7-passenger Touring Body $35 Extra

High-speed economical Six—48 horsepower—127-inch wheelbase. Complete equipment including 26 extra features.

Also Five Types of Closed Bodies

Lavish Luxury

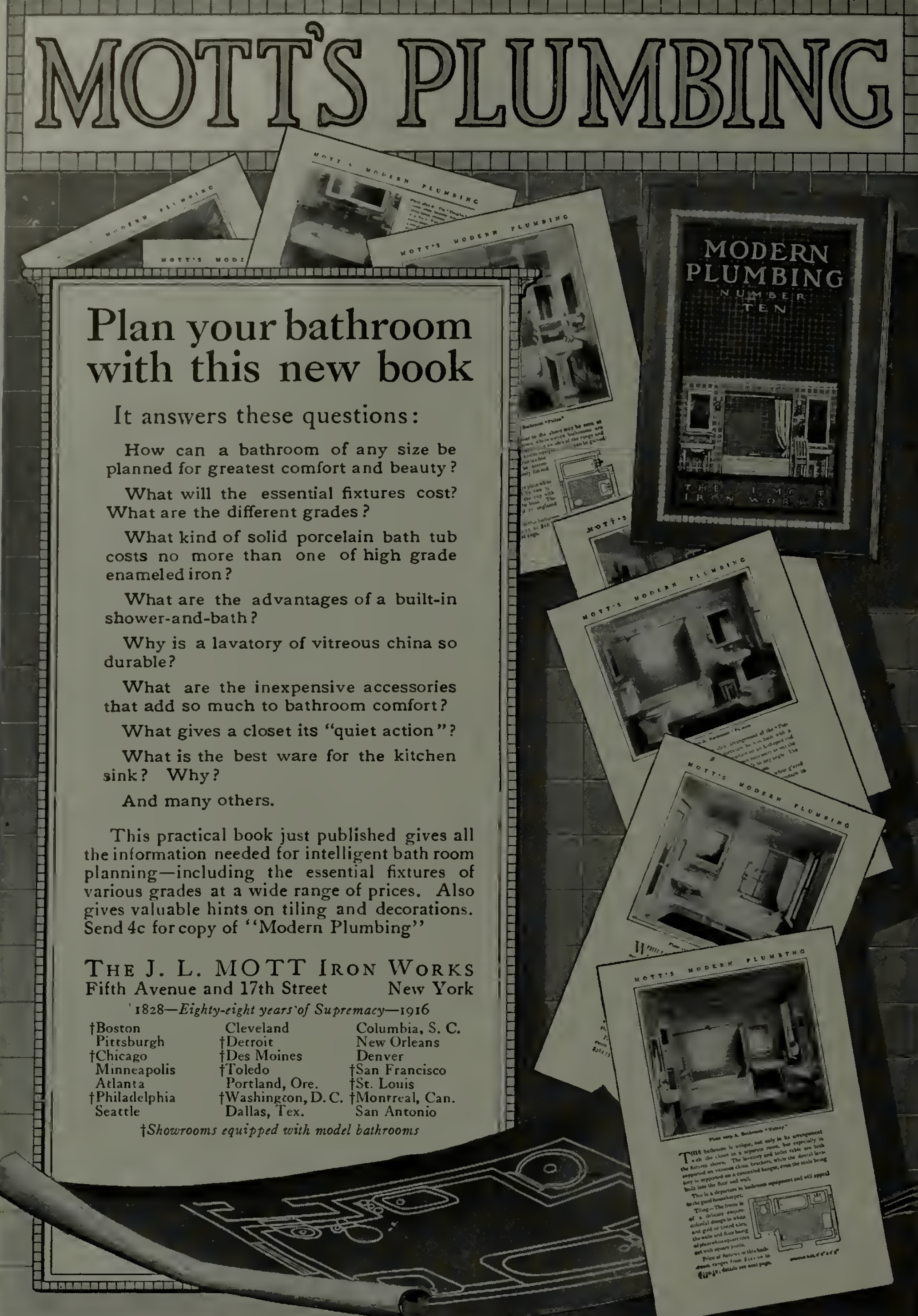
You find in the Mitchell every new touch, every new idea that is popular. This Mid-Year Mitchell has 73 attractions which even our Show-time model lacked. It is the most complete car, the most up-to-date car you see.

Mitchell bodies are finished in 22 coats. They are upholstered in French-finished leather. They have a light in the tonneau, a locked compartment for valuables—every dainty appointment known.

The Mitchell is known as "The Engineers' Car," because of mechanical perfections. But these facts, we argue, should appeal to every fine-car buyer. When one car offers so much extra value, it deserves to be your choice.

MITCHELL MOTORS CO., INC.
Racine, Wis., U. S. A.

98



Galloway's wonderful book of bargains; describes fully and prices Galloway Cream Separators, Manure Spreaders, Gasoline Engines, Farm Tractors. Saves 1/3 to 1/2 on prices usually asked. Also lists and prices farm implements, fencing, auto supplies; everything for farm and household.

SAVE MONEY

By asking for this 260-page book to-day. A postal will do. First edition exhausted; second edition this bargain book now ready.

WM. GALLOWAY CO.
Dept. 2647 Waterloo, Iowa

"Mum"

(as easy to use as to say)

prevents all odors of the body

and keeps the skin and clothing fresh and sweet all day. Does not check perspiration—that would be harmful.

"Mum" is economical—little needed at a time—no waste.

A greaseless cream—harmless to skin and clothing.

25c—sold by 9 out of 10 drug- and department-stores.

"MUM" MFG CO 1106 Chestnut St Philadelphia

The Angelus Piano

Enables Anyone to Play Like an Artist

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"BATH ROOMS OF CHARACTER"
THE TRENTON POTTERIES COMPANY
The Largest Manufacturers of Sanitary Pottery in the U. S. A.
TRENTON, N. J.

Cyclone ORNAMENTAL FENCE
for beauty and substantial protection. Strongly built of heavily galvanized wire. Different attractive designs. Illustrated catalog free.
Cyclone Fence Co., Dept. 138, Waukegan, Ill.

Your House Deserves the Most Modern Building Material. Find out about
NATCO HOLLOW TILE
SAFE–FIREPROOF–ECONOMICAL–SANITARY
National Fireproofing Company, 335 Federal Street, Pittsburgh, Pa.

RUUD Instantaneous Hot Water by Just Turning a Faucet
RUUD MANUFACTURING COMPANY, Pittsburgh, Pa.

"Git brown sage (sedge grass) and bile it and put in a little alum. It makes the prettiest yaller that ever was."

A typical recipe from North Carolina, also for yellow, says to boil the flowers of the black-eyed Susan and set the color with alum. Think of owning a coverlet colored with the flowers of the black-eyed Susan!

The patterns for these coverlets were mostly conventional in type and were passed down from generation to generation. The design motifs may be traced back to ancient, misty, legendary days. The weaving was done by following marks and figures on strips of paper, quite unintelligible to the uninitiated, known as drafts. These drafts were carefully preserved and copied for exchange, so that their circulation became widespread. Patterns of Scandinavian, Dutch, or British origin, showing some slight alterations, perhaps, are to be found in widely separated sections of the country. Only their names underwent local changes.

Not a few of the coverlet patterns were named, many of the names being musical and poetic. Some of them are more or less obviously descriptive, but many are fanciful and their origin is obscure. Miss Hall gives about 340 different names, gathered from various sections of the country. Several different names are sometimes given to the same pattern. For example, the Dogwood Blossom of Kentucky and Tennessee is Dog Tracks in hard-headed New England, and Sunrise becomes Hen Scratch.

To-day, in the mountains of Kentucky, Virginia, Tennessee, and North Carolina, the women are making coverlets in the ancestral manner, with wheel and loom. They still make their dyes from roots and bark in accordance with ancient recipes, and they weave the historic old patterns. Just as one sometimes hears an old English ballad in the Cumberlands, so one finds the same coverlet patterns woven there to-day that the English women wove in Shakespeare's time.

Berea College in Kentucky, and other educational institutions in the mountains, have been making an effort in recent years to revive this ancient art, or rather to save it from extinction, and modern coverlets in the old patterns, hand woven and colored with home-made dyes, may be purchased through their agency.

Some of the old coverlets were woven by itinerant, professional weavers, who visited the farms and villages, took the home-spun and home-dyed yarns, and wove in somewhat more intricate patterns. These weavers were often artists in their line, and they flourished from Colonial days up to fifty years ago. But in spite of the excellence of their work, the collector's chief interest, I fancy, will remain with the quaintly beautiful product of the household loom.

THE ROUNDABOUT CHAIR

THE roundabout, or corner chair, whether English or American, early or late, is always of interest to collectors. It is one of the styles which passed away with the Georgians. It is a square chair, standing cornerwise, with round back and arms running around two sides, and the fourth corner and leg in front. Examples of the roundabout are to be found in many styles, from the turned chairs of the sixteenth century down to the Chippendale period, but it was most popular during the Anglo-Dutch or Queen Anne period.

One of the earlier types of roundabout showed the Stuart influence, with straight back, straight, turned legs and spindles, and rush seats. Later the solid splat and Dutch foot were added. The Queen Anne type had usually upright spindles in the back, or three uprights and two solid, vase-shaped or fiddle-shaped splats. The legs were cabriole, sometimes the back one being straight, and the Dutch feet later gave place to the ball-and-claw. The seats were generally rush or wooden, though the finer examples had upholstered seats. Sometimes a head-piece was placed on top of the back, frequently with spindles and like a comb in appearance, giving the name of comb-back. Hayden suggests that this extension might have been first invented for the convenience of barbers.

Chippendale revived the roundabout and gave it new beauty. As a rule his roundabouts were admirably constructed. He used, generally, the cabriole leg and ball-and-claw foot, with three turned uprights and two pierced splats in the back. Occasionally he used straight, square legs,

DILLON, McLELLAN & BEADEL, ARCHITECTS.

Babette
By F. Berkeley Smith
Net, $1.25
Frontispiece At All Bookstores

"Why Didn't Anyone Tell Me—

that Hopkinson Smith's son had inherited his father's literary grace and charm?"

¶ **Babette**, by F. Berkeley Smith, is a delightful novel —a story of France—of La Fourche, the little village in Touraine where Babette, the daughter of the jailer, grew up in a little garden under the old castle walls—and of the shadowy sinister life of Montmartre. It is written by one who dearly loves France, it is full of the color and speech of that lovely land. Raveau, the polished crook, whose life is remoulded by his love for the simple peasant girl, is the hero of a story that lingers in the mind like an old cognac on the palate.

DOUBLEDAY, PAGE & CO. **Garden City, New York**

or the Chinese forms. He also added an extension on some of his roundabouts, like a small Chippendale chair back.

Most of Chippendale's roundabouts were of mahogany, and those of the Queen Anne period walnut, mahogany, and other woods. An infinite number of variations were produced in England by local craftsmen, known as "country chairs," and made of various woods. The style underwent such changes at their hands that it is often a puzzle to place them in their proper periods.

From 1700 to 1750 the roundabout was a popular chair in America, and home-made chairs are to be found here in Queen Anne, Dutch, Georgian,

American-made roundabout of the Chippendale type, with wooden seat, pierced splots, square legs, and extension back Bolles collection

and turned styles, with many local variations. It is the variety in types, indeed, which lends the greatest charm to the collection of roundabouts. They were particularly in vogue here about 1735–40. Some were made in the cheapest woods, with rush bottoms, and some in cherry, black walnut, and mahogany, with seats covered with leather or cloth. American-made roundabouts in Chippendale patterns became popular after the middle of the century.

The present-day value of a roundabout, depends, of course, on its period, style, workmanship, and condition, but I have never yet seen one that wasn't worth owning.

ANSWERS TO QUERIES

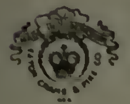
We have a mahogany bedstead which we cannot use and would like to sell, but we have no idea of its value in terms which would enable us to put a price on it fair to the buyer and to us. It is six feet long and four and one-half wide, inside measurement, and is fitted for springs. The four posts, carved in acanthus leaves and fluting, are eight feet four inches high, and thirteen inches in circumference. The head board, of mahogany, stands five feet from the floor and is paneled. The rosettes which cover the screws are also mahogany. We have the boards from which to hang the valance and the whole thing is in excellent condition. E. T. C., Amherst, Mass.

Old four-poster mahogany bedsteads have sold in New York for $100 to $500, according to style, condition, excellence of carving, etc. Owing to the difficulty of using them in small rooms, however, the demand for them is rather slack at present, and $100 is a fair price to get for even a good one, though it is doubtless worth much more.

The beauty of a diamond is but a part of its appeal. The genuineness of the diamond is also necessary.

Crane's Linen Lawn
[THE CORRECT WRITING PAPER]

like the diamond is something more than a beautiful writing paper. Its quality is as important as its appearance.



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RAISING MEDICINAL ROOTS, SEEDS, AND FLOWERS

THE European war has imposed such unusual conditions upon the world's trade that few industries have been left untouched either for better or worse. The drug trade has suffered violent dislocation in parts, with quinine, carbolic acid, and most of the coal tar products soaring to unprecedented prices, both on account of the interruption of trade and the enormous demand for these medicines made by the armies and hospitals. In a general way the demand for nearly all drugs and medicines is greater than ever before in the history of the world, and prices for them are uniformly seeking a higher level.

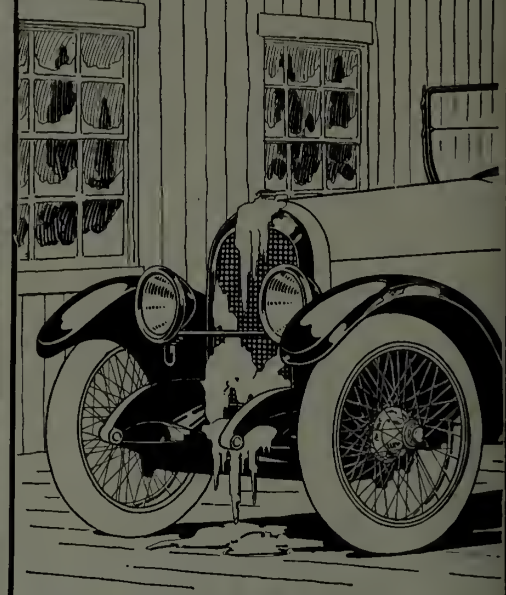
While certain drugs, such as those derived from coal tar, are of synthetic manufacture, the majority of medicines are compounded from the roots, bark, leaves, and seeds of plants, and the collecting of these is an industry of world-wide importance. A fact not widely appreciated is that more than one half the raw materials required for the pharmacopœia's list of tested drugs grows wild in the United States or is susceptible of cultivation here. Not only that, but we collect for the world's drug trade a greater variety than any other nation, and yet, this industry, like others in our country dependent upon an abundance of raw material, is largely unorganized. It is left to the haphazard work of a comparatively few persons who add to their regular incomes by gathering such of the roots, barks, and leaves as the trade demands, and as they can easily obtain and profitably dispose of.

In the Carolinas and along the slopes of the Alleghenies considerable quantities of medicinal roots and barks are collected by the mountaineers and shipped to the large drug firms in the cities. These include snakeroot, juniper berries, senna leaves, gentian root, mints of all kinds, wild cherry bark, sage, dandelion, camomile flowers, sarsaparilla, henbane, dragon root, mandrake, fox-glove, monkshood, deadly nightshade, and a long list of others. For the most part they are gathered in particular sections, dried, cured, and sold to buyers without any conception on the part of the harvesters of their ultimate use and destination.

In recent years some of these important medicinal plants have grown so scarce that prices for them have doubled and tripled. Constant robbing of the woods and swamps of the plants has not tended to increase their supply. The question of raising many of them commercially has frequently been agitated by the Department of Agriculture, and to some extent gratifying responses have been made; but on the whole the field has barely been touched. If the present war has a stimulating effect in turning our attention more to our undeveloped resources and their conservation, it will not be without some benefit to the country. Perhaps the cultivation of many of our drug plants offers as profitable a future as any.

In southwestern Michigan, and a few counties in northern Indiana, the cultivation of mint for the production of peppermint oil is a fair illustration of what can be done in this direction. In addition to its medicinal use, mint is of domestic value for the flavoring of chewing gum and confectionery. The total yearly product of the mint farms in the sections mentioned now approximates 450,000 pounds, although not many years ago dependence for manufacturing peppermint oil rested largely on wild plants and a few mint beds in kitchen gardens. The success of this industry is due chiefly to the discovery that the plants must have a certain type of soil—namely, a rich muck wherein decayed vegetable matter has formed a heavy layer of humus. By replanting the mint roots, danger of the supply ever giving out can be avoided, which cannot be said of many other of our medicinal plants.

Wintergreen oil is another article of both general and medicinal value, of which the methods of production have undergone great changes with its increased demand. Originally it was distilled from the leaves of the wintergreen plant, sometimes called boxberry or checkerberry. But the supply of these plants long ago become too limited for the demand, and most of the oil now on the market is distilled from the bark of the sweet birch, a tree found all the way from Maine to the Southern Appalachian mountains, and sold for as much as $5 a pound, troy. This represents a



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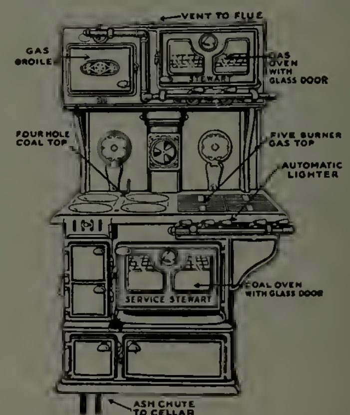

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will give more light and better light because the frame and cross members occupy very little space. They are exceptionally strong, allowing the window to be opened and closed with ease, regardless of weather conditions. Crittall Windows are fire proof, weather proof and will last a life time.

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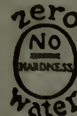

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Will give you an ample and unfailing supply of velvet water in your home. And having tried it, you will wonder why you deprived yourself of its luxury so long. Whether your house is a bungalow or a mansion, there is a **Permutit** plant to fill your needs, at a price that you will willingly pay. Write for the booklet, "Velvet Water, Velvet Skin," and the literature on **Permutit.**

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So economical as to be a money saver
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Electric lighting plants to be run by the same engine or motor.

Careful engineering attention given to each installation.

Catalogue on request.

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considerable industry, but the number of sweet birches thus injured, if not ruined, each year in the process threatens with extinction the supply of raw material. No attempt has yet been made to cultivate the trees for oil production, although under proper control an orchard or forest of them might well prove profitable.

Many of the most important medicinal plants are poisonous, and their extirpation in the woods and swamps would prove a blessing, provided farms were established for the cultivation of enough to supply the drug trade. Numerous cases of poisoning are reported every summer, due to the eating of parts of some of these wild plants, not only by travelers but even occasionally by those who gather them for a living.

Thorn apple, for instance, from which stramonium is made, is a vigorous annual growing in rank soil in many parts of the country. All parts of the plant, but especially the fruits and seeds which children frequently eat, are poisonous. The entire aconite plant, commonly known as monkshood, wolfsbane, or blue-rocket, is poisonous, but the root is often mistaken for horse radish, and eaten with deadly results. Hellebore, or Indian poke, foxglove, from which digitalis is made, henbane, Indian turnip or Jack-in-the-pulpit, mandrake, the deadly nightshade, and many others are dangerous in various degrees, but all are of actual and often considerable value.

The list of non-poisonous drug producing plants is even longer, including among the more common species, sassafras, snakeroot, gentian, wild cherry, boneset, juniper, rhubarb, hops, persimmon, darnel, jessamine, laurel, oleander, pokeweed, milkweed, etc. Already some of the wild drugs have doubled and even tripled in price, and the continued demand raises the question of how much longer we can get along without raising the plants on farms. A medicinal drug farm is still a novelty, almost a rarity, but it is an experiment worth trying. Under cultivation many of the plants show great improvement, and the drug trade is always ready to pay higher prices for choice material.

George E. Walsh.

PRACTICAL WORMWOOD CULTURE

ECENT experiments in Connecticut have shown that wormwood can be successfully grown on land suited to corn or potatoes; that a crop can be harvested from spring-set plants the following fall; and that, if properly harvested and distilled, it will yield as high as thirty-four pounds of essential oil per acre, worth from $3 to $8 a pound wholesale, or about $12 retail.

For decades wormwood (*Artemisia absinthium*) has been cultivated in a small way in the herb gardens of the older country homes, where it

Young potted wormwood plant, showing the luxuriant, carrot-like foliage from which the oil is obtained by distillation

played an important part in the domestic pharmacopœia. It contains an essential oil and a bitter principle, both of great strength, and, on account of its stomachic and germicidal properties, it is also an essential ingredient in a number of commercial medicinal compounds. In Germany it has been cultivated for years, and German emigrants settling in Michigan have grown the plant on a commercial scale in addition to their other crops, until at present they provide the chief source of wormwood oil.

Until a few years ago Mr. W. F. Young of Springfield, Mass., obtained from Michigan the

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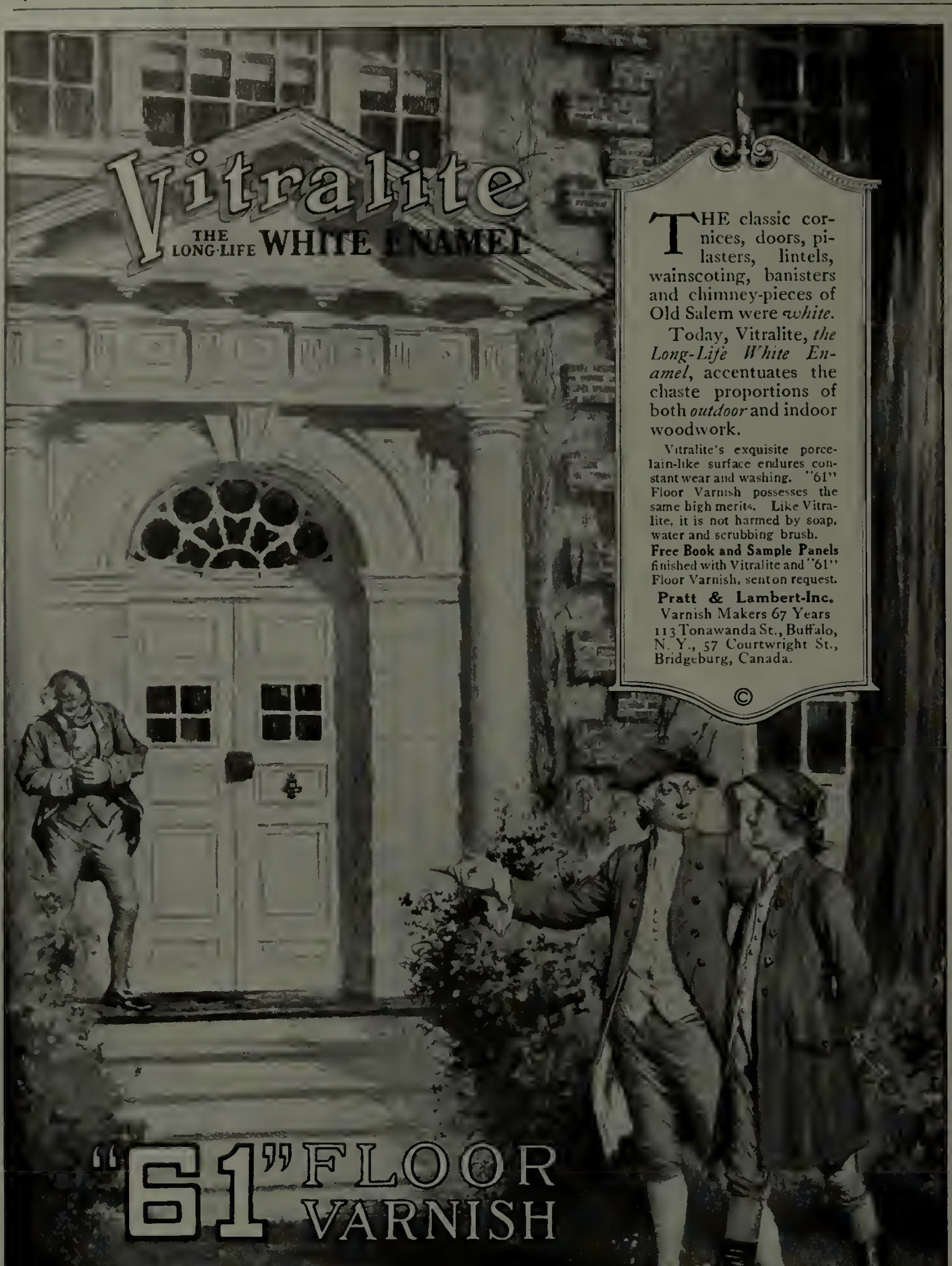

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who broke down with tuberculosis at twenty-two; fought hard for every day of life he had; lived forty-one years, half of which "contemplating the ceiling", as he styled it; and died at sixty-three having saved thousands of lives, built the most famous sanitarium in the Western world and inaugurated the open air treatment? This same man preached OPTIMISM and contended that real victory came only to those who fought with broken swords. The fellow who was fully equipped, he said, didn't have a fight on his hands but a walk-over. . . . You'd like to know more about this man.

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supply of wormwood required by his manufacturing business, but in 1913, on account of the high price of the oil and its uneven quality, he began to cultivate the plant on a small plot near his home in Enfield, Conn. His experiments were so successful that in 1915 he grew more than ten acres of wormwood which yielded oil of fine quality, noticeably free from the oil of weed seeds, which even though barely traceable in the resulting medicine, exerts a counterirritant effect.

The cultivation of the plant is much like that of any transplanted crop. The ground is given its usual plowing and top dressing of 1,000 pounds of a 3-8-4 fertilizer per acre, after which it is carefully harrowed, leveled, and smoothed with a harrow or a plank drag.

The selected seed of the wormwood is sprouted indoors in pans of sifted muck or rotten wood, then sown in the beds or coldframes in April, where for eight weeks, or until they are 6 or 8 inches high, they receive a daily watering and

The combination barn, garage, and wormwood distillery on Mr. Young's farm

frequent weedings. The frames are 60 x 9 feet, covered with cotton cloth (treated with linseed oil) which is supported on slightly curved slats every 6 feet, and which may be stretched tightly over the frames and hooked to nails around the sides, or rolled back to permit planting, watering, etc. At transplanting time the beds are given a final watering to soften the soil, the plants are pulled and placed in baskets, and then planted by machine 18 inches apart in rows 3 feet apart.

With frequent machine and hand cultivation to keep the ground entirely clear of weeds, the plants make a growth of 3 to 5 feet by August,

Inside Mr. Young's distillery, showing the steaming vats, the derrick and chain baskets by means of which the pulp is handled, the pipes for the conveyance of the oil-laden steam, and in the far corner, a vessel receiving the oil from the condensing coils

when the small yellow blossoms appear. At the exact time that the flowers mature, so that the yellow pollen can be brushed off on the hand, the plant is cut with a corn harvester drawn by three horses and operated by a gas engine.

The crop is then carried to the distillery where an ensilage cutter chops up leaves, stalks, and flowers, and blows the whole mass up into two great vats sunk almost out of sight in the floor of the distillery. The vats are 6½ feet in diameter and 7 feet deep, and when full each holds about a ton of the finely chopped herb in the three iron baskets or frames which, to facilitate the later removal of the mass, are fitted into it as it is filled, and which are subsequently lifted out with a crane and swung around to be dumped in the wagons waiting below.

When both vats are filled and the heavy covers clamped down, steam at sixty pounds' pressure is admitted through a series of pipes running under a false slatted floor or bottom. The steam entering through ¼ inch holes, gradually works up through the mass, and appears at a small petcock in the cover of the vat. As it comes faster and in greater volume, the petcock is closed and the

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Its grain is so varied and so beautiful, and its susceptibility to stains and varnishes so marked, that you can have any desired hardwood effect. Moreover, enamel paints, such as the popular white and ivory, will never become discolored.

The Country Life Permanent Exposition, Grand Central Terminal, New York City, contains a bungalow built throughout of North Carolina Pine. If opportunity affords, it will pay you to see this practical demonstration.

Beautiful Free Book. A postal today will bring you this book, filled with pictures and plans of attractive homes and many other helpful suggestions. Ask for Book No. 20.

North Carolina Pine Association
Norfolk, Virginia

steam and vapor passes through 5-inch pipes to coils of copper condensing tubes outside the building. These tubes vary from 5 inches to 1 inch in diameter, and cold water is constantly run over the coils to condense the oil-laden steam.

The product of condensation comes from the coil as a thick brown liquid at a temperature of 110 degrees, from which the green wormwood oil that rises to the surface on standing is decanted off. After two to three hours the steam carries no more oil and the vats are emptied in readiness for another load and a repetition of the process.

Harvesting a field of wormwood

The average yield of oil for the ten acres was twenty-seven pounds, though one run yielded thirty-four, due probably to the fact that that part of the crop was harvested at the exact time when the oil content of the plant was at its height. As a result of his success, Mr. Young will raise this season no less than thirty acres of wormwood.

He has also carried on experiments with Japanese peppermint and calendula, which show that these plants, too, thrive in this latitude. Probably one of the most unusual and beautiful sights in the East was the two and a half acre bed of French calendulas which grew on the Young farm last season. The seed for the first bed of these flowers was obtained in 1913 from the drug plant division of the Department of Agriculture at Washington. By careful selection and scientific breeding a very large and magnificent flower was established.

Ten acres of calend 'las, will be planted in 1916 for the sake of the blossoms, which, when dried in large wooden frames with cloth bottoms, are used in a process invented and used solely by Mr. Young for making extract of calendulum.

GEORGE D. BARTLETT.

THE LOGANBERRY OF THE NORTHWEST

HE loganberry bids fair to be crowned the king of the small fruits of western Oregon and western Washington. While strawberries, raspberries, gooseberries, and currants all reach perfection in the Northwest, the latest comer, the loganberry, will undoubtedly surpass in commercial importance many of the longer established small fruits. The acreage being set out to loganberries is steadily increasing and those who grow them report a steadily increasing demand for their product.

Though the loganberry originated in California, its cultivation in Oregon is being more extensively carried on than in its native state. Referring to the origin of the loganberry, Luther Burbank in a recent letter said: "The loganberry is a seedling which originated on Judge Logan's place at Santa Cruz. The cross is not known, as the bees performed the work, but Judge Logan supposed it was a cross between the Red Antwerp English raspberry and a wild blackberry. I saw it twenty years ago on his place. It is a rather soft and quite acid berry but, of course, a valuable new variety."

It is rather interesting to trace the history of the loganberry in view of its commercial importance to the fruitgrowers of the West. In 1880, Judge J. H. Logan of Santa Cruz started a small fruit and vegetable garden at his place on the Heights. He planted a large number of varieties of blackberries and raspberries. Desiring to secure a cross between the Texas Early, a variety of the *Rubus Villosus* and the California blackberry or *Rubus Ursinus*, he planted them in adjacent rows. Near-by he happened to plant some Red Antwerp raspberries. In August 1881 he planted the seed of the California blackberry and secured several hundred seedling plants. In the spring of

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A

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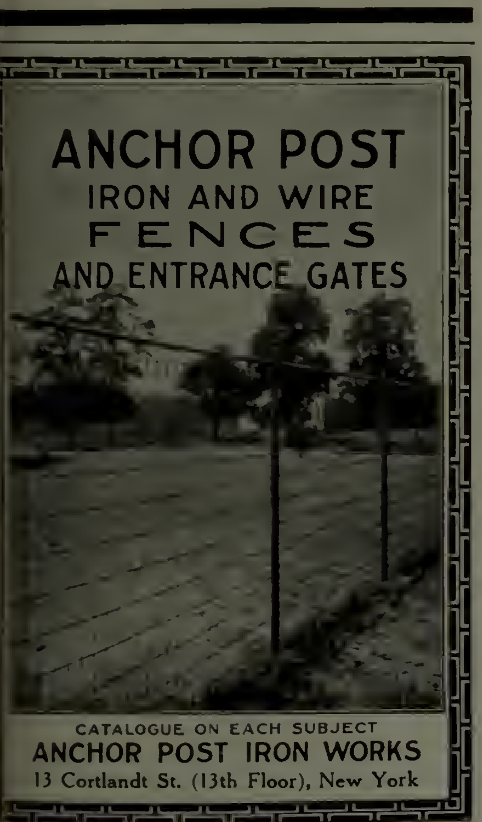

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To anyone who has a small amount of land game farming will prove profitable and pleasant—profitable because the demand for birds and eggs is much greater than the supply and good prices are paid—pleasant because it is profitable and because you not only supply your own table with an abundance of good food but also in many instances enjoy good sport from the birds you raise.

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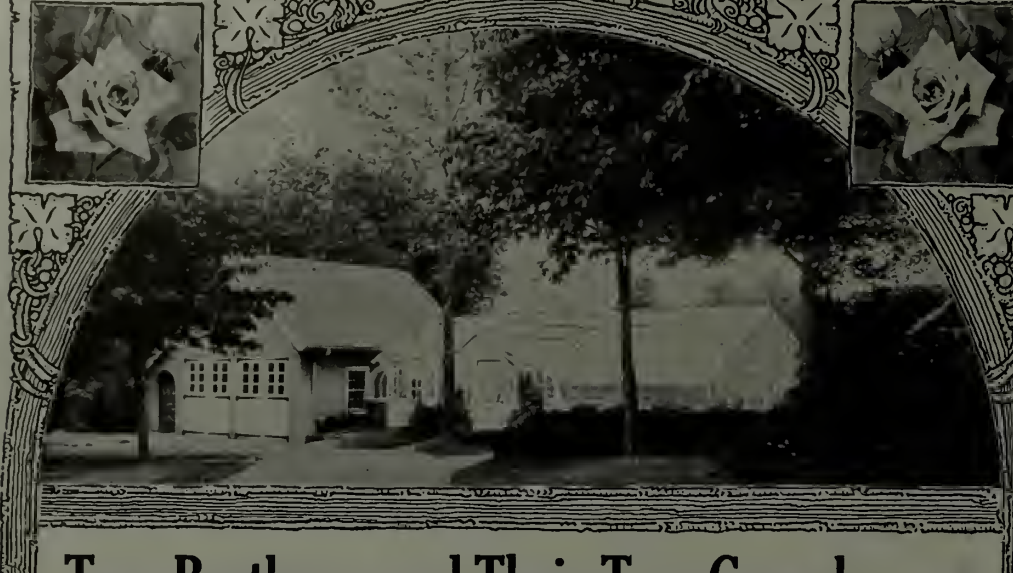
THE HORTICULTURAL DIRECTORY

These columns include the advertisements of greenhouses, trees, shrubs, seeds, plants and garden implements. Each concern is known to be reliable and is painstaking in its service to customers. For full information regarding horticulture and gardening, or to find anything not advertised here, apply to READERS' SERVICE, COUNTRY LIFE IN AMERICA, Garden City, N. Y.



Two Brothers—and Their Two Greenhouses

THEIR names are Pilling, Wm. S. and C. J. Both live in Philadelphia's suburbs. One had rather definite ideas of the kind of garage he wanted and the greenhouse to adjoin it. He had the genuine joy of developing his dream ideas on paper; while it was our privilege to convert his greenhouse dream into a reality.

The result was so satisfactory that his brother asked us to practically duplicate the greenhouse for him.

Both these houses are shown in our new catalog—both are fully described, including a clear little plan alongside. Perhaps their greenhouse solution may be yours. Send for the catalog and see.

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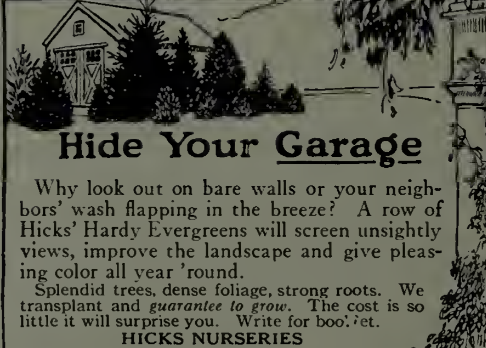

Hidden Decay

may now be ruining your finest trees!

To place your trust in the *appearance* of your trees is dangerous. The tree in the picture *seemed* strong and healthy; its owner thought it was perfect. But when a Davey Tree Surgeon examined it, he saw at once that its condition was serious. A moment's work with the only instrument he had with him (an umbrella), revealed the dangerous stage of decay shown in picture No. 2. It was so utterly weakened that its destruction would have been a matter only of a short time.

What is the real condition of YOUR trees? Are hidden decay and other insidious agents threatening their destruction? Let—

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find out—let them tell you the real condition and needs of your trees without charge. Tree surgery as they practice it is scientifically accurate and mechanically perfect. It is *safe* because it saves trees without experiment. It endures. The U. S. Government after exhaustive investigation, chose Davey experts only as good enough for work on the Capitol trees. Every year of neglect adds 10% to 25% to the cost of saving trees. Have your trees examined *now*. Write to-day for free examination and booklet illustrating Davey Tree Surgery.

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Have your trees examined NOW!

1883 he happened to notice that one of his seedlings resembled a raspberry more than a blackberry. When the berries ripened he found he had a distinct variety of berry. In writing of the loganberry, Judge Logan says: "The loganberry possesses merits of the highest order for pies, shortcakes, jam, and jelly. It stands alone as a fresh fruit. The loganberry, in California Coast counties usually begins to ripen about May 15th and the principal crop is gone by July 15th. In the states of Oregon and Washington, however, it fruits at least a month later, and it is there showing a vigor and permanancy, size of fruit, and bearing qualities not found in California."

The discovery that the loganberry can be evaporated retaining all the good qualities of the fresh fruit greatly stimulated the loganberry industry in the Northwest. The further favorable reception given by the public to the loganberry juice as a summer drink has proved another favorable factor in increasing the present large

The berries are set eight feet apart each way, about 680 vines being planted to the acre

acreage in the Willamette Valley and in the Puget Sound country.

Prior to the introduction of evaporation, there was usually a slump in the prices of the fresh fruit, as the market was limited to the large cities in the Northwest such as Portland, Tacoma, Seattle, and Spokane, but with the introduction of the dried loganberry the market was extended and the cost of transportation reduced so that it is feasible to ship to any part of the United States or Europe.

The seedlings from the loganberry plants are as a rule of no value. The fruit is small and the berry bright red like a raspberry. The berries are propagated from cuttings. In the fall the tips of the new growth are dropped on the ground and earth is placed on the tip. The following spring, usually about the first of March, the new shoots are cut and set out. Usually the rows are

The picking of the berries furnishes profitable employment to hundreds of families

planted about eight feet apart and the cuttings are planted eight feet apart in the row. At intervals of about eighteen to twenty feet cedar posts are set deeply in the ground and three strands of wire are strung. The top wire is usually No. 12 galvanized. A foot and a half below the top wire a No. 14 wire is strung, and another one about the same distance below the second wire. Before planting the berries the field is well worked, and frequently potash in the form of ashes is scattered and harrowed in. The berries should be well cultivated up to the time of bearing. At the end of the season the vines that produced are cut off and burned, and the new growth trained on the wires. Vetch or alfalfa is planted between the rows and plowed under in the spring.

If properly cultivated and well cared for the

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The old fashioned white garden lily, perfectly hardy, blooming in the open ground in June. The many snow white flowers, borne on a stem 3 to 4 feet high, make this lily most attractive. This variety should be planted in September.

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Farr's Peonies

THE ARISTOCRATS OF THE HARDY GARDEN

EVERYONE loves the Peony, and yet how few really know the *modern* Peony. It is the glory of June, surpassing the rhododendron when planted in great masses, rivalling the rose in fragrance and delicacy of color. I became so infatuated with Peonies that I could not be satisfied until I had them all—and yet my collection, large as it is, containing upwards of 500 varieties, includes only those of known pedigree and of distinct merit.

Only those who have seen these varieties can have any conception of their beauty. They will never become common, those who obtain a collection of these rare sorts will become the possessor of an asset of distinct worth that will increase in value from year to year. My peonies were awarded the American Peony Society's gold medal for the largest and best collection of varieties at Chicago in 1914 and in New York City in 1916.

For the benefit of those who wish to acquire a really fine collection of Peonies, I have made a personal selection of some of the very best (regardless of price) which I offer in the following four collections, each containing a wide range of type and color.

No. 1 The "Royal" Collection

Twelve of rarest and most beautiful varieties in my whole collection.

Alsace Lorraine. Lem. Cream white, deepening to pale yellow, distinct and beautiful. $4.[illegible]

Kelway's Queen. Kel. Uniform mauve rose, unsurpassed in loveliness of form and color. $6.[illegible]

Lafayette. Des. Light violet, rose washed white, exceedingly fragrant. $[illegible]

Mme. Emile Lemoine. Lem. Large globular milk white. $[illegible]

Maud L. Richardson. Hollis. Pale lilac rose. $3.[illegible]

Milton Hill. Rich. Distinct shade of pure lilac rose, one of the best. $[illegible]

M. Martin Cahuzac. Des. Dark purple garnet with black reflex, the darkest of all. $[illegible]

Primevere. Lem. Guards creamy white, splashed crimson; center, bright sulphur yellow. $[illegible]

Rosa Bonheur. Des. Most perfectly formed, with wide imbricated petals, clear violet rose. $5.[illegible]

Sarah Bernhardt. Lem. Uniform mauve rose, silver tipped. $1.00.

Solange. Lem. Delicate lilac white, deepening toward the center to [illegible] shadings, immense bloom. $7.50.

Therese. Des. Immense bloom, violet rose shading to white in the center. $5.[illegible]

The complete Royal Collection, retailing at $53.00 for $45.00.

No. 2 The "Aristocrat" Collection

Twelve beautiful varieties, each an aristocrat among peonies.

Adolphe Rousseau. D. & M. Dark purple garnet, one of the darkest early peonies. $2.00.

Albatre. Crousse. Milk white, shaded ivory; center faintly suffused lilac rose, globular rose type. $2.[illegible]

Albert Crousse. Cr. Rose white flecked crimson, fragrant. $1.50.

Armandine Mechin. Mech. Distinct brilliant crimson. $1.50.

George Washington. Hollis. Intense fiery crimson; distinct. $1.50.

Grandiflora. Richardson. Delicate shell pink, water lily form; very late, the finest late pink. $2.[illegible]

La Tendresse. Cr. Uniform milk white, fragrant, extra. $2.00.

L'Indespensable. Sold by many as Eugene Verdier. Lilac white deepening in center to pale violet rose. $1.00.

Mlle. Rousseau. Cr. Milk white guards, center petals splashed lilac white. $1.5[illegible]

Mme. Furel. Cr. Very large clear violet rose, very fragrant. $1.00.

Simonne Chevalier. Des. Pale lilac rose; cream white collar; very fragrant. $2.00.

Venus. Kelway. Pale hydrangea pink; extra fragrant. $2.00.

The complete Aristocrat Collection, retailing at $20.00 for $17.00.

No. 3 The "Premier" Collection

Twelve peonies of the highest order of merit at moderate prices.

Boule de Neige. Calot. Milk white center flecked crimson. 75 cts.

Duc de Wellington. Cal. White guards with sulphur center. 50 cts.

Don Juan. Kel. Dark carmine amaranth, or claret; distinct. $1.00.

Felix Crousse. Cr. Brilliant red, typical bomb shape; one of the best reds. 75 cts.

La Tulipe. Cal. Lilac white, outer petals, striped crimson. 75 cts.

Mme. Muyssart. Very large rose type; uniform solferino red tipped silver; fine late variety. 75 cts.

Mme. Montot. Cr. Tyrian rose, slightly silver tipped; fragrant. 50 cts.

Mme. Thouvenin. Cr. Large globular bomb; pure mauve. $1.00.

Mlle. Leonie Calot. Cal. Delicate rose white; distinct shade. 75 cts.

Marechal Vaillant. Cal. Immense globular bloom; dark mauve pink. 50 cts.

Marie Lemoine. Cal. Large beautiful pure white. Very late. 75 cts.

Mons. Jules Elie. Cr. Immense high crown shaped bloom; soft lilac rose, very fragrant. Extra fine. $1.00.

The complete Premier Collection, retailing at $9, for $7.50.

No. 4 Farr's "Special" Collection

Twelve beautiful varieties at small cost for the beginner.

Alexandriana. Cal. Light violet-rose, fragrant; upright. 50 cts.

Arsene Meuret. Verd. Clear violet-rose, tipped silver. Free bloomer. [illegible] cts.

Comte de Paris. Gr. Guards and collar violet-rose, crown flecked crimson. [illegible] cts.

Candidissima. Cal. Pure white, with sulphur center. 50 cts.

Duchesse de Nemours. Cal. Pure white crown, sulphur collar. Fragrant. [illegible] cts.

Edulis Superba. Lemon. Bright mauve pink, collar mixed with lilac. 50 cts.

Faust. Miel. Guard and crown hydrangea-pink fading to lilac white. 35 cts.

Festiva Maxima. Miel. White center, flecked crimson. Best variety for cutting. 50 cts.

Gloire de Chenonceaux. Mech. Solferino-red, tipped silver in older flowers. $1.00.

Lahobas. Japanese. Dark crimson, center petals tipped yellow. 50 cts.

La Coquette. Gr. Guards and crown light pink, collar rose white. 50 cts.

Madame Calot. Miel. Hydrangea-pink, collar tinted silver. 50 cts.

The complete Special Collection, retailing at $6.35 for $5.00.

The "Royal" and "Aristocrat" collections, $57.00. The "Royal," "Aristocrat," and "Premier" collections, $65.00. The "Premier" and Farr's "Special" collections, $12.00. The four collections, containing 48 splendid varieties, $70.00.

All the above varieties, and hundreds of others in my complete collection, at Wyomissing, are fully described in

Farr's Hardy Plant Specialties Money cannot buy a treatise on Peonies and Iris so complete and authoritative, because no other book of this character is in existence—yet I will mail you a copy free if you will send me your name and address and mention Country Life in America for I want you to know Peonies as I know them.

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I would like every garden lover to have my 40 page catalog, "Flowers for the Hardy Garden." It is not a dreary price list, but a series of descriptions (taken from the growing plants) at once as vivid and accurate as I can make them. For each class there are suggestive hints on cultivation and color arrangement, which are further supplemented by a detailed classification of color. It is free for the asking and will be sent promptly upon request.

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It pays to use Horsford's cold weather plants in all climates where winters are severe. His list is the result of thirty years' experimenting with the kinds that can stand the coldest weather. You can't afford to use tender plants in hardy climates. Even though you don't mind the cost, you lose much in time and disappointment. Horsford's lists (spring and fall) offer **Shrubs, Trees, Vines, Bulbs, Wild Flowers, Hardy Ferns, etc.,** about a thousand kinds. Many of these, set in season, would give better returns next year than if planting is postponed until spring. Don't fail to send for these lists before placing orders. Send now and ask for Catalogue M.

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JOSEPH H. DODSON, 704 Harrison Ave., Kankakee, Ill.
Mr. Dodson is a director of the Illinois Audubon Society 12

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DOUBLEDAY, PAGE & COMPANY Garden City, New York

average yield should be about five tons to the acre. The loganberries are sold fresh for local demand and unless the price is right the larger growers evaporate their own fruit or dispose of it through the local fruit-growers' association. The berries are subjected to a temperature of 140 degrees for twenty-four hours, and it requires a cord of wood to dry a ton of berries. It requires approximately five pounds of fresh berries to make one pound of evaporated fruit.

The average price of good loganberry land in the Willamette Valley is about $150 an acre. To this must be added at least $100 more per acre to pay for the loganberry vines and to prepare the ground, put in the posts and wire, and cultivate the ground. About 680 vines are planted to the acre. About every ten years the posts must be gone over and any poor ones and some of the wire replaced.

The picking of the berries furnishes profitable employment for hundreds of families each summer when the children are out of school and can help add to the family income. In good years the growers have realized from $100 to $250 per acre from the loganberry crop, so it looks as though the loganberry had come to stay.

While the loganberry originated in California, two of the first growers in Oregon were Mr. Lafollette of Salem and Mr. Aspinwall of Brooks, Ore. Brit Aspinwall discovered the process of drying the loganberries and put up the first ones on the market. C. J. Pugh of Falls City, Ore., improvised a press and prepared and marketed the first loganberry juice. To-day there are two companies located in the Willamette Valley with a capacity of 200,000 gallons annually, as well as several smaller companies. FRED LOCKLEY.

THE LIFE HISTORY OF COMMON MOTHS

THE average person thinks little and perhaps knows less of the everyday round of nature. Such a common creature as the moth stands for a tremendously fascinating life history. We all know some one or two phases of its life but, its entire and complete story is not so generally known.

Take such a cocoon as those pictured in May COUNTRY LIFE IN AMERICA, and hold it in your hand. Can you tell whether or not life lies within its wrappings, what is its sex, what will happen during the life of the moth, and approximately how long that life is to be?

The cecropia cocoons, for example, are found on maple, wild cherry, and willows; to be sure they may be on any of our common forest trees, but those mentioned seem to be the favorite ones for this caterpillar of the cecropia moth to choose for its work of cocoon making. Hold a cocoon in your hand, and if it feels heavy and shakes—not rattles—in its case you may be sure indeed that life exists. But if you hear a dry, hard rattle, then no life is within. The heaviest of the cocoons usually are those of the female moths, while the lighter weight ones enclose the male forms. This is not surprising since the female form is heavy with eggs. The cocoon case holding a male moth is smaller as well as lighter.

During the month of May vigorous, insistent life throbs within the cocoon; not that life has not existed before, but then the life energy was expended in those changes which attended that great miracle by which a big green caterpillar became finally a beautiful brown moth. Think of the expenditure of latent and potential energy! During May and into early June moths are coming out, and at first they are weak and weary from their struggles. It seems incredible that a moth with a wing spread often six inches in length could force its way out of the cocoon through a hole no larger than the head of a pin. The wings, it is true, are not full-sized when the moth emerges, but these develop, increasing in size and strength by exercise. This is an interesting performance; the exercising of the wings is do[ne] by a fanning movement which not only increase[s] the strength of the wings but dries them as we[ll]. For during the struggle which attends the moth's entry into the outer world a milky fluid is exude[d] and the moth comes forth weak, bedraggled, not fully formed. It may take hours to dry off. The first instinct of the male moth is to mat[e]. A long time ago I remember seeing a female mot[h] caught between two window panes. In not mor[e] than fifteen minutes there were at least a doz[en] male moths on the outer pane beating their w[ings]

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If you have a country, suburban or seashore home you wish to sell or rent, list it without delay, in our Real Estate Directory File. All that is necessary for you to do is to send a complete description, state price, terms, etc. There is no charge for this listing—not even in the event of a sale or rental.

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Manager Real Estate Department, Country Life in America

The National Real Estate Medium

Garden City, L. I. 11 W. 32nd St. N. Y.

"A Gem Unset"
View of Range of LUTTON Greenhouses built for Galen L. Stone, Esq., at Marion, Mass., taken just after completion in 1913

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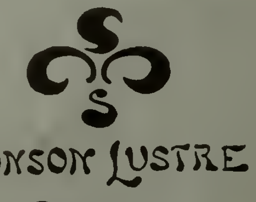

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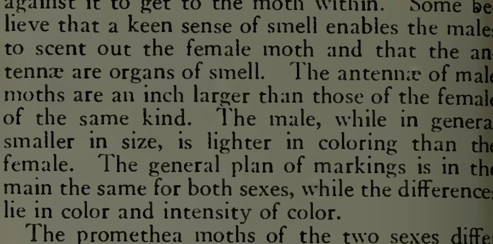

against it to get to the moth within. Some believe that a keen sense of smell enables the males to scent out the female moth and that the antennæ are organs of smell. The antennæ of male moths are an inch larger than those of the female of the same kind. The male, while in general smaller in size, is lighter in coloring than the female. The general plan of markings is in the main the same for both sexes, while the differences lie in color and intensity of color.

The promethea moths of the two sexes differ greatly. The body of the female moth is inflated with eggs often to the number of one hundred. The moth is most uncomfortable until she deposits her eggs, which she lays on under surfaces of leaves, twigs, bark, etc. Moths often do no feeding at all during their lives, which extend over periods of from a few hours to several days in length. Out of the eggs the caterpillars are hatched. They eat throughout the summer, becoming quite enormous in size in late August and September, when they positively gorge themselves. Now the fat, overfed, sluggish caterpillars crawl into some suitable place to make their cocoons. If you wish to see them do this work follow these directions: take a box or jar, covering it with wire screening, for purposes of observation and air; place a layer of an inch or two of soil in the prison. Here is to be placed and confined the unlucky caterpillars. You should put into the container some of the foliage upon which you found your victim. If it was found out in the open and on no foliage, as it should have been, then try feeding tests with any tree or weed foliage common to the section.

It is well to add a piece of well-rotted wood, for some of the caterpillars will weave wood pulp into their cocoons. I once had the caterpillar of a polyphemus moth in a quart preserve jar, and in with it was a bit of wood which the caterpillar pulled apart and wove neatly and strongly into its cocoon wall, that is, the outer covering of the cocoon case. The common hairy caterpillars use their own hairs with which to make a very loose, shiftless sort of case. E. E. S.

PROFITABLE PRACTICES WITH OATS

ANY business involving a multitude of interrelated details is proof of the wisdom of giving careful attention to those same insignificant, apparently unimportant, factors. But none advances more convincing testimony than the business of farming when put under the microscope of scientific investigation and analysis. Consider the comparatively simple operation of raising oats. One conceives of it as requiring at most four steps, viz. fitting the soil, sowing the seed, and harvesting and threshing the crop. But these are not the cut-and-dried, empirical operations they sound. The Ohio Experiment Station has shown, for instance, that although it is a common practice to sow the seed on unprepared land so as to get it planted as early as possible in the spring (which is very desirable), nevertheless, in spite of the attendant delay, disking the soil before planting increases the yield by an average of 6.26 bushels per acre. Plowing, however, results in an increase of only 1.37 bushels.

Going a step farther, the Station has found that as the amount of seed sown per acre is increased above four pecks, the resulting yield of grain increases, *until* 11 pounds is reached, when greater increase gives a lessened yield. The differences between the yields from 9, 10, and 11 pounds are, however, so slight, that it is reasonable to conclude that the least of these, or at any rate 10 pounds per acre, is the best all round amount—for conditions such as those encountered in Ohio.

One other factor was similarly investigated, namely the superiority of selected large seed over selected small and unscreened seed. As every one familiar with the principles of plant breeding would expect, the continued selection and use of large seed gave a noticeably increased yield over that resulting from the use of small seed. However, the difference between the result following the use of large and of unscreened seed was so slight that the futility of the farmer going to the trouble of rescreening his seed after buying it was clearly shown. Yet *theoretically*, the more carefully the best is separated away from the poorer, the better. The point is that the results must justify and more than balance the added expense of the extra effort before the work can be called profitable. E. L. D. S.

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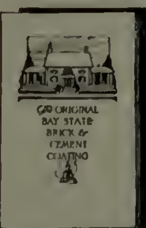

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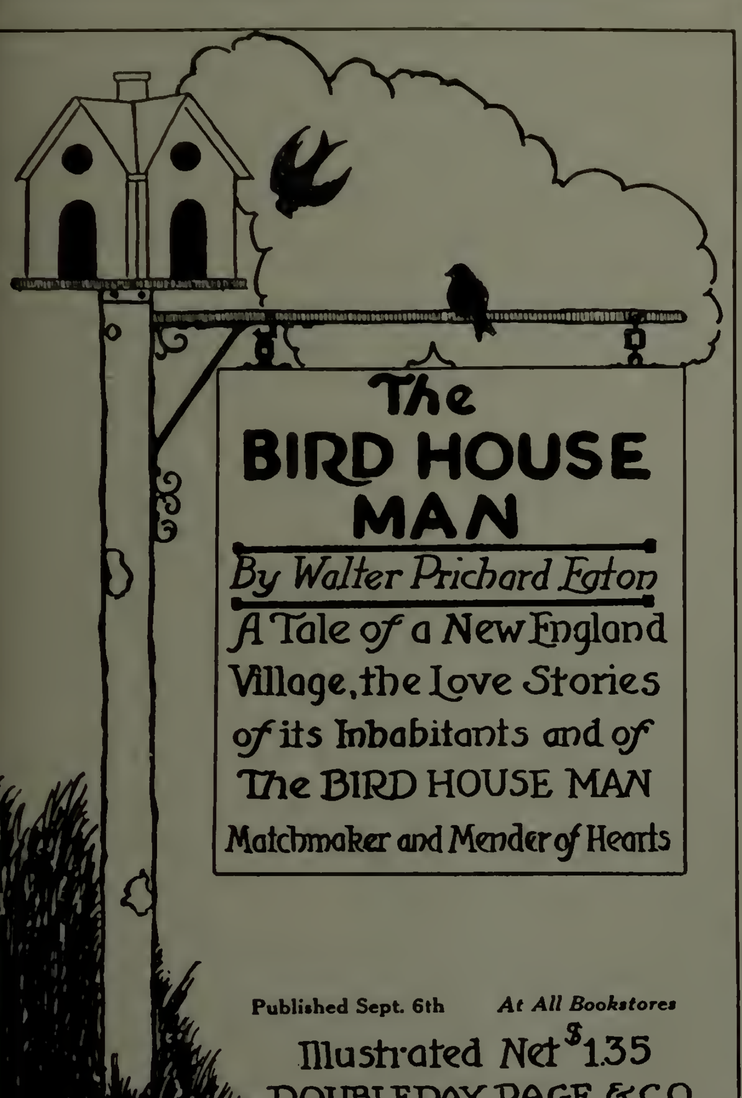

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THE MOTOR TRUCK ON THE COUNTRY ESTATE

By ALEXANDER JOHNSTON

THERE are somewhat more than ten thousand country estates in America, each of which could profitably support a motor truck, and some of them more than one. At the present time not a tithe of this number is so equipped. At first sight the motor truck does not seem at all essential to the welfare of the country estate as distinguished from the farm, but analysis fails to confirm the first impression. The fact that the country estate is an avocation to its owner, and not a vocation, tends to blind us to the truth that it must be administered in a purely utilitarian manner. This may be done, as usually happens, by a substitute for the owner, who is thus free to enjoy the delights of his property minus the cares, but the fact remains that the estate must be run as a practical business proposition. If this were not done the owner would shortly find himself involved in a chaos wherein enjoyment would be out of the question.

We may assume that practically all country estates have motor equipment of the passenger carrying type. In addition, the work of the property—the plowing, seeding, cultivating, the freight transportation, no inconsiderable item when much entertaining is done—is carried on by means of horses, varying in number with the size of the place and its character. Two horses will be the fewest that any country estate will employ, and even this inconsiderable animal equipment may be profitably replaced by a commercial motor vehicle of the lighter type.

The common idea that motor truck transportation is applicable only where heavy and continuous loads are to be carried is altogether wrong. The motor truck will profitably replace horses in practically any line because when the truck is idle it ceases to be an expense. The only fixed charge on the motor vehicle which continues when said vehicle is not in use is the interest on the investment; fuel, depreciation, etc., all cease automatically when the truck stops operating. On the other hand, friend horse continues to eat in sickness or in health, in idleness or in labor.

Motor trucks are built in sizes ranging from 500 pounds to five or more tons. Between these extremes every form of business activity will find a size and type which it may utilize in place of horses with eminently satisfactory results from the financial point of view.

The correct selection in the matter of type and size of truck is vitally important. We hear occasionally of firms which have gone back to horses after having tried out motor transportation. In every case of this sort the fault has been with the individual and not with the transportation method. Wrong types may have been selected, or sizes not adapted to the company's business. If a dry-goods concern attempted to deliver its light wares with a coal truck, it would meet with derision, and yet mistakes almost as ridiculous are constantly being made by companies in effecting the exchange from horse to motor transportation. We dwell upon this simply because there is danger that the country estate may make similar errors in choosing its motor truck or trucks.

The casual beholder, seeing that the country estate is maintained primarily for the pleasure of one person or family, forgets that behind the outward show, the luxurious idleness of the persons most in evidence about the place, there is a very respectable business organization, ranging from a farmer and a couple of hands, to a staff embodying various agricultural experts, bookkeepers, and a retinue of lesser employees. Behind the pleasing exterior are the practical works which make it all possible.

The average owner of a country estate is a hard-headed business man who has made his money in the strenuous battle of business life. He is not the sort of person to maintain a big place without expecting it to pay its way, at least in part. Any deficit he probably charges off against his enjoyment of a show place, but he would certainly be glad to make the account balance if such a thing were possible. He may utilize his acres for general farming, selling his produce quite as cannily as the farmer who depends on his place for a living; or he may have some special hobby which he makes yield a certain income against the expense of riding it. One can think of several estates belonging to wealthy men, where fancy chickens are raised and sold on an entirely profitable basis. From the blooded cows of a great Westchester estate comes quite the finest milk that New York can purchase. We know of a Wall Street broker who raises pedigreed pigs on his Jersey farm and never allows the place to cost him anything. Flocks of fancy sheep are the profitable hobby of numerous country estate owners, whose mutton commands equally fancy prices.

We may take it then that the country estate is fundamentally a commercial proposition, even though it may not return an actual profit to its owner. Products are raised for sale and this means freight haulage, which is most economically accomplished by motor trucks. Further, the needs of the household of a country estate are by no means as simple as those of the ordinary farm family. To supply the higher standards of living in the country house means additional carting, and again the motor truck is indicated. Lastly the country estate is generally located on a good road, where the motor truck may be operated to the best advantage.

From statistics compiled by the United States Department of Agriculture, we know that it costs 23 cents per ton mile to move, by horse transportation, the billions of tons of farm products raised year by year in this country. We know that motor trucks running over improved roads will move these products at an average cost of 3 or 4 cents per ton mile. These figures apply just the same whether the origin of the carted products is a country estate or a plain, unvarnished farm. And that, in a nutshell, is the whole case for the motor truck.

But the advantages of the motor truck by no means end with its reduction of hauling costs. By reason of its great radius of action, the motor vehicle opens remarkable possibilities of direct marketing with consequent elimination of the cost of double handling of its load. It is entirely possible, for instance, to send a load of apples to market twenty miles from the orchard in less time than it would take to haul it to the railway station with a horse-drawn equipage.

The matter of eliminating intermediate handling of agricultural produce is an important one. In an ordinary shipment from farm to consumer no fewer than ten intermediate handlings are involved. In an age that prattles of efficiency this would be ludicrous if it were not serious. All perishable produce suffers in handling, and much of it is actually destroyed in passing from hand to careless hand.

Let us glance briefly at some specific instances in which the motor truck has been used successfully on country estates. I have in mind a far Western country estate of some 500 acres, owned by a banker in a coast city. This place has been placed on a paying basis solely by a motor truck, a three-ton vehicle of the better class. The estate is somewhat peculiar in that in addition to the home place it has two farms, located, one five miles east and the other ten miles west from the homestead. The estate proper has as its commercial factor a herd of 300 blooded Jerseys, from which some thousands of quarts of milk are daily despatched to the coast cities. The railway station is a trifle more than four miles away from the main house. From the two farms are drawn the produce necessary to maintain the extensive establishment.

All this makes a fairly sizeable hauling problem. The milk from the home place must be carted every day, and the seasonal moving of crops from the two farms adds a great amount of temporary but intense activity. Then, too, much incidental hauling is inevitable on an establishment of this sort.

Formerly it took fourteen horses to carry on the work of the whole estate. With the purchase of the three-ton truck the horse equipment has been cut down to a team of horses for each farm and these are used for purely agricultural purposes—plowing, cultivating, and harvesting. The truck absolutely takes care of all the hauling.

Now, to begin with, the price of ten horses at present day rates would practically pay for the motor truck. The cost of feeding, shoeing, and caring for the animals mounts up to a tidy sum in the course of a year. But the increased efficiency of the truck is the biggest item in the list.

The manager of this estate recently stated that it had been impossible fully to cultivate the two farms before the coming of the truck, while inability promptly to move the crops had prevented any profit from what had been grown. Aside from furnishing a certain amount of produce for the consumption of the home estate, the farms were actually a liability. With the truck in service the farms had been placed on a self-supporting basis besides contributing to the maintenance of the home place.

It may be argued that this case is peculiarly favorable to the truck, since the milk business gives it an unfailing daily task. That is undoubtedly true, but on the other hand it would be an unusual day on any country estate when no useful work could be found for the vehicle—and remember always that when the truck is idle practically all expenses cease.

Up in Putnam County, New York, there is a country estate comprising between fifty and sixty acres. A goodly portion of this acreage is taken up with fancy apple orchards. Until a year ago four horses were maintained on this place to care for the farm work and hauling. The owner of the place is a well known New Yorker; his garage contains a number of motor cars, and two years ago, by way of experiment, a one-ton truck was added.

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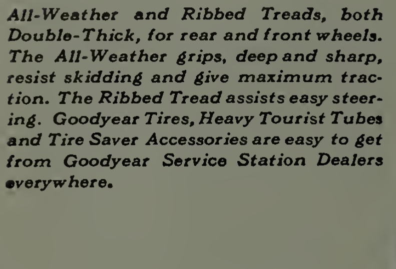

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experimental stage. Two of the horses had been sold. The truck now does all the hauling, and last year it moved the apple crop in less than a quarter of the time that it had taken the horse-drawn outfits to do it. The manager of this estate has used the truck for spreading manure and even sent it into a fifteen-acre lot to seed it down. Pulling a disk seeder, the truck finished the job in a day, which the horses had always taken two and a half days to accomplish.

"I had expected to have a good deal of trouble in keeping the truck busy," said the manager of this estate, "but even in off seasons there is always something for the vehicle to do. A run to the village for freight or trunks from New York or groceries or other supplies—the truck is always ready. I get dozens of little jobs done that would be neglected if we had to rely on horses. Last fall I mounted my spraying outfit on the truck and sprayed the orchards with it in a quarter the time it used to take, and then I used it for collecting the dead wood after pruning. That truck has mighty few idle moments; we manage to keep it going all day long."

In central New Jersey there is a small country estate of about fifteen acres, much of it in lawns, which has reached a very high state of perfection. There is not a horse used on this place; even the lawn mower is driven by motor. In addition to the pleasure cars, there is a small motor truck which is used as a general utility vehicle. All the supplies for the use of the considerable household are brought from the railway, which is about two miles distant. The estate is managed by a head gardener, who asserts that his light truck has abundantly justified itself in spite of the fact that there is no commercial side to this place at all; nothing is raised for sale.

We have considered the work of the motor truck on three widely different types of country estates, the big fellow of five hundred acres, the ordinary place of fifty acres and the small place of fifteen acres of purely ornamental grounds. On each of them it has justified its employment on the testimony of those responsible for it.

There is scarcely a country place in America—and this includes farms—that would not benefit by the employment of the truck idea. It is not always possible for the small farm to employ truck power, but it may utilize the truck principle as embodied in the trailer, which will carry remarkably heavy draw loads behind the abundant power of the ordinary touring car or runabout, a million of which, statisticians tell us, are owned by farmers. Every one of these rural motorists can use a trailer behind his car to his eternal profit, solving his transportation problem and cutting his hauling costs by 75 per cent.

Exact figures on the comparative cost of motor and horse power on the country estate are not available. It is possible, however, to arrive at accurate estimates on the basis of well established factors.

Let us assume that the motor truck employed on the country estate costs $1,500. A number of vehicles adapted to rural service may be had at that figure. We must charge off $75 per year as interest on the investment. Secondly we must debit $300 against the inevitable depreciation. Running expenses, gasolene, oil, tires, and replacements will average another $300 per annum. It is presumed that the truck will be driven by an ordinary hand and not by a chauffeur, so that $300 will be enough to charge off against driver's wages. This gives us a total yearly bill against the truck of $975.

On the other hand good farm horses to-day are selling as high as $250 apiece. Under any sort of favorable conditions the motor truck will do the work of six horses, which gives us a $1,500 saving to offset the cost of the truck. It costs pretty close to $150 a year to keep a work horse, to which must be added $12.50 interest on the investment. With six of the animals this gives us the $975, which we have estimated as the yearly expense charge against the motor truck. But the use of the truck will mean a saving of two drivers at $300 annual wage and this gives us a $600 credit in favor of the motor vehicle.

No numerical estimates, however, can possibly show the really vital advantages of the motor truck over the very best of animal transportation. In its flexibility, its celerity, its saving of effort and time and labor, lies its infinite superiority. On the country estate, the fundamental idea of which is to give pleasure to its owner, which can

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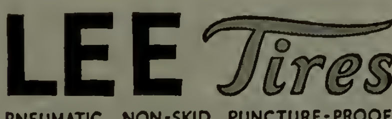

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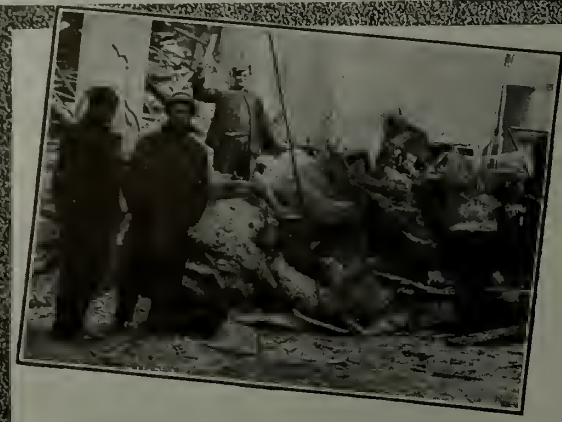

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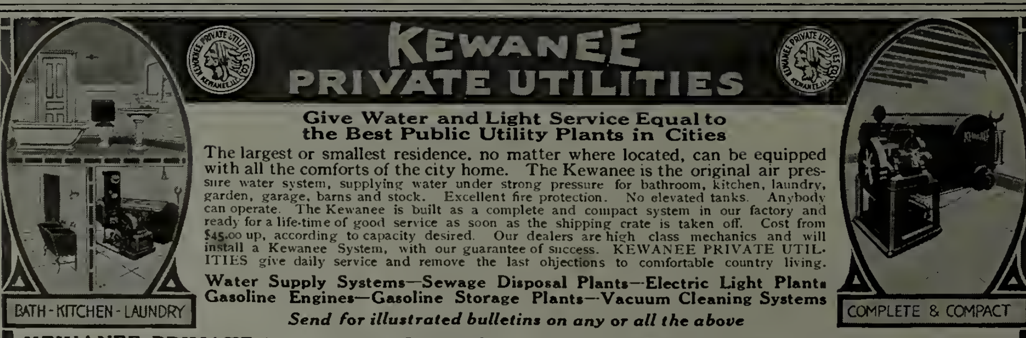

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IN BEHALF OF FISHES

ONLY a few of the creatures of the waters have names that do them justice. The whale, for example, may congratulate himself on a marvelous piece of good fortune. How did it ever happen that he was not named elephantfish? The seal played in rare luck, too, in that he is not called a sea rat. Probably the only reason why the gar isn't known as a U-boat fish is that U-boats are comparatively new. Most fishes are known by mere metaphors, as "sheepshead," "catfish," or "spade." It is shocking to reflect upon the haste with which man must have christened the great majority of the citizenry of the deep—after animals and birds, tools and occupations, and even by such picayune accidents of life as habits (the "sucker," the "never-bite"), a habitat (mud!), a sound, a taste, or an odor. Yes, even a fancied odor. What right has man to describe a clean, respectable moving creature that hath life as a "smelt"? We sit in childish judgment upon fishes' characters and slander them without qualms. One we call an angel fish. Others, whose ethical code, for all we know, is fully as lofty, we catalogue as scamps, hellbinders, or hogs. (I share the common prejudice against the devilfish, and pass that name without further comment.)

A savage might be justified in speaking of a fish as a cat, a dog, a lion, a wolf, a squirrel, a cow, a parrot, or a robin; but one has a right to expect something a little less primitive in nomenclature from races of civilized men. "Red-winged sea robin" has a touch of poetry in it. Let that stand. But have we just cause to impugn a fish's sanity by calling him a squirrel? Or to slander him with such labels as toad-fish or red hog? How crassly gastronomic is man's view of finny creation when he speaks of a mutton fish or a pork! By what right does he presume to ascribe occupations to the peoples of the water-world, writing them down as ale-wives, doctorfish, sergeant majors, schoolmasters, Beau Gregorys, or cock-eyed pilots? How disgusting it must be to a blue-blooded fish to learn that he is named after one of man's hand-made possessions—a file, a box, a pin, a ladder, a trunk, a lancet, a drum, a skate, a pike, a bellows. Were there not enough good nouns, such as minnow, bass, and cod, to go around? Or was the christener simply in a hurry?

We hire bright young women at fabulous salaries to make up names for Pullman sleeping cars, but the best we can do for a wonderfully dainty creature that hath life is to call him a ladderfish. We descend even to the absurdity of describing a beautiful habitant of the tropic seas as a blue-striped grunt. Grunt, indeed! Such a fish has a perfect right to hide himself forever from man's sight and ken and become an indigo wail or a blood-red growl.

Such a system of christening is a crying shame. A fish commission ought to be appointed to set it right.

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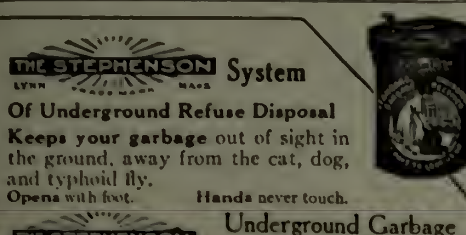

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GALLS AND THE INSECTS WHICH PRODUCE THEM

GALL-PRODUCING insects are of many kinds, each having its favorite tree or plant on which to work and its peculiar way of producing galls. For example, I have observed that the blackberry cane gall chooses nothing but the blackberry or similar plants; the aggregate gall on the black-jack; the leaf gall on the hickory and other trees. The most abundant in this country are perhaps the midges which work on the twigs of the Spanish oak.

When one begins to search for information on the subject of galls and gall-producing insects, he is at once struck by the scarcity of the available literature. Well known writers on other insects speak sparingly of the gall midges, and then often in uncertain sentences. For five years I have studied galls and still I confess that I know very little about them. Just about the time I am quite ready to satisfy my mind on a certain peculiarity, something puzzling again bobs up, and then I realize the shallowness of my knowledge. During the last five years, I have hatched and reared insects from five different species. The last for the year 1915 was one that we now have under consideration called *Andricus corniginus*. These galls are most abundant in our country on the Spanish oaks, where they are conspicuous in winter when the trees are bare. It is interesting to note the various opinions advanced by the average spectator as to the probable cause of galls, and what they are.

A near view of two galls, on the lower one of which is a woody growth protruding from the orifice made by the insect

The galls of the oak are enlarged, distorted woody cells, first caused by the introduction of the egg into the cambium layer on the young twig. The eggs are covered by a stimulus which at once intercepts the downward flow of sap and protoplasm, causing an unnatural and enlarged growth much resembling a cancer on the human body.

The insect which is responsible, and which is capable of producing the gall on the Spanish oak, measures $\frac{1}{8}$ of an inch in length, is wasplike in appearance, and belongs to the Hymenoptera family. It emerges as a perfect adult about April 15th. When the brood hatches one is struck immediately by their great agility. Like a litter of pigs or chickens, they cannot keep still. The females are easily distinguished from the male by their large, ebony colored abdomens, which contain hundreds of eggs and the stimulus. They keep their antennæ constantly in motion and continually primp, by running the fore legs over the head. When not primping in this manner, they busy themselves by dressing their iridescent wings with their longest legs. Fifteen of them kept confined among green twigs, when released in the open made no effort to fly. The females have an ovipositor 1-32 of an inch in

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length. The thorax is dark like the abdomen, head brown, wings double and iridescent. The males are pale yellow, very lean and slender, and about half the size of the females.

After these insects had been kept confined for fifteen days, with ample green twigs at hand, they began to die. When the number was reduced by degrees to five they were given freedom on the twigs of a black-jack. It was interesting to observe the apparent happiness which their freedom occasioned them. They frisked over the new twigs with as much agility as calves do in a field of green clover. The females had not been released ten minutes before they began laying eggs in the new growth. They would rear up their head and thorax and with the ovipositor gouge a hole in the twig, depositing their eggs while reared at the angle of sixty degrees. They lay anywhere from ten to more than fifty eggs in each puncture. It is an easy task to count the incisions, for from every puncture oozes a drop of sap.

These newly laid eggs soon hatch into minute larvæ which at once begins feeding on the food-sap which seeps into the cell chamber. Under the microscope a larva six weeks old seemed to be licking up the sap as it oozed through the walls of its cells. In this gritty cell the worm thrives, while the gall enlarges to sizes ranging from that of a pecan to a large hen's egg. In the spring the larva is transformed into a four-winged insect, when she gnaws her way out through the hard gall, and begins depositing eggs as her mother did.

But there are some mysteries yet to be solved. The greatest concerns a woody tube which grows after the insect emerges; these tubes often protruding for more than an eighth of an inch, shoot upward like pinnacles, following the bores made by the escaped insects. These woody tubes resemble small, smooth horns as they protrude. Both ends are closed, but when the outer end has been exposed for any length of time it becomes very brittle, and for this reason on old galls the exposed ends are always open.

These wooden tubes become loose and are easily extracted with the fingers when the gall dies In these tubes, many other small insects find shelter. It appears that the embryonic cell after it has been abandoned by the midge upon reaching maturity, takes on a new impetus and grows at a rapid rate, following the orifice made by the emerged insect. It is reasonable to assume that it is the lining of the egg cell that takes this sudden growth, since it fits to a nicety the orifice made by the escaped adult.

These galls will continue to grow as long as the intercepted flow of sap reaches them and can be properly distributed by the distorted cells. But after a few years, the abnormal cells are not able to perform their function, and death results. In the meantime, the branch upon which is fixed the gall often dies from the injury, and if death does not result, the beauty of the branch is permanently marred.

Knowing the life and habits of this gall-producing insect, it is reasonable to conclude that if it ever becomes numerous enough to endanger the life of the Spanish oak, it will be difficult to control. The first thought would suggest the general plan of spraying. But the larva cannot be reached; his domicile is a formidable barricade against all intruders and offenders; the adult has wings, and while we might be spraying, she might be sitting over on a near-by fence enjoying the sight of the performance.

It will, however, doubtless be many years before the lives of Spanish oaks will be much endangered. The midges adhere closely to the same trees, migrating only as necessity demands. A large tree affords ample room for their work for a number of years. They seem to work a single tree thoroughly before changing to a new one.

THE AGGREGATE GALL

On a black-jack I have observed for the last five years the workings of another very interesting gall insect. The eggs are laid in a mass near the end of the twigs in early spring. When they hatch, immediately each larva and its stimulus, although laid in a mass, works individually and separately. The galls grow rapidly, and in a few days are full grown. The cluster or aggregate mass resembles the arrangement of grapes on a bunch, or corn on the cob. At the end of each gall is a depression resembling the blossom end of a fruit. They easily shell from around the twig, and when opened, a hard, gritty centre is

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found corresponding to a seed in a peach. Around it is a pulpy mass, corresponding to the flesh of fruit. This gritty centre on being broken open, discloses a larva, which seems constantly to feed on the sap or juice that seeps into its cell. In a few days the galls drop to the ground, where they lie over till spring, when the perfect insects emerge. This is one of the most interesting galls I have had under observation, and so far I have been unable to find any one else who has observed the same species in the United States.

THE BLACKBERRY GALL

This is a very common gall in the United States and usually may be observed wherever blackberries are found growing. It is produced in a manner similar to the other galls, the eggs however, producing only one large swelling. The gall

The aggregate gall on a black-jack

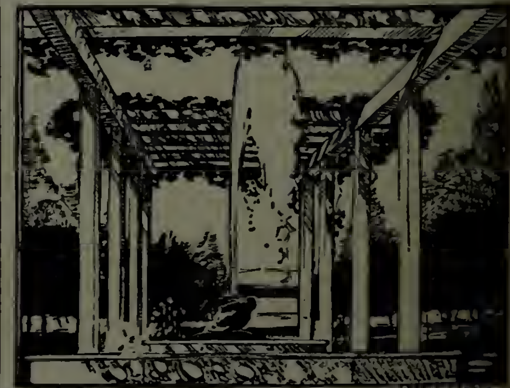
does not kill the cane until the second or third year, and then only that portion above the gall dies. From one gall I hatched fifteen gall-producing insects corresponding to the insects which produced the *Andricus corniginus* on the Spanish oak, excepting that the males were more brightly colored.

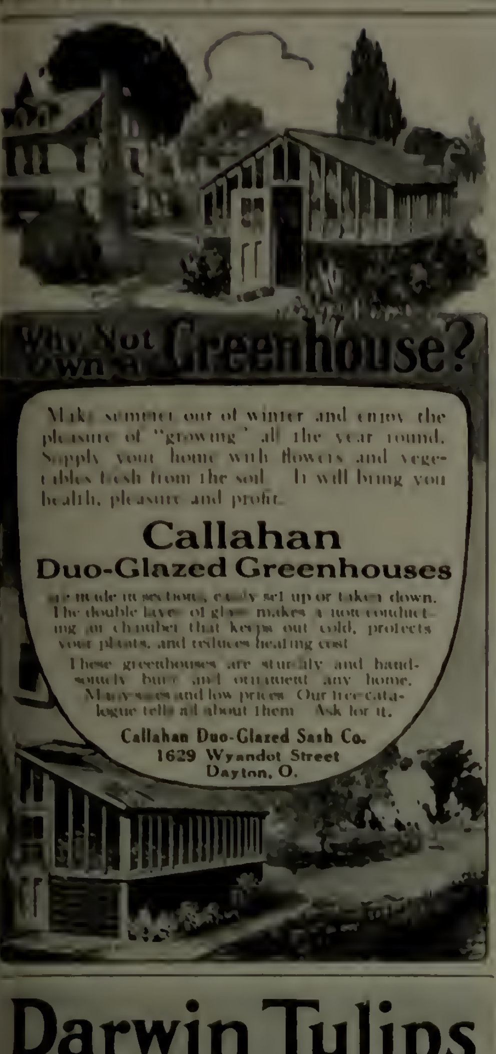
To ascertain if the male carried this wonderful stimulus in his body, an incision was made on a briar, and his abdomen crushed in it. A cord was tied around this to identity it from the one where the female was crushed. The female body produced an enlargement, but the incision on the cane where the male's body was crushed, caused the plant to die.

The blackberry gall insects may be better studied by transplanting a plant in water in a large glass jar, and the insects thus confined. It has been demonstrated that blackberry and similar plants can be artificially inoculated by transfering the stimulus from living galls. Canes thus inoculated will grow artificial galls at point of inoculation.

Besides the galls mentioned, we have dozens of others not only growing on trees, but on weeds, which are very common, yet wonderful, and which are worthy of investigation.

ROBERT S. WALKER.





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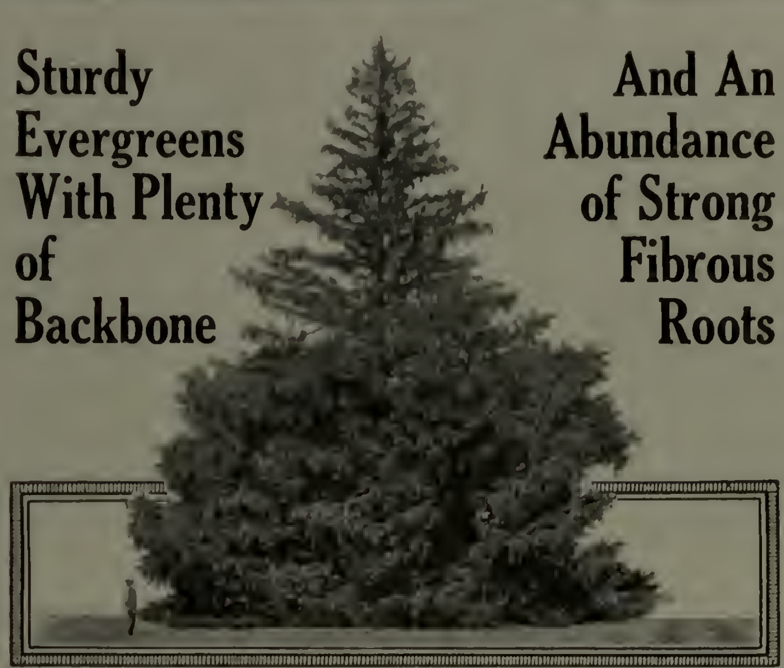

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Evergreens are coming into their own nowadays. People are more and more appreciating the hundred-and-one pleasing possibilities of this *all-year-round* planting that cheers and beautifies, in Winter as well as Summer.

When wisely selected and judiciously arranged or grouped, evergreens will give a touch of delightful charm and dignity to the home grounds that nothing else can quite supply.

If in need of evergreens send us your list of requirements, stating sizes desired, and we will immediately quote you attractive prices.

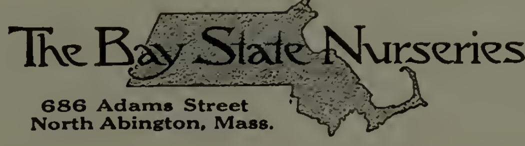
Of narrow leaf evergreens—Junipers, Spruces, Pines, Yews, etc., we have over seventy-five varieties with shapely tops and strong, vigorous root systems. They range from the natty little dwarf varieties to the big, tall kinds. Sizes and shapes aplenty to fill every conceivable requirement and suit every taste.

Of the broad leaf evergreens, we have Rhododendrons in thirty or more varieties, Andromedas, Euonymus, Kalmias, etc.

It has been proven over and over again that the Fall is a favorable time to plant both broad and narrow leaf evergreens. For one thing, it gives plants a chance to get a good, strong root-grip on the soil; and early next Spring they'll start right in and make much better growth than when planted in the Spring.

There's also no time like the Fall for planting Perennials. Plant in the Fall and throw a light covering of hay over them the last of November, and next season they'll start right in blooming as if they'd been there on your grounds for years. We have acres of Perennials in hundreds of varieties.

Our illustrated catalogue lists and describes all our varieties of evergreens and perennials. Making your selection will be an easy matter with it before you. It's yours for the asking.



Evergreen Planting in September

ALL through September is a most favorable period for the successful transplanting of Evergreen Trees and Shrubs. Our Evergreens are lifted with a large ball of fine roots and earth which is securely wrapped in burlap to insure their safe shipment. Catalogue if requested.

ANDORRA NURSERIES

Wm. Warner Harper, *Prop.*

BOX C, CHESTNUT HILL, PHILADELPHIA, PA.

Plant Evergreens Around Your Foundations For Quick, All-Year-Round Effects Do It This Fall

ONE of the distinct advantages of evergreen foundation planting is; you can at once produce a satisfactory, all-year-round greenery effect for either a high or low wall.

In a carefully stocked nursery like ours, you can secure trees to meet your needs, in all sizes and in a surprisingly wide range of varieties in foliage and gamut of colors.

You can have ones with deep green fan shaped foliage; feathery ones in bluish-grey-green; golden hued ones; low branching kinds; slender, pyramidal shapes; low globes; or tall, wide branched, silvery tipped ones.

In no other form of planting, whether for foundation, screens or borders, can you get the wide range of colors and effects possible with evergreens.

Fall is one of the best times to plant evergreens, and our evergreens are the ones best to plant. Their fine, vigorous tops and abundant roots argue for their purchase.

We assure our customers entire satisfaction. Our catalogue you are welcome to. We urge you to take advantage of our Advisory Service.

Julius Roehrs Co
Box 12 Rutherford N.J.

Country Life Experts Are at *Your* Service

This magazine aims to be the headquarters for advice and information concerning every phase of country home living. The more general its service becomes, the greater success it attains as an institutional periodical.

To retain the services of experts such as those who make Country Life would be possible to very few. Nevertheless, as a reader of this magazine and a contributor to its success, you enjoy what amounts to the same privilege. They are all at your service to solve any problem you may have. And all this without price or obligation.

These men will gladly answer any of your questions about your home, its grounds and furnishings, if you will write and give them the necessary details. We will be glad to have you use this Readers' Service just as often as you desire.

Readers' Service Dep't., Country Life in America

SAWING WOOD

THE first thing to do is to make your measure. You cut a straight young hazel, and from the measure on your axe helve you mark off sixteen inches or more—whatever length you may decide to saw. For the kitchen stove sixteen inches is the usual length, but for the capacious fireplace, blocks two feet long are cut for the back logs.

Having made your measure, you lay it carefully on top of the log. You lift your long crosscut saw. You bring it into position next to your measure. Back and forth you gently draw a few inches of its sharp edge to make a cut in the bark that the saw may run true. Back and forth, back and forth it goes with a regular rhythm and a musical sound as its sharp teeth bite into the fibers of the log.

After a few minutes of this strenuous labor you stop for a breathing spell. You wipe the perspiration from your damp forehead and strip off your jacket, for although the morning is still cool, you feel the effect of your labor in the glow of your muscles on arms and back. Before you take up your saw again you look around you. On all sides are the tall, majestic firs that lift their feathery heads to the blue sky above. Scattered among them are dogwoods and hazel trees—for

"Back and forth you gently draw a few inches of its sharp edge, to make a cut in the bark that the saw may run true"

such they are in Oregon—with here and there a small oak, showing its branches almost stripped of leaves against the dark green of the firs and cedars. At first you note the stillness of it all. As you stand looking and meditating on its beauty, you gradually become conscious of sounds that had escaped your inattentive ear. There is no such thing as absolute stillness in the woods. Your ear may not catch the sounds at first waiting for a keener ear to hear and the more sympathetic heart of a lover to interpret them. There is a gentle rustle in the tree tops. Somewhere in the distance is a faint twitter of a bird. There is a sudden whir of wings, and a native grouse starts from a thicket where it has been hiding until frightened out by the noise of your saw.

Then back and forth goes your saw again. It is sharp and is cutting fast. Only a lazy man or a dullard uses a saw that needs an "introduction to a file", as the saying is. To and fro it goes, cutting deeper and deeper into the log. But the old fellow will not yield without a struggle. As you push your saw away from you after a time you become conscious of the fact that it works harder and harder. It begins to bind. The old log has seized it in its grip and will not let it go. Try as hard as you may you cannot push the saw nor pull it toward you. Now is the time to use your small wedge. With a few blows of the sledge you drive it into the kerf of the log. Immediately the kerf opens, the log releases its grip on your saw, and you continue your labor. Back and forth goes your saw. Occasionally you strike a few more blows on your wedge to drive it deeper into the log. At length with a slight splitting sound off rolls the section and the first part of your task is finished.

You have earned a few moments' rest for a breathing spell. If you are a true lover of the woods you will be proud of your task. At your feet lies a section of what was once a noble fir. It is sixteen inches thick and more than four feet in diameter, sound and solid except for the ring of soft wood just under the thick, rough bark. But as yet it is useless for fuel. With one hand you

There's Money For You!

IT IS in our bank at the present time, waiting for you to earn it; not a small uninteresting amount, but thousands of dollars. Every year at this time we place this opportunity before our men and women and provide an occupation as a side line, a means of making money in spare hours, and the possibility of establishing a permanent business that will make you independent for all time. You owe it to yourself and those interested in you to investigate this advertisement. If you have a good salary and some spare time you can make it larger. If you are in need of money for some special purpose, you cannot secure it in a more interesting and profitable manner.

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Doubleday, Page & Company
Garden City New York

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GARDEN CITY, N. Y.

Gentlemen:

Send me full information and particulars regarding this advertisement.

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Greenhouses As We Build Them

THERE is quite as much importance to be put on the preliminaries of greenhouse building, as the building itself. Sometimes there is more.

For example, take the instance of the house above. How admirably it fits the ground. It didn't just happen to fit so attractively into its location. Our expert first studied the location carefully from every point of view. Then he took into consideration the various things the owner wanted to grow. The question of possible future additions was also considered, and how it could be done without marring the balanced effect. The economies of working and heating were gone into thoroughly. Then, and not till then, were the plan and design laid out and submitted to the final jurors, our construction experts, who considered it only from its purely practical side. The designing department then added its touches here and there to lend charm and interest.

Now it was ready to submit to the owner for approval. Before him, we laid the plan and full elevations, with details of the entrance design, so that he could easily picture in his mind how the entire layout would look when finished. When such contracts are placed, we generally take care of everything, leaving nothing for the owner to worry over or upset other operations. For sixty years, we have been doing this sort of thing. We believe we have an exceptional greenhouse building service to offer you. Surely no one can build any better greenhouse. Send for Booklet Number 109.

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Builders of Greenhouses and Conservatories

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Catalogue "E-29" showing a series of new designs in

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Lattice Fences
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When writing enclose 10 cts. in stamps and ask for Catalogue E-29.

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Plant MOONS' EVERGREENS in Early Autumn

Use them to adorn house foundations; to screen objectionable buildings; to decorate lawns generally.

Moons' have an Evergreen for Every Place and Purpose. This stock has developed a symmetry of form and vigor of growth that insure attractive plantings.

Send for catalog. Better still describe the planting you have in mind, and get our estimate of cost for Evergreens that give you enjoyment the year round.

THE WM. H. MOON COMPANY

Nurserymen

Philadelphia Office, 21 South Twelfth Street — **Morris Heights** — **Morrisville, Pa.** — The Moon Nursery Corporation, White Plains, N. Y.

Let in the Sunshiny Outdoors

How often the walls seem to confine one—and the windows to shut us away from the sunny outdoors, instead of bringing out-of-doors pleasantness into the home. Send us the name of your architect so we may send him and you our Portfolio of Enamel Interiors. These photographs of artistic homes will show you how enamel decoration banishes indoor shadows—gives greater spaciousness, airiness and cleanliness to every room, to say nothing of producing stunningly artistic decorative effects.

But to achieve the full beauty of enamel decoration, a high grade enamel must be used, such as

Pitcairn Banzai Enamel

It is the freest flowing enamel, and that is why it is easy for the decorator to secure the flawless, mirror-smooth surface, unblemished and immaculate. And it is so elastic that the wood may be dented with a hammer without fracturing the enamel. This means that your enamel work will not check or crack under severest conditions.

Pitcairn Aged Varnish when applied to floors and woodwork—interiors or exteriors—stays new-looking. Send us the name of your architect and also your own so we may send you the Pitcairn Portfolio of artistic interiors.

PITCAIRN VARNISH COMPANY, Milwaukee, Wisconsin

Distributing stocks in 25 leading jobbing centres of the U. S. Sold by retailers everywhere

Upjohn & Conable, Architects, New York

The Shingles and Timbering of this beautiful Old-English residence are colored and preserved with

Cabot's Creosote Stains

The shingles are warmer than English tiles and the coloring is much softer and richer, owing to the texture of the wood and the deep velvety tints of the stains. The stained timbers, in old smoky browns and dark grays that bring out the grain, harmonize perfectly and weather out beautifully. Cabot's Stains are artistic, inexpensive, lasting, and the Creosote preserves the wood.

You can get Cabot's Stains all over the country. Send for stained wood samples and name of nearest agent

SAMUEL CABOT, Inc., Manfg. Chemists
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Let Us Regulate Your Heater this Winter

Let us relieve you of that bother and worry of watching and fussing with the dampers. Our MARVEL TEMPERATURE REGULATOR will operate the drafts of any heater so as to produce any temperature which may suit your fancy, permitting a fluctuation of less than two degrees.

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By preventing overheating no fuel is wasted which insures full value from all the fuel that is used. Another worthy feature is a time attachment which permits a cool temperature during sleeping hours if desired and automatically restores the normal day time temperature a few minutes before "getting up" time so the house will be warm to dress in.

Thousands in use and all are giving the greatest satisfaction. Send for illustrated folder "C" and price.

AMERICAN THERMOSTAT COMPANY
Newark New Jersey

hold your iron wedge, with the other you take your sledge and gently drive the wedge into the wood. A few light blows fix it in place. Then with a strong swinging blow the wedge is driven in and your section cracks ominously. With a few more blows it splits into two parts, falling asunder at your feet.

How musical is the sound of steel on steel, especially in the cool, frosty air! How it rings out and echoes from the hill behind you to the valley below! It becomes an "Anvil Chorus," running the gamut of sound as you strike blow after blow when the heart wood resists the first few strokes. And what glorious exercise it is for the muscles of the arms and chest if you use a sledge weighing ten or twelve pounds! Talk

"With a strong, swinging blow the wedge is driven in"

about hammer throwing or hurling the discus—they are not to be compared with this for developing the biceps and the broad muscles of the chest.

After splitting your section into two parts with wedge, and sledge you continue until the pieces are small enough to be cut up with your double-bladed ax. Then when all is split, you begin to pile it up in ricks, carefully setting up and bracing sticks for each end of your pile. At last it is done, and as you draw off to a distance to admire your work, you feel that your labor is not in vain, for here is fuel enough to warm you and to cook your meals for several days. And it is all your own, for you have cut it. By your ingenuity and cunning with your puny strength you have triumphed over the mighty forces of nature.

J. C. HAZZARD.

THE DANGER OF WHITE IN THE FLOWER GARDEN

ONE might indeed say the "white peril," for the writer ventures to call attention to a new worry to the amateur gardener because of the many assertions that "every garden should have masses of white" and that "white will always harmonize clashing colors," whereas it will really do nothing of the

"Some ten feet behind the rose bush is a perfectly detestable achillea which makes itself just as prominent as the rose"

The Name of Quality

The name of TIFFANY is known throughout the World as the equivalent of quality and honesty. To sustain this reputation, only materials of unquestioned dependability can be permitted to enter into their product. The Tiffany studios use

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Insulated Wire

in the finest lamps and fixtures it is possible to obtain. The utmost in quality is required.

The manufacturers of the wire which is used by Tiffany make every form of Rubber Covered Wire for the transmission of electricity from the power house to the boudoir lamp. If you desire unfailing service, your entire house should be wired with ECCO Insulated Wire.

The name "ECCO" is stamped on the wire every three feet—your identification. Certified copies of tests on each coil are furnished, upon request.

Remind your architect to specify it and insist that it is used by your contractor.

A booklet giving reasons and information will be sent upon request

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Makers of ECCO WIRE for every purpose where rubber covered wire is used

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Over 20 years established

Write the Readers' Service for information regarding Live Stock.

Give the Coal Pile a Chance to Make Good!

Feeding coal to some heating boilers is just like throwing it into the streets—because a big portion of it goes up the stack unburned. And it is the unburned fuel that makes smoke.

A Kewanee Smokeless Boiler burns any soft coal so completely that none of it is wasted up the stack. So a Kewanee Smokeless boiler cuts heating costs by eliminating waste fuel. And it makes an additional saving by permitting the use of soft coal, which contains *more heat* and *costs less money* than anthracite.

420 Park Avenue (from 55th to 56th Sts.)
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KEWANEE
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CUT HEATING COSTS

Building owners all over this country and Canada are cutting their heating costs by burning soft coal smokelessly in Kewanee Smokeless Boilers.

The building, just erected, at 420 Park Ave. (from 55th to 56th Sts.) is just one example. Will you let our nearest office show you some figures of heating savings?

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Chicago New York St. Louis Kansas City Minneapolis Salt Lake City Pittsburgh

SCHOOL DEPARTMENT

In this department are printed announcements of high-grade schools. Information regarding schools will be gladly furnished to readers upon request. For school rates address SCHOOL DEPARTMENT, COUNTRY LIFE IN AMERICA, Garden City, Long Island, and New York.

Educate Your Child in Your Own Home

THE mother is the natural teacher of her children. She knows their peculiarities, their temperaments, their weaknesses, but untrained as a teacher, the time comes when she feels her inability alone to proceed further with their education. Possibly not within reach of a really efficient school, she reluctantly gives them up to be taught with other children.

Now, there has grown up in the City of Baltimore, in connection with a great private day school a Home Instruction Department, the high object and purpose of which is the education of children from four to twelve years of age, entirely in their own homes and yet according to the best modern methods and under the guidance and supervision of educational experts, who are specialists in elementary education.

The school was established in 1897, and now has pupils in every state of the Union and 22 foreign countries.

One mother writes: "The system seems to me almost magical in its results." Another previously perplexed by educational problems, voices her relief in these words: "A real Godsend."

A booklet outlining the plan and courses of instruction will be sent on request.

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Small enough to be a real home, large enough to be a "Real School." Exceptionally strong music department. Special courses in Dancing, Elocution, Art, Gymnastics and Household Science.

Pupils enter college upon its own certificate

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MRS. MARSHALL'S ***School for Little Girls***

A home-like boarding and day school for girls under fifteen, affording an abundance of healthful recreation, and fitting pupils for the leading boarding schools of the East.

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The regular course of study is arranged to cover preparation for the matriculation examinations of Bryn Mawr College and all colleges of good standing. The school certificate is accepted by all colleges which allow entrance by certification. Elective courses are offered to students who do not wish to prepare for college. Great attention is paid to modern languages. Physical training forms an important part in the life of the school.

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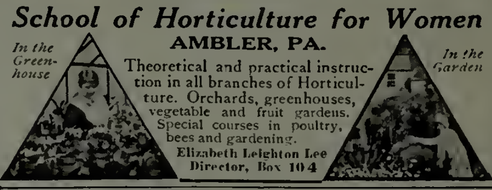

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Theoretical and practical instruction in all branches of Horticulture. Orchards, greenhouses, vegetable and fruit gardens. Special courses in poultry, bees and gardening.

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A school of national patronage and prestige, located in the South. Strong Faculty and half million dollar equipment, affording superior facilities for physical, intellectual, social and moral development. Ideal climate and health record. Open Sept. 20. For catalogue and book of views address as above.

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Two men of wide educational experience are prepared to assist you in selecting it.

World's Work announces:

Mr. F. Burnham McLeary, A. B., (Harvard). Formerly of the faculties of Syracuse University and Colby College.

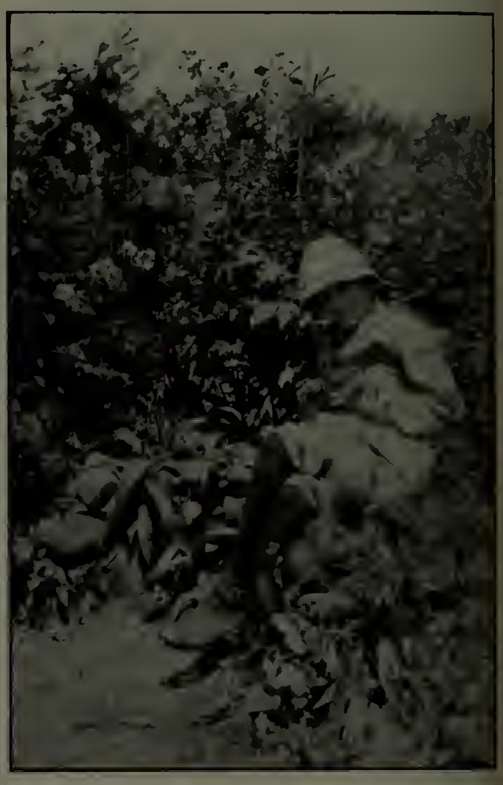
Mr. Guy C. Howard, A. B., (Bowdoin). Principal of several preparatory schools before assuming charge of Doubleday, Page & Company's Readers' Service five years ago.

Feel free to write to them, stating your special requirements.

Garden City **Doubleday, Page & Company** **New York**

kind. So far as having masses of white is concerned, they should be carefully avoided, just as a painter would avoid having masses of white (high lights) all over his canvas. A painter would never expect masses of white to make good wrong values, and the suggestion is offered that white should be used as sparingly in a garden as in a picture and with as great caution. Nothing could be more exquisite than a garden (or a bed) of all the whites—the yellow whites, the greenish whites, the bluish whites. But does any gardener feel that a mass of "achillea, the pearl" or that hard, white seedling phlox, could harmonize gladiolus, rosella, and a perhaps unexpected and uninvited nasturtium of the true nasturtium color?

In the writer's own garden no amount of white could help clumps of purplish pinks and calendulas though they were in different beds and separated



"A great mass of blue larkspur, from darkest to palest shades"

by grass walks. The fact is that white simply sticks out from every point of view, and may call attention to an unhappy and mistaken combination. The two photographs illustrate, somewhat, the meaning of the prominence of white.

In the one with the boy there is a great mass of blue larkspur from darkest to palest shades, but they all blend softly. In the one with the little girl, some ten feet behind the great rose bush is a perfectly detestable achillea which makes itself just as prominent as the rose. In fact it was this same achillea scattered all through the garden, and a phlox, pure white and of unknown origin, that called the writer's attention to the very great danger of white. For it will surely stick out and make any color, no matter how strong, take a secondary place, because white is the highest color value we have.

If one plans to have a white corner or bed in some spot to which one wants to call attention, or to bring the spot nearer the house, nothing could be lovelier than white. For example (tried and found charming) white dwarf sweet alyssum, gypsophila elegans, white campanula, and a little white phlox. But the spot insisted upon occupying the centre of the stage, and it did not "harmonize" anything. It also weakened the colors near it.

The only thing to do is to get at the root (or roots) of the trouble if you want harmony. Segregate the unruly members. Dig up all the bee balm, pull out all the calendulas, don't let an Oriental poppy open a bud. Put friendly colors in juxtaposition, but don't expect white to help you out of difficulties.

ABBY N. DAWES.

Secret History

REVEALED BY LADY PEGGY O'MALLEY

"C. N. and A. M. WILLIAMSON have written nothing better than this stirring tale of life on the Mexican border and in Europe, and no one has told their stories quite so well as little Lady Peggy O'Malley."

—*Boston Transcript*

"Clean, clever and convincing, readers have a treat before them in this book."

—*Troy Record*

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Garden City New York

You are invited to correspond with our Readers' Service Department for information regarding the purchasing, breeding, feeding and care of high class dairy cattle.

A BURGLAR often misses the most important things in his burglaring because he doesn't look far enough. Lots of people, not burglars, would find many important things near at hand if they only would look a little bit farther for them. You, while reading this magazine, are surrounded with all kinds of valuable information on many important subjects. The advertisements in this issue present many near at hand opportunities. Burgle your way into them. You will find it easy going and the haul worth while.

—*The Ad Man.*

A Standard Book of Good Taste

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ITS PRINCIPLES AND PRACTICE

By FRANK ALVAH PARSONS

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This is the common-sense book of interior decoration which can never go out of style. Mr. Parsons—one of the best known authorities on the subject—tells the true principles of art that underlie good taste in furnishing. What is more, he tells simply how any one, by applying these principles, can furnish and decorate his house, large or small, with individuality and yet artistically. He explains the fundamentals of the period styles and their uses to-day.

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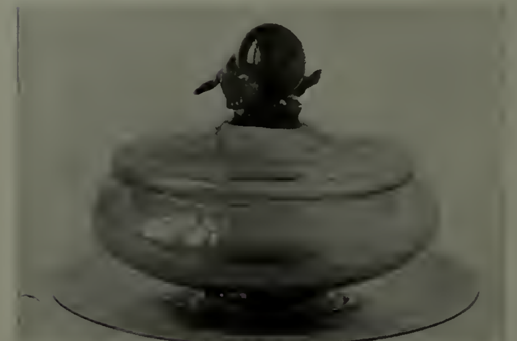
SOME NEW DECORATIVE SCHEMES



Either as a sweetmeat box or container for conserves, this dainty amber Italian dish will prove most satisfactory

Mr. James Collier Marshall

Director of the Decorating Service of Country Life in America's Advertising Department

will solve your problems of home decoration

—color schemes, hangings, floor coverings, art objects and interior arrangements. Mr. Marshall's long acquaintance with the sources of supply enables him to make, if desired, judicious selections and to obtain most favorable prices. This service is free to our readers.

Address inquiries to Decorating Service Department

Country Life in America

11 West 32nd Street New York

The rich blue, red, green, and gold of this interesting inkstand will lend your writing desk colorful distinction

IF THE war period has not proven as productive of as much original designing in house furnishing as we, who believe in American cleverness, would have liked, it must be said in behalf of the decorators that through their ingeniousness they have been more than able to abridge the shortcomings of the producers and evolve schemes that, in many instances, will set new standards in the field of interior decoration and house furnishing.

The remarkable part of it all is that in most cases a really daring bit of decoration has been achieved through makeshift. Perhaps a material was not to be had, or a paper ordered before the war was not forthcoming. Such a situation is distressing alike to the customer and artist, and if the orders for the accompanying decorations are already under way, as is frequently the case, all the resourcefulness of the decorator is called into play.

One of the most unique schemes in point of color that I have seen was that for a bachelor's living room. The original scheme called for an imported upholstery brocade and a linen for hangings to be used with especially designed furniture. Long after the furniture was in the work it was learned that no more linen was to be had, and not a sufficient amount of brocade. This dilemma, which threatened to disrupt the entire scheme of decoration, was met by the quick substitution of a new plan. In this the plain walls were marked off in panels by molding and painted blue gray. A single dark blue rug with tawny Chinese medallions was used as a ground for the furniture, which was finished a midnight blue, with line decorations of orange yellow, the heavy easy chairs being upholstered in leather instead of cloth; the leather, taking a lighter tone than the wood, achieved a delightful effect. The windows had plain curtains next the glass of an orange yellow sun fast material, over which were hung straight draperies of domestic velour striped deep blue and orange yellow, this same material being employed at the wide doorway and on the great lounging couch before the fireplace. The side lights were shaded with plain orange paper decorated with lines of blue, while the centre table held a lamp whose bright base of orange tinted Ruskin pottery gave life by day to the bronze brown silhouette paper shade that at night glowed warm and clear. There were two other lamps in this room, one at either end, a blue Hawthorn table lamp fitted with a smooth frame of flame-yellow silk, trimmed with Chinese blue and green embroidery, and a tall, dark blue floor lamp shaded with old gold. The green necessary to relieve these strong colors was had in the couch pillows and bric-a-brac. Altogether it was a stunning bit of work that was remarkable because unusual and strong. Complementary colors had been so carefully used as to prevent any feeling of the bizarre.

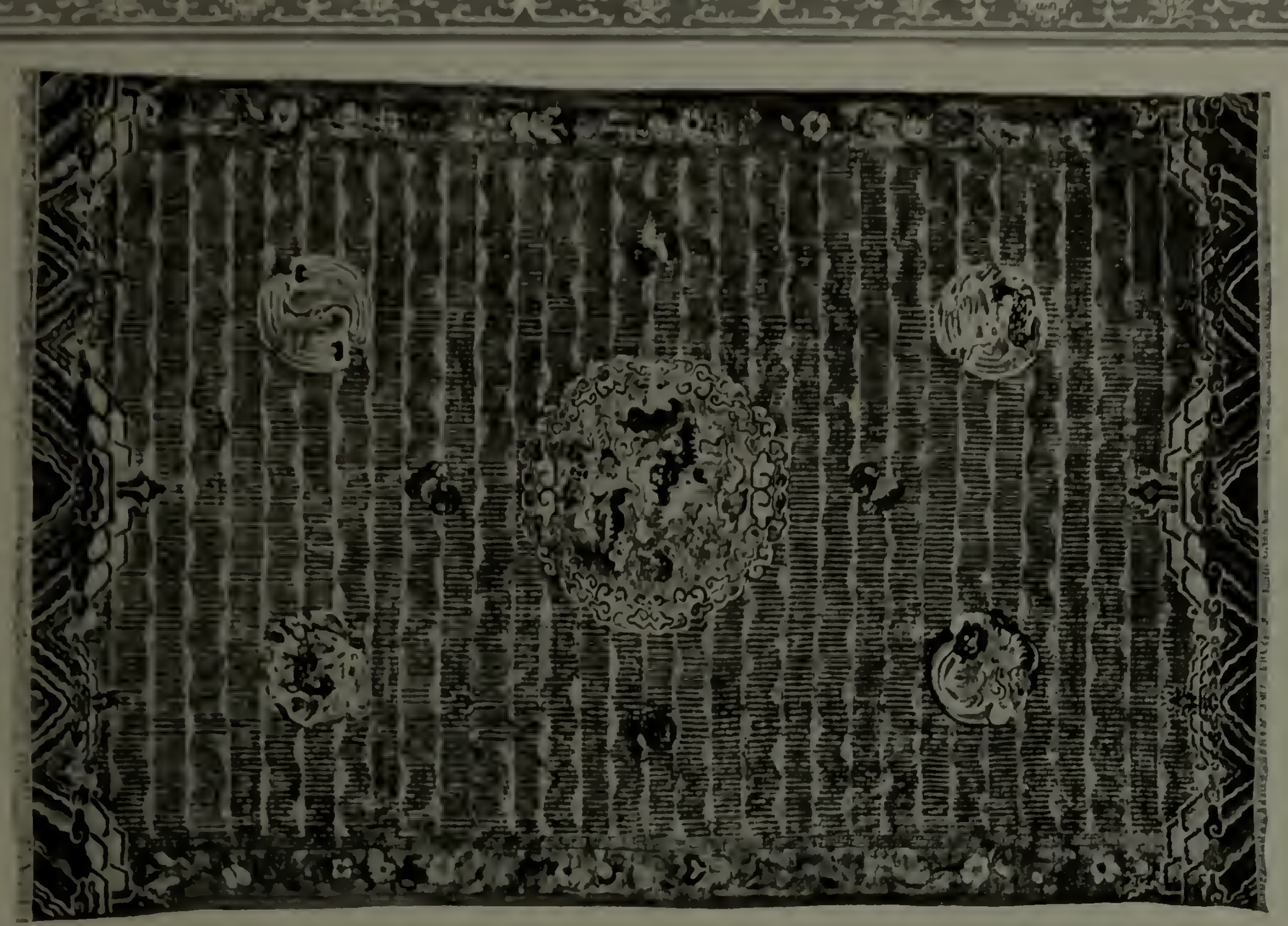
Why not have a really decorative waste basket that is sanitary as well. These charming ones of paper covered papier maché are as inexpensive as they are handsome and serviceable

That this artist-decorator was resourceful no one will deny, nor will any depreciate the good taste of the bachelor occupant when they learn that he selected for this setting the tall, wooden, triple-armed candle stick with yellow candles, to stand within the doorway, the Italian pen and inkstand of tinted green, red, blue, and gold, for the blue table, and the sweetmeat dish of amber glass for the side table. These are personal touches that mean much toward the perfect home making, as well as give great distinction.

Another decoration that made a favorable impression on me was one that was also a makeshift, and which to my mind, far exceeded in originality and refinement the scheme that was perforce discarded.

As in the above described living room, the linen that was to have been used for hangings in an otherwise plain and usual room with lacquered furniture, was found to be out of stock and the pattern discontinued, after the furniture was well under way. Immediately the decorator and her client went into solemn conclave with the result that they decided that they must use that particular piece of linen, or at least whatever yards there were to be had of it. As the decorator expressed it, "The moment I found I couldn't get more of that pattern, that moment I knew my future happiness depended on the use of that particular linen, and my client was in the same condition of mind." What they did was to hold up the work on the furniture, which fortunately had not yet been decorated, find out just how many yards of the linen were to be had in the country (some eight or nine yards only), corner the market on it, and then

Rare indeed are these superb Italian pieces, whose dignity of line equal their splendor of decoration. Note the chairs, where curve meets curve in absolute perfection, all exquisitely painted. These gems await and will soon find an appreciative owner



This is an illustration of one of our reproductions of a Chinese carpet of the Kien Lung period. The medallions, containing Fu Dogs, Kylins and Storks, follow faithfully those symbols as woven in the ancient rugs of China. The two end borders represent the Sacred Mountain rising from the Sea of Eternity. The hatchings on the ground of the carpet give that pleasing softness of color so characteristic of the old Chinese Rugs. Size 18 ft. 3 in. x 12 ft.—Price, $840.

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THE difficulty of transportation from most of the Eastern Rug weaving districts has resulted in materially lower prices for rugs at those places. We have succeeded in effecting several large shipments, and offer today a stock which, in excellence, range of size, and variety, exceeds that of any former season. The prices are as reasonable as in normal times.

The weaving of Eastern Rugs to required designs is a specialty which our facilities make unexcelled.

We shall be pleased to give you detailed descriptions of such rugs as may answer your requirements.

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THE
HAYDEN COMPANY

PARK AVENUE AT 57TH STREET

New York

THIS ORIGINAL ELIZABETHAN CHIMNEY-PIECE IN OAK, 8 FT. WIDE AND 10 FT. HIGH, EXTENDING TO THE CEILING, IS PART OF AN ELIZABETHAN PANELED ROOM WHICH WE ARE SHOWING INTACT. THERE ARE APPROXIMATELY 100 FT. OF PANELING IN THIS ROOM INCLUDING CHIMNEY-PIECE.

IN the Hayden Galleries are many old carved Chimney-pieces and Overmantels. The present collection of old English Marble Mantels is one of the finest in New York. The Hayden Company also reproduces Mantels in wood and marble from original models.

work out another plan. This is what resulted, and in order to give a clear description of it, let me first describe this all desirable and coveted linen.

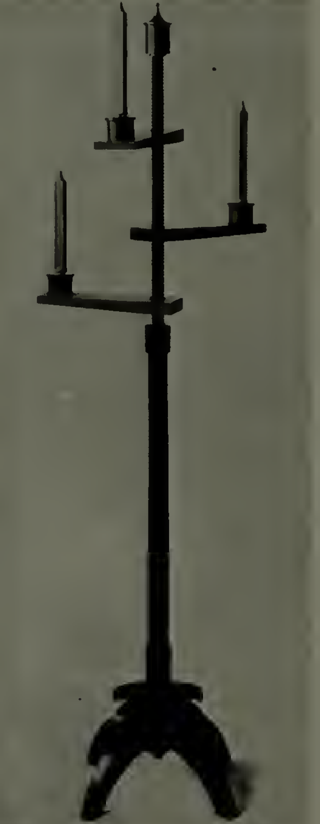
The large pattern disclosed a ruminative crane standing ankle deep in a jungle pool, that is almost surrounded and beautifully shaded by palms and other tropical growth, through which flit small bright hued birds that are the only bits of warm color in this cool, green, greenish gray, clear gray, and deep blue forest. It was, indeed, a remarkably fine design, not only for its lovely coloring, but for the dignity and calm it expressed, while the printing was so good that at only a few feet it looked like very excellent Oriental needlework.

Well, the wall spaces were paneled and painted the clear green seen in the linen, the woodwork and mantel finished greenish gray also to correspond with it. On the floor was placed a moss green rug with a very dark green border, and the modern Chinese Chippendale furniture, which was to have been lacquered, was painted black and merely lined with the moss green tint seen in the linen. But, as one might guess, the coup was made with the linen itself. These precious yards were cut up most carefully, and used in greenish gray frames as lunettes over two wide doors, four windows, and for the over-mantel decoration, while at the doors and windows hung, straight to the floor, over-draperies of satin striped silk damask of moss green which, like the rug, took its color from the linen. There was a glass dome sunk in the ceiling for the overhead light, the main light sources being the wall sconces that had round shields of black lacquered vellum decorated with floral patterns in green, red and amber. It will be seen at once that everything in this room was subordinated to the linen, though everything had taken its color from it. The effect was superb, and it was all the more remarkable because linen had been used where paintings and tapestries are customarily employed, with a result that was equally as good from an artist's standpoint, much less costly than either of these materials, and infinitely more satisfactory than would have been the first plan for the linen.

Eminently suited to bachelor use and men's clubs is this trim looking clock that, governed by a magnet, runs a thousand days, before its battery must be renewed

Linen is frequently used to cover the entire wall, or to fill panels, but it is most unusual to attempt this use of it, and in so doing this decorator has not only ignored tradition, but accomplished so well the end in view that a new mode has been set for the use of linen prints.

Apropos of new modes, perhaps our readers will be interested to learn that a new cult of decorators has gained some prominence in Paris since the beginning of the war. Under the leadership of Ruhlmann, the artist-decorator, they are aiming to create a new "period" of furnishings to celebrate the close of the war, which they are calling "Après la Guerre" style. Aside from laying great stress on the use of heavy color, it appears to be a type where superlative finish constitutes the chief decoration of broad surfaces, veneering being given especial attention, and much inlay and mosaic appear in precise geometric patterns. The furniture is square and box-like, and leather is used to a great extent, but color is its main and, apparently, most attractive characteristic.



There is an air of guardianship in this floor candlestick, that recommends it highly for living room use

However interesting this new movement may prove, or, indeed, however attractive may be any modern furniture, it is questionable if we can hope to surpass the splendid productions of the old artisans of Italy. For example, note the lovely commode and exquisite shell chairs shown on the preceding page. Aside from their charm of line and design, their painted decorations after several centuries are still perfect. The ground color of the commode is blue black, which throws in bold relief the painted panels of soft warm tints and gold. The hardware is perfect in every respect.

The same exquisite patterns and colors are seen in the chairs, whose ivory ground is charmingly relieved by the gold colored brocade and gilt fringe. The mirror pictured here is neither of the same period nor of a correct size for the commode but it is quite interesting and agreeable when properly used. These gems have just been brought to this country by a young Italian soldier, on short leave, to be sold as soon as possible and their purchaser will indeed be rich in their possession.

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THE Lord & Taylor collections of Furniture and other Furnishings were never broader or finer than they are at this time, in anticipation of the requirements of the new season.

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The first public appreciation of the craftsmanship of this great Colonial furniture maker was awakened during the Hudson-Fulton Celebration, when an exhibition of his work was presented at the Metropolitan Museum of Art.

We invite leisurely inspection of our Furniture and Upholstery collections, during these early days of formulating Fall furnishing plans.

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Jacobean Chair
Mahogany frame with upholstery in velours or tapestry

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If the KARPEN trademark is not on the furniture shown by your dealer, write us for our new book of designs L-9. We will be glad to send you this interesting and instructive book on receipt of fourteen cents in stamps.

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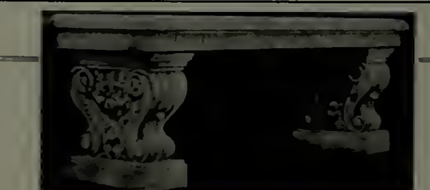
designed upon humane principles. The birds bathe in water from ⅛ to 2 inches deep without risk of drowning. The bath empties itself every twenty-four hours, thereby making it sanitary. 17 in. across, 6 in. high, weight 30 pounds. Made in various colors; decorative, artistic, practical.

Price, $4.00, F. O. B. New York.

Same bowl on pedestal: total height 39 inches, $10.00 F. O. B. N. Y. Send for descriptive price-list of window-boxes, flower-pots, jardinieres, garden benches, etc.

SHARONWARE WORKSHOP, 84 Lexington Ave., New York



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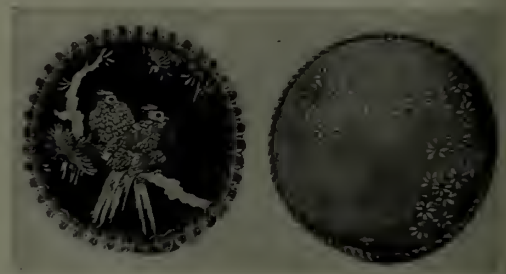
Some New Lamp Shades

LAMP shades can be either an ever present joy or sorrow, according to their kind and suitability to the decorative scheme, and since there are numberless shapes, sizes, and designs seen in the specialty shops, from which one may choose, there is really no reason to-day for anything short of perfection in lamp shading.

Like all accessory decorations, in order to be entirely successful, they must follow very closely the motives of the scheme. If one is not to be pleased by the stock shapes, special designs may be had at a slightly advanced figure. Indeed, it is remarkable how clever are the designers of



these dainty articles. They seem to need but a moment's thought to evolve some really delightful new pattern, and there is an undeniable satisfaction in having specially designed shades.

Among the new patterns to be seen, those shown here are quite interesting in that they all shade the light from the eyes yet permit its general diffusion, a trait that has until recently been generally disregarded. Thus the modern shade is so made that it not only shades the light, but diffuses it, its decorative qualities being considered of second importance.

The shields pictured at the top are excellent illustrations of this idea; they are of thin paper, varnished and backed with white to intensify the light which glows warmly through their dainty pattern, thereby seeming to soften the light thrown against the wall. Were they of thick paper, or cretonne, however attractive by day, the effect would be that of a black spot in a reflected glare of light.

The one at the left shows warm-tinted birds on a tan and brown ground, edged with brown and gold braid. The right hand one has a bright blue painted field in which have been cut dainty flower patterns that, having a white background, are variously tinted by hand.

This method has been followed in the large, round shade at the bottom of the page, where the Japanese medallion idea has been copied most effectively. Here the tinted patterns show through a rich light brown.

The two shades of hand painted paper are really gems of their kind. The larger one is round and has a soft-toned floral wreath painted on a deep ivory ground, the strong lines giving the design finish and strength. The smaller shade is elliptical and painted ivory on Chinese red. Rarely does one find such charming examples of this art, and the cost is low enough to place them within the reach of all.

The Hampton Shops And What is Found There

THE Hampton Shops offer invaluable aid to those who wish to introduce into their homes those suggestions of romance and history that give charm, for instance, to the lofty rooms of some old English Mansions with their oak-panelled walls and cheery open fire-places.

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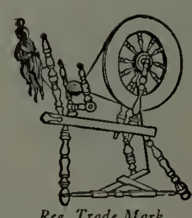
facing St. Patrick's Cathedral
New York

Linens *at* McCutcheon's



Reg. Trade Mark

FOR Sixty years McCutcheon's of New York has been "The Linen Store of America." It carries the widest assortment of patterns. It offers sound value in quality.

You don't have to come to Fifth Avenue to buy. You can have the McCutcheon's Linens wherever you are by mail. This year our stock presents as great a variety as ever. Our prompt mail service assures you as much satisfaction as if you stood before our counters.

Table Cloths and Napkins—every type and quality, in every size up to the big and unusual.

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Mail Orders receive our prompt attention

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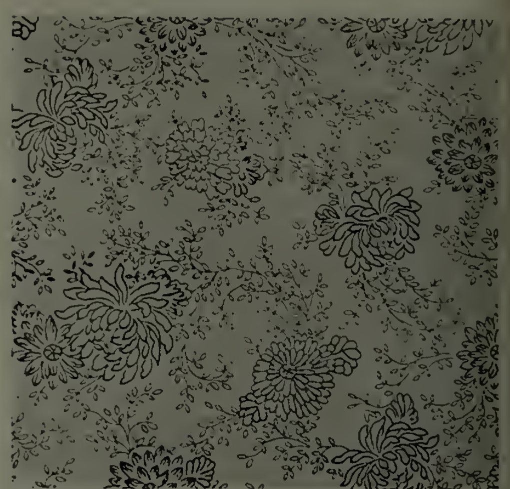
Hangings for the Sitting Room

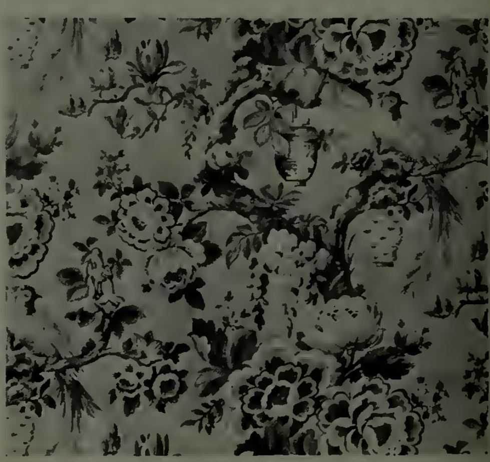
IN WORKING up the decorative scheme of the house there is frequently experienced some difficulty in finding agreeable and suitable materials for the above stairs living room of the simplest houses, and those intimate sitting rooms en suite of the larger houses. There is no reason for this bugbear, since it is in these rooms that one's personal taste



may have its greatest scope. Here one may simply paint the walls, or have them hung with paper, in both instances getting needful color through the hangings.

For the sitting room of a small house dainty wall paper will be delightful. Either of the two patterns shown here will be highly satisfactory. Both have a small black design on a cream white ground, much after the style of the feathery patterns of the early nineteenth century.

These will prove most effective when used with



hangings and upholstery material having a medium sized stripe, either in combinations of old blue and saffron or mauve and green. They would look well also with woven materials whose patterns are in self tones, the colors, of course, being warm and strong. These papers will take pictures admirably, and particularly those intimate ones we especially want in our sitting rooms. They cost only 32 cents per roll.

The 60-cents cretonne shown here is one that will express hominess in a superlative degree, and should be used with either a plain or striped yellow paper, as its rich hued flowers and birds are seen on a creamy striped ground.

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One of a set of six William and Mary Walnut Chairs covered in Petit Point Needlework, circa 1700.

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If it's to be a tinted room—ivory, cream or gray—surely to secure the cleanest, freshest tint the color must be mixed with the very whitest enamel—Enamolin.

Enamolin is as enduring as it is white. Cleaning it with soap and water, Sapolio or Pearline merely freshens its porcelain-like surface.

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The White Spot Booklet and sample panels of Enamolin and Namlac will convince you. Send for them. Address Suburban Dept.

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A PORTABLE HOUSE AND RUN FOR CHICKS

AS SOON as our fireless brooder chicks have passed their first babyhood—about the time they have a pretty fair growth of wing flights—we put them out on a grass plot. We do not wait until they get thin and lanky and weak on their legs, but choose a fair, mild day on which to make the change and any succeeding bad weather does not affect them, as this outside equipment is weather-proof. Each brood has a house, a scratching box, and a wire covered yard, each part of the equipment separate for easy moving.

The chicks' own hover is put in the house on several inches of straw and they feel at home from the start. The change is made early in the day or around noon—never at night.

We make two houses out of one large packing box, thus: first nail the lid on to the box carefully. Then measure and mark off the four long sides of the box into thirds. Using a straight board, draw a diagonal line on one of the broadest sides from a two-thirds mark to a one-third mark. On the opposite side of the box, a diagonal line

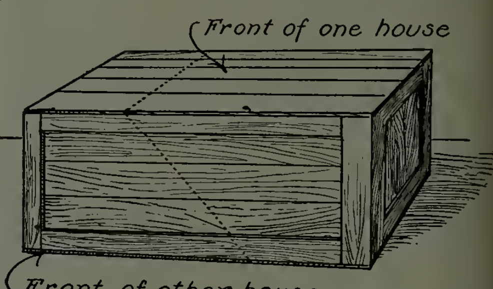

Diagram illustrating how to get two houses out of a large sized packing box. The dotted line shows the place for sawing

exactly similar to the first is drawn, and both of these lines are connected by straight lines drawn on the other two sides of the box. This pencil line all around the box is the line of sawing and when the sawing is done, we have two houses, each without a roof. Before commencing to saw, be sure that the lines are right to form two houses.

The bottom of each house is covered *on the outside* with linoleum, glazed side out, and over this a piece of two by four joist is nailed at each end, so that the house never rests on the ground. In place of linoleum a good piece of tarred roofing paper may be used, but not plain tar paper, for the idea is to provide a damp-proof floor to the house. The pieces of joist at each end should not be omitted for it is necessary to have the small air space under the house.

The front boards are all removed except the ones at each end. A solid board door is hung on one half of the front, the other half is covered with inch mesh netting (inch mesh to keep out rats). Near the bottom of the door an exit hole is cut and a slide attached for closing up at night. The roof boards should extend several inches over the house all around and be covered with a good, water-proof roofing felt.

The scratching box is as long as the width of the house and is 2 feet wide and 1 foot high; 2 x 4 joists are nailed on the bottom to keep the box off the ground. The side adjoining the house needs no boards, as the feed box is always kept close up to the house, and it is convenient to have the scratching box as light in weight as possible. The opposite long side has a small opening with a hinged door, leading to the wire yard. The top of the scratching box is entirely separate; it is a wire covered frame as large as the top of the box and is held to the box at both ends by little swinging hooks. This scratching box contains the litter in which the grain is scattered, also the water fountain, elevated on a brick.

The run is the width of the house and scratching box, 2 feet high and 12 feet long, but these dimensions could be changed to suit different conditions, of course. The sides and ends are enclosed with inch mesh netting, the top with 2 inch mesh netting. One end has an opening in the centre 4 inches wide, provided with a means of closing when necessary. Each outfit is provided with a flat cover made of boards, the same in length as the width of the roof of the house. It is 3 feet wide and has canvas curtains tacked on at each side. The cover protects the scratching box in rainy weather and the side curtains are

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DECORATIVE FURNITURE

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Flower Box No. 609. 9½ x 23 in. $7.00

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Kyanize simply will not scratch, check, soften, peel, turn color or stick to the furniture.

It is easy to apply and dries with a beautiful brilliancy of finish that lasts indefinitely.

It freshens, beautifies, and makes new every object of furniture—every bit of flooring and woodwork in the house.

And a Kyanized surface is a sanitary surface. It is so hard and smooth that it's no trick at all to keep it clean.

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The ERKINS STUDIOS
221 Lexington Avenue New York

let down or folded back as required. On cold days often one curtain is let down on the windward side. The cover always rests on the roof of the house and is easily pulled forward and pushed back by one person. When used for protection in the day time, the lower end of the cover rests on the wire run, so as to admit light to the scratching box. When shutting up the chicks for the night, the end of the cover is let away down to the edge of the scratching box and serves to keep the night cold out of the house as well as to protect the scratching box from dampness.

We like the wire covered runs for they can be pulled away from the house and feed box as the chicks get bigger and left on a fresh grass plot all day long. The runs are so light that one person can easily pull them around from place to place, the chicks running along inside the cage. The board cover is usually placed on one end of the wire run when it is pulled away from the house and serves as shade in hot weather or shelter from sudden showers.

Within the little house there are two roosting poles. The chicks learn to use these poles in the day time long before the hover is taken out.

We raise very early chicks and find that they are quite comfortable and contented with these houses even in severe weather, for there are many days when it is pleasant enough to let them out

Two of the box houses with wire runs, each accommodating thirty chicks. One house has the cover pulled over the scratching box and the curtains down for bad weather. The other one has the cover resting on the roof

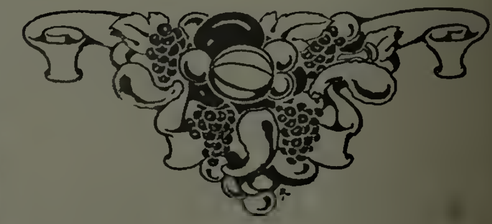
in the wire runs. We do not use lamps or heat of any kind in these houses—just a good bed of dry straw and a fireless hover and plenty of short straw in the scratching box. Of course we are particular in building the houses to have each one tight and free from any draft holes, and we always are careful to see that the outside curtains are fastened down tight on severely cold nights.

In localities where hawks, crows, mink, or weasels prey on the growing poultry, this equipment will be found especially useful and most satisfactory, for the chicks are perfectly safe in these houses and runs. It was to safeguard our chicks from skunks that we first originated this equipment.

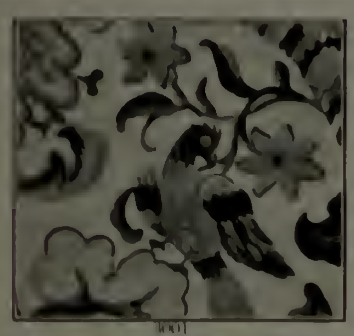
The care of growing chicks is simple and easy with these houses and there is no chance of losing them. While the chicks are small they are not allowed the use of the run in the early morning until the grass is dry. And if a shower comes up they are easily chased into the scratching box and the door leading into the run is closed.

As they get older and the sex can be distinguished, the pullets and cockerels are separated. When the cockerels have a house and run to themselves we usually dispense with their scratching box, drawing the wire run close up to the house, and feeding from pans placed in the run. The pullets remain in these houses and runs until they are large enough to be kept in the poultry yard and we never have the annoyance of chicks running loose around the place and damaging flower beds or garden.

P. B. RUGGLES.



Imported Cretonnes and Chintzes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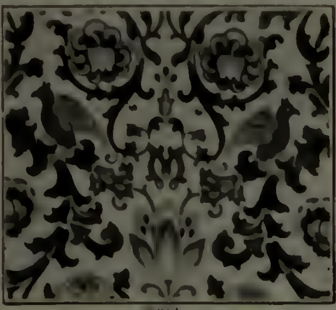
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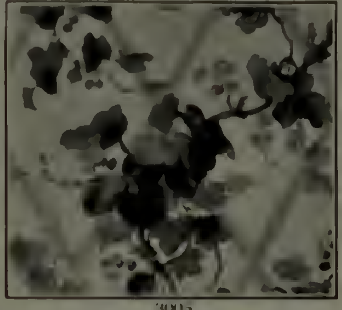
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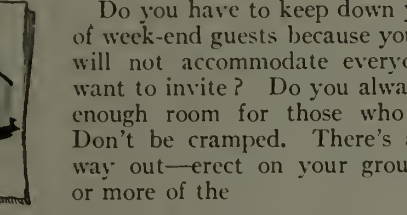

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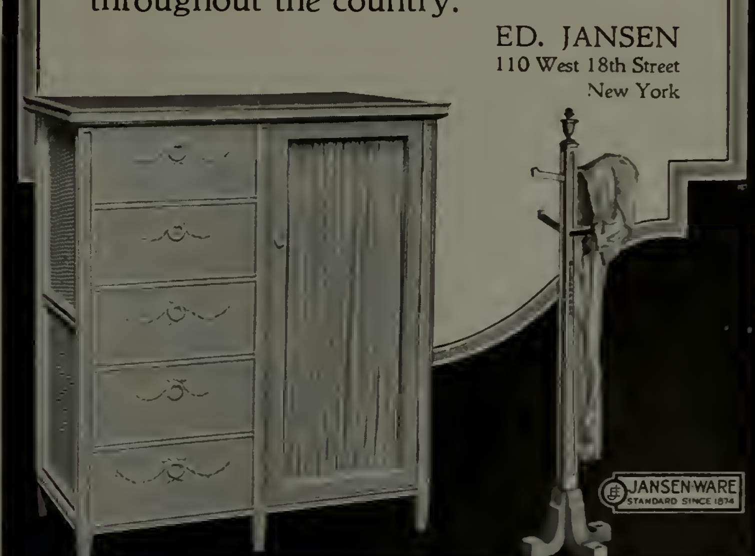

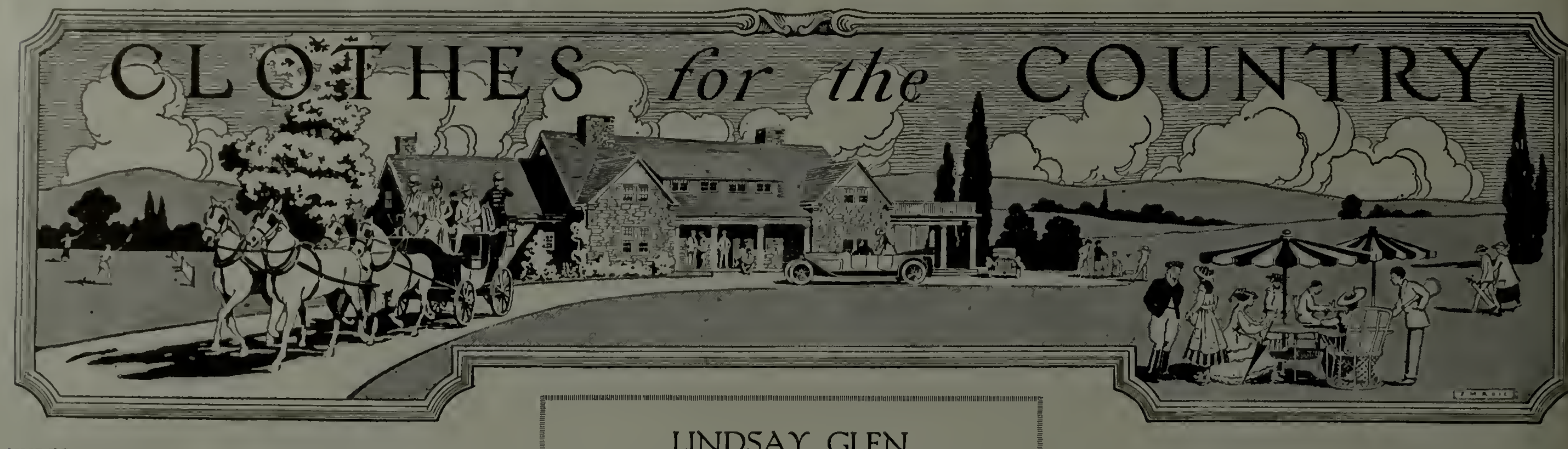

LINDSAY GLEN

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UNDER THE EYE OF THE MASTER OF THE HUNT

ON THE hunting field a man feels that he must be up to the mount and a little beyond in appearance. He cannot go far wrong in choosing his riding outfit, for the huntsman has followed the same form for centuries; but it is the finish and detail which denote smartness in the field. A funny story apropos of appearance has been told of Lord R——— who arrived at a morning meet at Melton Morbray with his top hat perched far back on his head and with a rakish dip to the right. This innovation met the eye of every young rider. Lord R———, being an arbiter of fashion, it was noticed at the next hunt that the huntsmen all appeared in top hats perched back and tilted on the right side; when truth to tell poor Lord R's——— London hatter had sent a hat two sizes too large and his Lordship had to resort to this strategy to keep the hat from falling about his ears.

The pink coat still typifies the formality which besets the first meet of the season. When perhaps the newly elected Master of Hounds has let it be whispered abroad that he means to be a martinet as to form and manners, it is then that the pink coat and white breeches are grudgingly worn. With this suit may be seen a pair of black leather boots with plain cuffs, though the younger men affect patent leather boots.

The waistcoat may be a fancy affair in brown or red or mustard color, with a smooth finish; it is not in evidence on the field, as the coat must be buttoned snugly to be in proper form. "Why bother about the waistcoat?" one man at the club asked another; no one sees it. "It's like our ancestors," was the reply, "nice to feel you have 'em."

The new top hat follows the general style of the wider brim and seems a wee bit taller, which gives it the appearance of the hat worn by the huntsman of other days.

There is little change in the stock worn with the formal hunting togs, though the smartest stock is less stiff than that of last year. The fit is everything; the stock will remain in place and smooth "if made properly and made for you and not your neighbor," as a huntsman growled. Stocks may be had in white pique or madras, figured or plain, and they have a secret little catch which makes for security.

The more popular suit for informal meets especially in the biting cold of the late fall, is the sack suit which comes in brown, gray, or black. The coat is a bit longer and cut on lines which follow the figure more closely. Some of the new coats have large side pockets with welted seams. The breeches are quite full and reinforced with a dull leather, the same color as the cloth.

Waistcoats are varied in style and some of the smartest ones are bound with braid of the same color or in direct contrast. A charming and effective waistcoat is in a snuff colored cloth with a small black figure, and bound with black braid. Another waistcoat is in a tan finished with brown braid.

RIDING TO THE HOUNDS

THE wiseacres have accused women of dressing to "run with the hare and hunt with the hounds as well." Such a thing from the masculine viewpoint would be impossible, and from the book of etiquette in the mind of the master of hounds, a social crime. For a woman to be a little ahead of the game gives a zest to the hunt, though she curbs her wish to be away with the hare. She feels that the crafty little victim is the best sport in the field; many a sigh of relief goes out from a most scrupulously got up huntswoman when the little hare or fox slyly doubles on the hound and reaches cover in safety.

The appearance of both horse and rider should be faultless. The huntswoman takes in every point in the condition of her mount before appearing for a silent inspection under the eye of the master of hounds, and is herself carefully turned out—"so as not to embarrass a sensitive thoroughbred" is the reason a young woman gave for her exquisite appearance in the hunting field.

Then, too, the modern manner of riding cross saddle makes essential infinite care in neatness and correctness. Badly cut riding clothes will ruin the appearance of even the best horsewoman; special care should be taken in the choice of models, and comfort fitting exacted.

The new models in cross saddle riding togs are fascinating this season. They are following the trend of fashion in adopting less sober coloring than in the past, and are seen in golden brown, wood green, and oxford colored clothes. Naturally the black cloth appeals to the conservative woman; many a famous rider still clings to the black habit with cutaway coat, red waistcoat, white stock, and shiny "topper" as the best form when she rides side saddle as she does on the bridle path.

A wool covert riding suit in a leather color is one of the stunning new models. The coat is double breasted with a full skirt reaching half way to the knee; it has a black velvet collar and cuffs and is lined with a leather colored silk. The breeches are full and are buttoned snugly below the knee, they are lined with chamois and are reinforced on the under knee with a leather colored buckskin. This suit also comes in the same model in a golden brown, wood green, or oxford.

The innovation in color gives the present-day meet a dazzling effect, the varied colored suits offsetting in picturesqueness the pink coats of the huntsman when the pack is in full cry and the scamper across the field is on.

If she wears leggings and calfskin boots, she wears a bowler. This new riding derby has a broad brim and is a much larger hat than any to which we have been accustomed on this side of the water. Another new hat for the hunting season is a silk beaver in the derby shape with a smart crown and a rather wide brim. The top hat changes little; it is perhaps curved slightly in the crown and the brim is a trifle wider, but like a man's hat the variations are noticeable only to those in the know.

One of the season's newest models in a wool covert cloth hunting suit in leather color. The breeches are lined in chamois and reinforced with leather colored buckskin. This suit is effective in coloring and smart in cut

Imported English riding hats, the latest model in a silk beaver is a bowler shape with the round crown and broad, flat brim. Noticeable too in the derby at the right

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Drag Hunt at Easthampton, L. I. Richard Newton (master) and his pack

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Maillard

THE lack of formality in entertaining this season has made the long, heavy function of the old time hunt breakfast a thing of the past.

The modern repast after the run is a light affair in quantity, but still retains the spirit of hospitality and sport which gave zest to the meet in the days when the finish of poor Reynard came near the manor of some doughty and gouty squire or dame, who presided over the elaborate spread which bespoke the idler and the gourmet.

To-day the huntsman is a busy man of affairs, but no less keen a sportsman. The first chill days of autumn find him as alert as the pack to be off for the exciting cross country run, but since the rules of good health, and good looks have become an obsession, he eats less and more wisely, rides better, and lives longer than of old. A huntsman added to my remark, "yes, but the excitement of the run makes him as savage as any hound in the pack at the sight of a Duck St. Albans or a cold pigeon pot pie."

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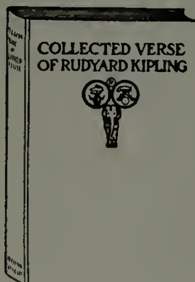

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THE COUNTY AGENT AS MORTGAGE BROKER

IT IS a characteristic of most of our county agricultural agents or advisors that they are not satisfied to solve the obvious problems that rise up before them in their regular line of duty, but must needs look beneath the surface and around corners for hidden difficulties and opportunities to be of service. To our knowledge, the most advanced position in this campaign has been attained by Agriculturist J. A. Morrison of Franklin County, Idaho, who states and justifies his position and self-imposed task in part as follows:

"I feel that the most essential thing in our agricultural development is the privilege of cheaper money for our farmers. They have the best possible security in the form of first mortgages on their lands, and if they could secure money at from 5 to 6 per cent. it would be the greatest boon to our agriculture development that could possibly come to us.

"Throughout a large part of the West there has long prevailed an exorbitant interest rate ranging from 8 to 10 per cent., and this still persists in spite of the fact that our development has of late been such as to leave little or no risk in mortgage loans. Our securities are as good as any in the country. We are located in one of the best agricultural valleys in the inter-mountain section. It has been settled for practically sixty years and our farming systems have become permanent and stable. A large portion of our lands are irrigated and grow such crops as alfalfa, potatoes, sugar beets, wheat, oats, barley, apples, plums, peaches, pears, and berries. We have two immense sugar-factories and five condensed milk factories, dairying being one of the important local industries. Hogs and sheep are abundant and superior horses are produced here. The very fact that a good many farmers are prospering in the face of this exorbitant interest rate is additional evidence of the profitableness of our farming and an indication of the widespread prosperity that might be expected under better conditions.

"As agricultural agent with the interests of better agriculture, better home and community life at heart, and wishing at the same time to protect the interests of people who have saved a reasonable amount of money which they are willing to loan on good security at a legitimate interest rate, I would be very pleased to spend a little time each week in bringing together persons who are hunting avenues for the legitimate use of their money and farmers here who have valuable, safe farm mortgage securities, and who need so much the use of money at a lower rate of interest. My service in this connection will be free to all parties concerned, as I feel that there is no other way in which I could do as much to assist the farmers of our county."

We see certain advantages in such a plan as he desires to work out; but we also see hidden dangers. The business of broker—whether of farm mortgages or "war babies"—is a vocation in itself and a difficult one to combine with such a position as that of county agent. It is of course desirable that an investor have a reliable and accurate source of information as to the value of his proposed security, and no professional broker could hope to have as thorough a knowledge along this line as an agriculturist whose daily work carries him inside the bounds that usually enclose the farmer's business and financial affairs and prospects. But it is because of just this intimate relationship between the county adviser and his farmer patrons—or employers—that difficulties might arise from his attempts to place their mortgages. His lack of information and experience, if any, would be in regard to the status of the other party in the transaction—the investor.

However, the idea is a new one and it is hardly fair to call attention to the disadvantages that suggest themselves, when in its desire it is so unselfish and worthy a scheme. There are many instances in our agricultural industry where the one most needed feature is a connecting link between buyer and seller, between producer and consumer, a medium for the exchange of a commodity and its equivalent; it is just such an office that Mr. Morrison aims to fill. May his success in doing it be in proportion to the merit of his aim.

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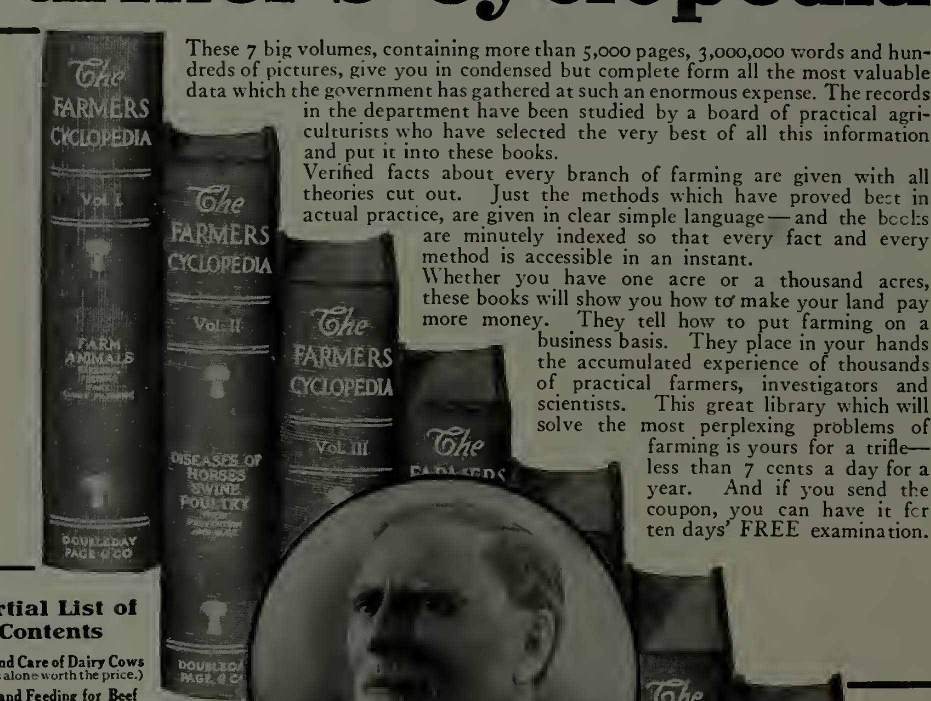

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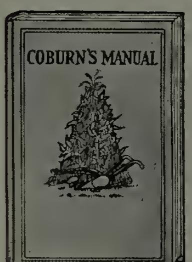

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A NEW USE FOR THE COTTON PLANT

A FACTOR of vital importance in the now widespread conservation movement is the necessity for discovering a satisfactory substitute for wood pulp. The demand for paper—of which pulp has long been the principal source—grows steadily, not only for the making of books, magazines, catalogues, newspapers, etc., but also for the manufacture of other unrelated objects, ranging from cartwheels to Christmas tree ornaments. Likewise modern science has found many new uses for the cellulose of which paper is largely composed, in connection with such activities as the making of textiles, celluloid, explosives, etc.

The disastrous effects on our forests and our farms of this insatiable demand has already become apparent. Not only is the supply of pulp timber becoming alarmingly small and the cost of pulp production excessively high, but also the wholesale depletion of the forests and the extravagant lumbering methods have exacted a painfully heavy toll in the form of eroded hillsides, lessened fertility of farm lands, destructive floods, and a definite diminution of the underground water supply in many sections. It is gradually becoming realized that vigorous tree growth, especially on rolling and mountainous lands in humid regions, is the best and most efficient means for remedying these evils and thereby helping greatly to maintain our agricultural and, in general, our entire national welfare.

The use of the cotton stalk as a substitute for wood pulp would open up new money-making possibilities for the cotton-growing states

Meantime the ravaging of the remaining forests must be checked. As ex-Secretary of Agriculture Wilson has said, "It is only a question of a limited number of years until paper fibre must be grown as a crop, as are practically all other plant materials entering into the economies of man." What particular plant will be chosen for this purpose it is hard to say, but in the realm of by-products there is already offered in the cotton stalk a worthy substitute for wood pulp.

That the supply can equal the demand seems beyond doubt, for by the time the production (as a by-product) of any one year proves inadequate, the status of the material will in all probability justify the growing of the plant for the stalk alone and even for applying to its cultivation the principles of plant breeding toward developing a larger stemmed, woodier type.

To-day we are actually throwing away this valuable material, just as in past years we wasted and destroyed cotton seed, the value of which now represents more than 13 per cent. of the entire value of the cotton crop of the country. That such waste must be stopped is obvious; that it *is* soon to end is practically certain. A significant fact is that the Bureau of Standards of the

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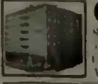

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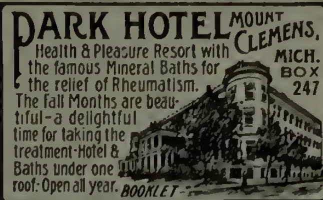

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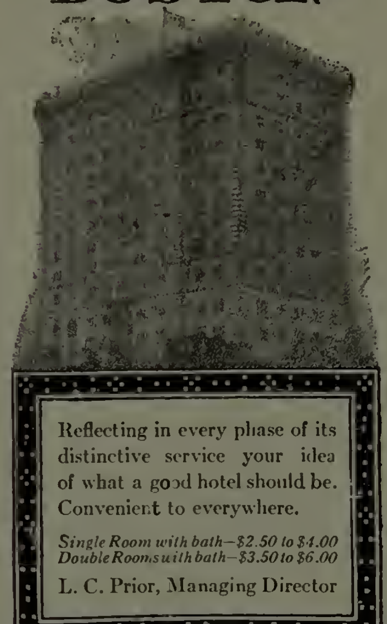

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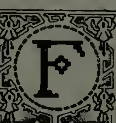
These men will gladly answer any of your questions about your home, its grounds and furnishings, if you will write and give them the necessary details. We will be glad to have you use this Readers' Service just as often as you desire.

Readers' Service Dep't., Country Life in America

Department of Agriculture is now working on this problem of utilizing the cotton stalk, with promise of early and considerable success. And this is independent of the efforts of individual inventors who have devised satisfactory methods for converting the raw material, some of which are already being tested out. A very few years should produce amazing results in this long neglected but inviting field.

In addition to this largest aspect of the question there are other supplementary but highly important possibilities. The harvesting of the stalks will remove from the field an excellent winter breeding place for injurious insects; moreover, the acquisition by the haulms of a definite value will absolutely remove the possibility of the crop ever being an absolute loss despite the effects of drought, the boll worm, etc. The cotton crop would always be planted with the assured certainty of some return. Another attractive factor is the difference in the cost of harvesting and transporting the stalks to the mill, as contrasted with the handling of pulp timber. And while there will be a tremendous saving of labor here, there will be increased opportunity for the employment of many individuals in the working up of the stalks into pulp, cellulose, and its subsequent products. E. L. MAY.

A SUCCESSFUL FIRELESS BROODER



FOR more than five years we have been raising our chicks in fireless brooders, with marked success. On account of the additional strength and hardiness displayed by the chicks and the minimum of labor attached, we would never go back to the heated brooder or the mother hen.

The brooders we use are of our own construction and are made from sugar barrel lids—the old, familiar ones that may be bought for a quarter at a hardware store. They are strong and well made, with two elliptical shaped holes in the middle to slip the fingers through when raising the lid. To keep dust and dirt from entering the barrel through these two holes, there is a circular, curved piece of tin underneath, held in place by three or four small tacks.

To make the brooder, first remove the circular piece of tin by prying up the tacks with a screw driver or knife. Do not injure the piece of tin for it is to be used again. From an old broom handle cut four pieces 3 inches long (these are the legs that support the hover) and fasten these pieces to the cover near the edges by means of screws put in from the top. Lay cotton or wool batting on the inside of the hover and cover it with a piece of flannel cut several inches larger than the top. Tack the flannel around the edges and at intervals through the centre, like tufted upholstery, but *do not cover the two holes in the centre* (these are for ventilation). Tack a strip of heavy flannel or felt all around the outside edge, just wide enough to escape the floor, and slit this curtain every 2 inches all around.

For the ventilator, cut off a piece of the broom handle one inch long. This is placed on the outside of the top between the two holes and is held by a screw put in from the under side. The circular piece of tin is placed concave side down on the little piece of wood and fastened with a long tack.

This brooder placed over a bed of chaff makes a nice, warm, comfortable mother for little chicks. The ventilator carries off the foul air and excess moisture arising from the warm chicks, and there is no huddling together in the centre.

The same brooder hovers the chicks from babyhood until they are big enough to roost. As the chicks grow the hover must be raised, and this is provided for by an additional set of legs an inch longer than the first set. We have no trouble training the chicks to go to the hover, and for this purpose use a little strategy from the start. Their scratching feed, bits of small grain, is scattered in the litter under and around the edges of the hover, and the chicks learn from the start that the wooden mother not only provides food, but warmth and shelter as well. It is amusing to note how plaintive and persistent is their cry when the hover, temporarily removed for a thorough cleaning of the pen, is not immediately returned. We usually place from thirty to forty chicks under each of these brooders, although experience has proven that they will hover a much smaller number of chicks equally well. P. B. RUGGLES.

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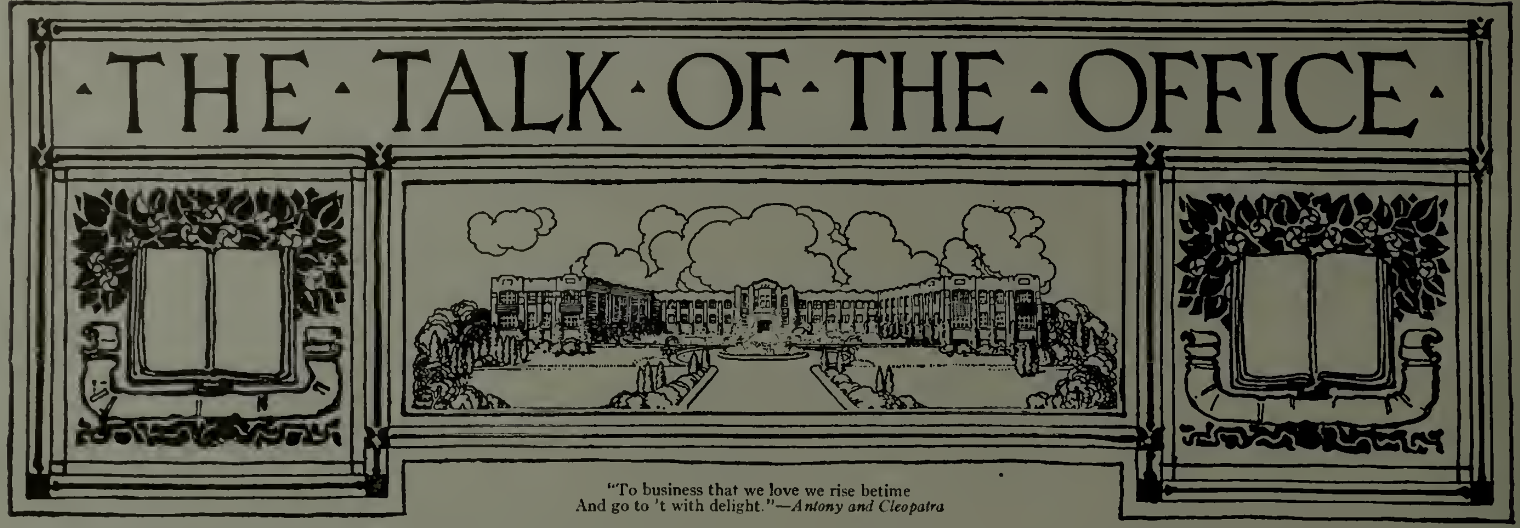


"To business that we love we rise betime
And go to 't with delight."—*Antony and Cleopatra*

RUDYARD KIPLING

THE first six months of 1916 have been a wonderful season for the sale of Mr. Kipling's books. For the last ten years the regular sales have steadily gone up, but this year the record has been exceptional, and if you will go in any bookstore anywhere in the United States, you will find the green cloth edition and the limp red leather edition well stocked. If you want a more expensive edition, Charles Scribner's Sons supply the "Outward Bound Edition" in complete sets; or if you aspire to the strictly limited and signed (with Mr. Kipling's own pen) "Seven Seas Edition," Doubleday, Page & Company can still supply a few sets at six dollars a volume. The value of the few copies which are left is rising.

If you would like a copy of The Kipling Index, including the short sketch, "My First Book," Doubleday, Page & Company, Garden City, N. Y., will be happy to send a copy with their compliments.

STEWART EDWARD WHITE

There are a good many people who find the novels of this writer about the most interesting stories in the world. He has just finished—and the book will come from the press October 2nd—a novel which is original in many ways.

The scene is laid in Africa, and the title is "The Leopard Woman." There may be some question as to the attractions of this title, but the reader will not care under what name so entertaining a story is printed. It has to do with a maid and a famous explorer, each—and quite independently—going into a wild country in mid-Africa to treat with a savage king about affairs associated with the great war. To describe the tale in full would take from the enjoyment of the reader, but it may be said that this explorer does not have things all his own way, and there are clever white women even in central Africa. Even that remarkable person, "The Tired Business Man," will be thankful to get hold of this book.

HOW SHORT CAN A SHORT STORY BE?

In the attempt to answer this question *Life* held last year a very interesting prize competition. Stories submitted were to be not longer than 1,500 words. The stories accepted were to be paid for at the rate of 10 cents a word for every word *under* 1500 which the author *did not write?* In addition, three leading prizes (aggregating $1,750) were given to the three stories adjudged best. This contest brought 30,000 MSS. from all parts of the world into the office of *Life.* Of these eighty-one stories were printed. The longest was 1,495 words for which the author received 50 cents. The shortest was 76 words, and the author received $142.40. The eighty-one accepted stories proved so interesting that we have issued them in book form under the title "Shortest Stories from *Life*" with an introduction by Thomas L. Masson. They range over every mood and every kind of plot, some by writers well known and others by those whose names may some day be famous.

How O. Henry would have revelled in a contest of this sort!

"CASUALS OF THE SEA"

We have just published a novel of very unusual calibre, to which we respectfully call your attention. "Casuals of the Sea," by William McFee, introduces to discerning readers a writer of remarkable power and promise. Mr. McFee has been a steamship engineer for a dozen years and holds a chief's certificate in both the British and American merchant marine. He is now on a British transport in the Mediterranean. "Casuals of the Sea" has received high praise from discriminating critics. It is not essentially a sea story: only in the latter part of the book do we go upon salt water. It describes the voyage through life of a brother and sister, born in a poor family in the north of London. It is a kindly and absorbing survey of the lives of the poor who are set adrift on the great ocean of life with small lore of navigation to lay a course by.

Later: The first edition has been sold and the second has been largely consumed.

OUR MOTION PICTURE FILM

We have been very much pleased by the wide interest shown in our motion picture film "Making Books and Magazines." Besides the original film, which has been shown by booksellers, clubs, schools, etc., in a number of large cities, the Pathescope Company have made three copies of the reels on their non-inflammable film. These are being shown in the Pathe Educational circuit. We have also prepared a little booklet describing in detail the operations photographed on the film. We shall be very glad to send this to any one who is interested enough to write for a copy. Address the Editorial Department.

SIR HUGH CLIFFORD

Before he was twenty-one, Sir Hugh Clifford had added 15,000 square miles to the British Empire. This was one of the extraordinary achievements of the young civil servant who was sent to Malaya before he was out of his teens. In the preface to "The Further Side of Silence," a remarkable book of stories which we have just published, Sir Hugh tells something of his experiences in that strange part of the world of which both he and Conrad write so vividly.

Sir Hugh Clifford's previous book of stories, "Malayan Monochromes," is also well worth reading for those who are interested in stories of queer Oriental places consummately told.

A MATE TO "TWIN FIRES"

Did you read a book by Walter Prichard Eaton called "The Idyl of Twin Fires"? About one hundredth part of the inhabitants of these United States who would have enjoyed it hugely have had that pleasure. We have not yet been able to tell the other 99 per cent. about it, yet the circle is growing. It's a delightful, tender and quaint country romance. Ask any book authority in or out of a bookstore if we are not correct.

But what we started to say was that Mr. Eaton has written a new book called "The Bird House Man"; and if you are an advocate of romance and a lover of the more gentle aspects of nature, get and read it.

MRS. GENE STRATTON-PORTER'S NEW BOOK

Later in the month of October there will be issued a book made for one child which will interest all other children. It is called "Morning Face," and is full of happy stories, verses and pictures made by the author of "Freckles," "A Girl of the Limberlost," etc.

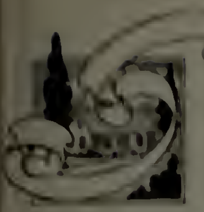
New editions have been made of Mrs. Porter's books in Europe, Australia, Africa, and many other places; and the sales are still extraordinary, especially when we remember how truly American her books are. The aggregate of these foreign sales is many hundreds of thousands of copies.

O. HENRY'S BIRTHDAY

Had O. Henry lived, he would have celebrated on last September eleventh his fifty-fourth birthday. While it is idle to speculate upon what basis his literary standing would have been if he were alive, it is nevertheless interesting to note that with this anniversary he occupies a unique place in American letters. True, there are those who have called O. Henry a pernicious influence upon the art of short story writing in America, but from the editorial comments upon this statement and from the difficulty we have in keeping up with the demand for the books, we believe the reading public is far from thinking of him in that light.

And now, six years after his death, he is read extensively not only in America, but also in England and France. In the latter country his works are being translated slowly, but in England O. Henry has taken the war-harassed public by storm. On this anniversary O. Henry is being brought out in England in a shilling edition of which the publishers expect to sell more than a million copies. All of the O. Henry books have been published in England in the standard edition, which continues to sell right along with the popular shilling reprint.

At the same time O. Henry's fifty-fourth anniversary in this country sees a complete biography of him on the eve of publication. For three years Professor C. Alphonso Smith, Edgar Allan Poe Professor of English at the University of Virginia and a boyhood chum of Sydney Porter's has been engaged in gathering material for this biography, which Doubleday, Page & Company will bring out in October.



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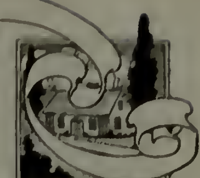

HENRY H. SAYLOR, EDITOR

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THE STAIRWAY AT COGSHILL, THE HOME OF MISS JESSIE WILLCOX SMITH AT ST. MARTINS, PA.

COUNTRY LIFE IN AMERICA

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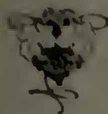

The south front of Cogshill and the approach through the orchard. Edmund B. Gilchrist, Architect

COGSHILL, ST. MARTINS

The Home of Miss Jessie Willcox Smith

By Harold Donaldson Eberlein

COGSHILL, ST. MARTINS, the home of Miss Jessie Willcox Smith, overhanging the brink of the Cresheim Valley near Chestnut Hill, Philadelphia, is a house invested with double interest. In the first place, it is the abode and workshop of one whose notable achievements as a painter of children have made her name a household word. In the second place it has a vital architectural interest quite independent of any personal associations attaching to its ownership and occupancy. The pictorial appeal exerted by its setting and general aspect seizes firmly upon the popular imagination, but back of and more important than this pictorial appeal, though not so obvious, perhaps, at first glance, are two fundamental facts that constitute the chief architectural claim to consideration. The house is eminently suitable to the requirements for which it was designed, and it is physically expressive of its plan and purpose. It is also—and this feature is even more significant than the foregoing characteristics—indicative of a strong and steadily increasing trend in the present development of American domestic architecture, as we shall see by an analysis of its composition and structure.

Cogshill stands so near the edge of the abrupt drop into the Cresheim Valley that the tops of tall trees a little way down the hill are on a line with the garden level. To the south, the ground slopes gradually upward to the summit of a rise a few hundred yards distant. East, west, and north the view is uninterrupted. The approach is from the south by a straight walk of random laid stone, through an old apple orchard. West of the orchard is the vegetable garden, while west and north of the house are the flower garden and lawn, an arrangement of orientation not altogether ideal, perhaps, but the best suited to the exigencies of site. The orchard south of the house is in its pristine condition, save that it has been cleaned up and attention given the grass, and the branching of the apple trees above the top of the kitchen yard wall affords just enough of a screen for the service wing at the southwest corner of the building. For enclosure about the grounds there is a whitewashed fence of posts with horizontal boards at top and mid-high. Inside of this is a hedge of cockspur thorn bushes. A lane on the eastern boundary drops at a steep grade, and at this point begins the wall of the kitchen yard, built of native quarry-faced stone laid in narrow courses with raked joints. This wall is continued as the protecting barrier of the garden and forms the back of the pergola. There the joints are not raked but are plastered flush with the face of the stone so that the surface of the wall, though coarse in texture, is even. The round pergola piers are of stone covered with cement stucco. Both the pergola and the little formal flower garden beside it, with its stone-curbed pool in the centre, are in full view of the studio door and are reached thence by crossing a grass terrace and descending a flight of stone steps. The credit for all

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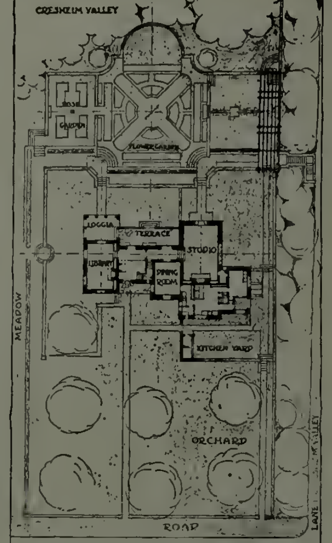
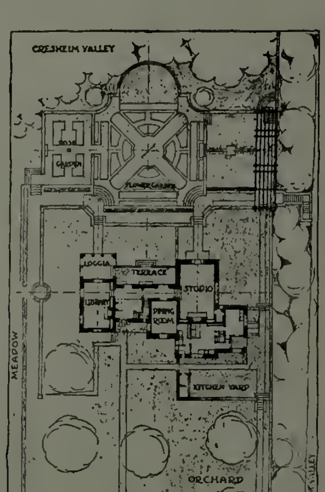
the beauty of the gardens belongs to Miss Cozens, Miss Smith's close friend and a fellow occupant of Cogshill.

The house measures up to the striking opportunities of the setting, and the harmonious composition of the structure with its surroundings affords an impressive example of the wisdom of regarding dwelling and grounds together as an indivisible whole, a principle that is far too often honored in the breach rather than in the observance. The close sense of relation between structure and site is emphasized, to begin with, by the way in which the house follows the contour of the ground, apparently clinging to it and growing naturally from it rather than perching upon it in a detached fashion. This necessitates different floor levels within, so that one descends into the studio and into the library, at opposite ends of the house, while the portion between is several feet higher to correspond with the level of the approach through the orchard.

Although Cogshill is rich in the pictorial quality previously alluded to, common-sense has not been sacrificed to an itching solicitude for picturesque effect, and there is an obvious reason for all the several features that contribute to the general result. The requirements that determined the principal physical features of the plan were a large studio, a generous sized living room, a sleeping porch, a porch or loggia on the ground floor, a sufficient number of bedchambers, and an abundance of light. Lighting necessities demanded that the studio have a northern or northeastern exposure and a large window, and practical reasons dictated the possibility of complete seclusion from the rest of the house when there is need. Preference required for the living room or library southern and western light, and common-sense placed the loggia where it would command an outlook upon the garden, while for the dining room a southern exposure was especially desirable. As space was not restricted, one obvious solution that would fulfil all the desiderata, was to adopt an H-plan with a long horizontal, putting the two chief rooms, the studio and the library, in the wings or uprights of the H. Along the north side of the H horizontal, a long gallery was planned on each floor to give access to the rooms and insure to them the full advantage of all southern windows. The space covered by the ground floor made it possible to have all the requisite upstairs rooms on one floor, thus doing away with a third floor and dormers, and permitting an agreeable long and low-lying composition. With all the items of the interior plan the external mass and detail faithfully conform.

While the sincerity of Cogshill is admirable in point of correspondence between interior plan and external treatment, and also in point of suitability to the requirements previously set forth, the chief interest attaching to the house, from architectural considerations, consists in the mode of expression employed and in its relation to the contemporary development of domestic styles in America. The architect, Mr. Edmund B. Gilchrist, though following, in a measure, a general scheme manifestly inspired by a modern English form of treatment in which certain Norman influences are clearly discernible (a form of which Mr. Lutyens has been a signally successful exponent in England), has not confined himself within the strait limits of academic exactitude, but has made a felicitous blending of several widely diverse modes, drawing from each such features as seemed best fitted to meet the needs of the moment. The result of this combination the purist may declare is conglomerate or even daringly eclectic, but the candid critic will also recognize that it is full of vitality, healthily elastic, and replete with living interest.

The general mass of the structure is English and so also are the house door of late Gothic origin, the roof free of the inquietude of dormers, and the brick chimney stacks rising from substantial broached bases. The slope of the roofs, the restrained and shallow moldings of the gable and cornices, the kick-up at the eaves, the broad, unbroken, white wall spaces, and the shape of the light heads in the mullioned stair window point to

Plot plan of Cogshill. The old orchard intervenes between the house and the highway, while the flower gardens are at the rear, overlooking Cresheim Valley

The design of the studio doorway and the openings above it proclaim Italian inspiration

Looking up the flagged walk from the formal garden directly into the studio door

The north or garden front. The close sense of relation between structure and site is emphasized by the way in which the house follows the contour of the ground

Norman ancestry. The treatment of the arched loggia and the terrace windows of the north front, and likewise the design of the studio doorway and the openings of the sleeping porch incorporated in the same wing above the studio, proclaim Italian inspiration. Inside the house, the open timber roof of the stair hall, the arrangement of the upper gallery, and the banisters of the stair echo British tradition; the hall fireplace and the studio fireplace bespeak respectively French and Italian origins, while the doorway from the studio into the gallery and the design of the overmantel in the library find their counterparts in much of the Georgian work to be seen in the Philadelphia neighborhood.

The composite character of the house contains the very essence of its appeal to the imagination and of its claim to suitability for present needs. Therein lie at once its modernity and its vitality and the originality of its conception. Domestic architecture presumably represents and is the outcome of contemporary ideals, habits, and conditions of life, growing and developing concurrently with the growing and developing needs of each successive generation. The best and truest types of domestic architecture in the past have always thus faithfully reflected the conditions out of which they grew and of which they were a part, and it is not too much to expect that veracious domestic architecture to-day should likewise mirror with equal fidelity the social habits and ideals of life characteristic of the present generation. The present generation of Americans is nothing if not eclectic and composite in its tastes and habits, drawing and adapting, as it does, its ideals from a hundred different sources, sometimes with true discrimination coupled with a catholic appreciation of whatever is intrinsically good, sometimes with a random disregard of balance or consistency. It is eminently appropriate, therefore, that modern domestic architecture should partake of this catholicity of taste in the adaptations it displays, so long as the adaptations are made in the light of reason and good judgment. And Cogshill is an admirable example of just such sane adaptation drawn from sundry past types.

The full significance of one other point in the design of Cogshill, already referred to, must not be overlooked. Sundry Italian features were noted in the cursory analysis of composition, and it is owing to the presence of these Italian features and their obviously successful assimilation for American domestic requirements that the treatment of Cogshill is indicative of another vigorous and increasing trend in the progress of American house architecture. We are coming more and more to see that similarity of climate, during part of the year, and our bias toward outdoor life make the adoption of certain Italian forms especially suitable for our own use, and that their incorporation in our homes will result in more complete comfort and consistency than could in most cases be attained by a rigid adherence to English precedents only.

In conclusion one may say that Cogshill stands as an enduring witness, a realized result, of successfully putting into practice the ideal of systematic and intelligent collaboration between architect and client.

The studio on the east balances the library on the west, both rooms being on a lower level than the central part of the house

View from the studio along the gallery to the library

The dining room adjoins the studio on the southwest, which location provides it with the desired southern exposure

The reverse view from that shown at left of page

One of Miss Smith's favorite rooms is the library—a weakness evidently shared by the household cat, Jack. He is a veteran of twelve years, and is generally conceded the right of way when it comes to a choice of cushioned chairs

FOUR GOOD HALLS

Drawings by

In the vestibule doorway there has been a too radical departure from the spirit and letter of early American work, on which this hall is evidently based. The larger picture of this pair, as with each of the pairs, is reproduced from a drawing in which this doorway detail is improved. The lighting fixtures are replaced by others more in harmony with the period. White painted wainscoting has been added on the stairway, the corner blocks of doorway trim removed, and a picture breaks the stairway wall space

This hall has been improved by removing what is evidently some fabric from the dado between baseboard and chair rail and enameling this space white like the woodwork. A plain paper has been substituted for the figured pattern in the interests of restfulness. The sofa covering has been changed for the better, the table given another location, and the tall clock put in the corner space that might have been made purposely for it

THAT MIGHT BE MADE BETTER

Charles A. Webb

In the hall shown below, the doorway at the far end is not good and has been replaced in the drawing (to the right) by a door glazed throughout its height. The original ceiling lights are unsuitable and have given way to side brackets—a single ceiling fixture would probably have brought difficulties as the height is not great enough to carry it. A feeling of spaciousness has been secured by omitting the stair carpet and using a light, plain paper or fabric on the walls.

The sofa, not in keeping with the other good furniture, has been replaced by a chair covered with cretonne to add a bit of strong color to the white walls. Leaded sidelights should not extend to floor, but have instead a wood panel in the lower part. Wall paneling moldings, as seen over the living room doorway, are too heavy. The wainscot cap molding of mahogany seems too obtrusive a line. Too great contrast is offered by the dark, solid-color draperies, which have been changed, say to damask

The FIREPLACE IN A PANELED WALL

By John Taylor Boyd, Jr.

FIREPLACE and chimneybreast decoration presents one of the most interesting problems that a designer has to solve. Like the entrances on the exterior, or the staircase inside, the architecture of the hearth offers endless opportunities for inspiring the artist's imagination and for testing all his taste and skill. Notwithstanding the remarkable variety of fireplace types, the subject seems far from being exhausted, and often one is surprised at some new turn of fancy, some pleasing conceit of a keen mind in giving a new form to ancient devices.

A homelike fireplace, the large dark mass of whose opening furnishes a background for the flames and for the white wooden mantel enframing it

From a technical point of view, the design of the fireplace is chiefly difficult because, in the scheme of decoration of any room, it represents an important point of interest where different materials must be combined in providing the necessary transition from the rough, fire-resisting materials of the fire opening and hearth, to the more finished portion of the room and its furniture and hangings. This transition must always be made without losing the homely aspect, the expression of the hearth-fire idea so highly prized. It will be readily seen that in fireplaces are particularly apparent the chief faults of the design of interiors, namely, the unskilful use of materials and surfaces, and especially of colors and textures. However capable architects have become in the treatment of exteriors, they have yet to learn much of color and texture indoors, where they are even more important than they are outside.

It is good that recent years have witnessed much improvement in the treatment of texture, and to know that there is a small group of forward-looking designers who feel that the surfaces of walls and ceilings, of masonry, ironwork, and woodwork, deserve just as much attention as do the hangings and furniture. These men seek to avoid hard, cold, shiny surfaces, the glovelike machine finish characteristic of commonplace work. To cite just one specific instance of this new idea—I say new, but it is really a rediscovery of an old principle of art—some architects are modifying methods used in plasterwork. Where usually specifications read that plaster surfaces shall be "plumb and true"—corners precised with steel corner beads, moldings run absolutely even and straight, they now exact slightly wavy surfaces (made without the plasterer's screeds), lines somewhat uneven, and surfaces broken up by means of a delicate mottled texture, which catches minute points of light and shade, and thus softens and enriches any color that is brushed over the walls, and which further lends to heavy oil paint the transparent qualities of water color on paper. This may seem far-fetched, or an undue striving for effect, but really it is not. The purpose of such work is not a mere dilettante affectation of the antique—to make things look old—but rather a sincere effort to get away from the cold perfection of machines, to infuse instead something of the life, the interest, and the personality—what Ruskin would call the touch of love—that only the human hand can impart. The imperfections of a good freehand sketch are infinitely more beautiful than the accuracies of a mechanical drawing made by T-square and triangle, and right here is the motive of the best modern work: to give to wood and plaster and iron and other materials of construction the beauty and loveliness of an accomplished freehand drawing.

A consistent example of fine treatment of materials—paneled chimneybreast, and fireplace opening outlined by molding

In applying these ideas to fireplace design, it will be found that the chief difficulty lies in the treatment of the masonry of hearth and fireplace opening. If brickwork is used, great care is necessary to avoid strong variations of color, an appearance of spottiness, or a contrast of bright white joints, which are exactly the qualities so desirable in exteriors. The radiating white joints of the arch opening and fireplace jambs that one often sees seem to me extremely crude and disturbing, besides distracting the eye from the good proportions of the mantel enframement. Where such prominent joints occur in one or two of the illustrations in these pages, the architect probably felt that the smoke of the fire would soon tone down their harsh effect. On the whole, to achieve that simple, big unity so essential in good design, the masonry of the fireplace opening should present a large, dark mass that furnishes at once a background for the flames on the hearth and for the mantel enframing it. I know of no better instance of the proper treatment of masonry and mantel than the fireplaces in the old stone houses built by the Holland farmers in New Jersey a century or more ago. Of all the interiors of structures remaining to us from Col-

Fine monumental treatment showing an extremely good use of materials, yet with delicate scale of mantel; a rich but broad effect

A very unusual and very good fireplace arrangement—one of the rare cases embodying the successful use of a large mass of brick in an interior

Simplicity softened and beautified by a strong home feeling, constitute the charm of the old time fireplace

An old Colonial fireplace with paneled overmantel which fits admirably into the scheme of the room's woodwork

onial times, none are more charmingly homelike than those of the Dutch houses. In them the fireplaces are a crowning excellence. Great, roomy structures they are, with a narrow four- or five-inch facing of brick or of stone which is surrounded by a large expanse of wood mantel of most perfect and varied design. Both fire opening and facing are almost invariably painted black, and the result is a large, sooty hole affording a splendid foil for the play of flames, the gleam of coals on a thick bed of ashes, and the glistening equipment of old brass andirons, fenders, pokers, etc., on the stone hearth, all forming a picture whose frame is an exquisite wooden mantel painted white or a very light gray. The whole effect is a Rembrandtesque play of flickering light against deep gloom, and highlights of metalwork against dark shade. More perfect interior decoration would be difficult to find anywhere.

This idea of painting the brickwork usually works well. If blacks seems too strong, in certain more delicate interiors a rich gray may be adopted instead, and I recall a splendid old fireplace on the island of

An effective arrangement—the mantel at the end of the room worked in together with the bookcases which extend along the sides

Illustrating an unusually good use of marble in the chimney breast

Nantucket where the brickwork was painted a deep violet red. In another interesting small room in New Jersey the facing was painted a bright orange—a true orange with much vermilion in it. This particular room was a cheerful seashore one of walls painted a gay orange and ceiling a light blue. A more common treatment is to use a tan or gray firebrick with almost imperceptible joints for the fireplace opening and hearth. Where there is stained woodwork, a stone, marble, or tile facing and hearth seems generally preferable to brick. Incidentally, a too coarse texture and too strong variations of color in brick hardly belong in an interior.

Of all the materials for facings and hearth none is better than tile, though none has been more thoroughly abused; nevertheless, some tiling made to-day is as beautiful as any of other times, and designers are looking with increased favor on this material for all sorts of interior work, where it is usually preferable to brick. Some good facings are made of five-inch squares of the blue and white or brown and white picture tiles of the Delft variety. In most cases

The setting in which a white marble facing is most effective

Built-in bookcases would have been more in keeping than these shelves apparently tacked on

Old Italian marble mantel—a treatment suitable for large and lofty rooms

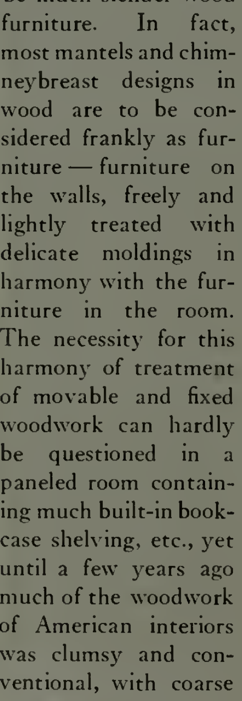
The extreme of fireplace simplicity, with entirely harmonious surroundings

care should be taken to use glazed tile sparingly and to keep the joints unobtrusive.

Stone and marble facings and mantels are of course desirable, and fine effects may be had cheaply by using cement (concrete) facings which may be colored all shades from white to dark gray. Much might be said about the use of marbles on chimney breasts; nowhere are they displayed more effectively, the strong, rich colors and gay veinings affording excellent results. But whatever the color of the facing it should be somewhat contrasted with the mantel that bounds it, otherwise the shape and proportions of the mantel may not be brought out effectively. For instance, it is a great mistake to use a snow-white marble facing with a white Colonial wood mantel. Often with conventional mantel types a good effect is obtained by making the facing wider at the top than at the sides.

A good example of combining window, and mantel treatment in the scheme of bookcases, giving great unity of effect in the expanse of wood around the room

The elements of the design of woodwork of mantels and overmantels are more obvious, and a detailed description of them is unnecessary. A few considerations are, however, important enough to deserve brief notice. Whatever scheme or motive is adopted, color and texture are as essential as with masonry. Fine scale and delicacy of proportions are desirable, especially in smaller rooms where there is apt to be much slender wood furniture. In fact, most mantels and chimneybreast designs in wood are to be considered frankly as furniture — furniture on the walls, freely and lightly treated with delicate moldings in harmony with the furniture in the room. The necessity for this harmony of treatment of movable and fixed woodwork can hardly be questioned in a paneled room containing much built-in bookcase shelving, etc., yet until a few years ago much of the woodwork of American interiors was clumsy and conventional, with coarse profiles of heavy cornices, columns, and pilasters, that properly belong only on the exterior of a building. If this principle is carefully observed, a paneled room will need very little wall decoration. Nothing is better than the decoration of good books in shelves, and these with an occasional tapestry or hangings, a good painting or two, and some metalwork such as electric light fixtures will effectively complete the scheme.



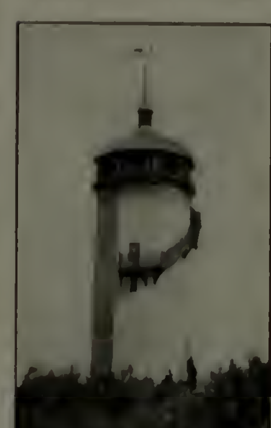
An unusual but attractive combination of marble facing with splayed paneled sides

In securing this harmony of woodwork surfacing, the mantel should not stand out too strikingly from the adjacent paneling. Most of the mantels shown on these pages are admirable illustrations of this idea of working the motive of the mantel or enframement into the scheme of shelves, panels, doors, and window openings of the rest of the room. Often in the plan of a house, a chimney will unavoidably pass through some of the lesser rooms, in an awkward position—a corner, for instance, or as a projection well out in the room. Such special cases tax the resources of the designer in overcoming their haphazard character. An admirable example of such a skilful triumph over circumstances is the little den fireplace in the house of a friend. The fireplace sticks far out into the room and occurs at a corner of the low red-oak bookcase. Had the designer used a conventional mantel type the lack of symmetry would have only been emphasized. Instead he cleverly made the mantel simply an opening in the bookcases, and detailed it with a splayed paneled jamb such as one sometimes sees in a deeply recessed window. Thus what otherwise might have seemed a bad accident became a great success.

Such are some of the difficulties and intricacies met with in fireplace design, and I have briefly sketched only a few of the principles involved and the results to be attained in following them.

Old Italian library mantel, less imposing than the one above, but equally effective in its place

On the Mortimer Schiff estate at Oyster Bay. At the bottom of the water tank the stairway leaves its shelter and winds aloft outside



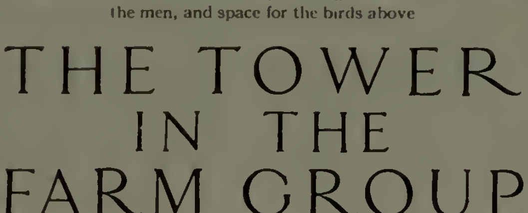
In the farm group of Mr S. T. Peters, Islip, L. I. The bull is quartered below, while the more peaceful dove resides above with the clock

The tower in Mr. Harry Fisher's stables at Greenwich, Conn., provides a stairway from the first floor to the men's living quarters above

On Mr. J. E. Davis's estate at Brookville, L. I. The lower part of the tower is a tool room, and the space above is given to the pigeons

Mr. F. G. Bowne, Oakdale, L. I., has his water tower incorporated in the farm group and surmounts it with a windmill

Another tower on the Schiff estate, providing a wash room below for the men, and space for the birds above



THE TOWER IN THE FARM GROUP

Alfred Hopkins, Architect

Another circular brick tower sheltering the bull, birds, and clockwork. On the estate of Mr. Percy Pyne, Bernardsville, N. J.

Mr. Louis Tiffany contrived to place his tower for water supply and pigeon shelter at the end of an old lane

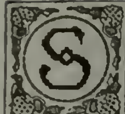
Another palatial dwelling for pigeons, on Mr. Charles Steele's estate at Westbury, L. I., with a tool room on the ground floor

The sturdy belled wall of the Tracey Dows tower at Rhinebeck betokens the bull's quarters at the angle between the dairy and the young stock barns

THE LID *of the* BOX

A Study in Ceilings

By ALFRED MORTON GITHENS



SINCE most of our lives are passed in large boxes called rooms, it is meet and proper that we raise our eyes and consider the under side of the box lids. The bottom has a literature of its own, with its various kinds of wood lining called floors, and the sides, too, with their holes called doors and windows and fireplaces; but the lid lacks its full share of attention.

There are all sorts of lids—flat lids, ornamental lids, lids showing their slats which are called beams, lids curved like the covers of old-fashioned trunks called vaulting, lids with holes in them called skylights, lids finished in plaster, wood, or even stone or tiles, and decorated after the manner of this or that defunct monarch.

The simplest lid is the plain, flat ceiling, whose aspect is usually determined by the paperhanger. He invariably insists upon a rigid observance of his formula that floors be darkest, walls next in tone, and ceilings lightest, a safe scheme but not always necessary.

Concealed by the plaster lie the beams. If we plaster between them only, we have a natural and interesting decoration of dark stripes against the lighter plaster, but there are structural limitations. The beams must be close together to support the modern thin floor boards, for we never use the great planks of the past. We could not. Our steam or hot-water heat is very dry, and unless the boards are narrow they will open wide joints in the winter, partly close in summer, open the next winter, and so on, making our attempts to pack and fill the cracks never quite successful.

The simplest form of groined vaulting, decorative without ornament. In the H. H. Rogers house, Southampton. Walker & Gillette, architects

The beams shrink in the same way. If they are exposed beneath, a molding or strip of board must cover the edge of the intermediate plaster lest a crevice show in the winter. On this account and because it is so tedious to fit the lath between the beams and keep from smearing them with plaster, the builder prefers methods less direct. Many of the beams we think we see are merely thin strips of wood attached to the ceiling after the plastering is done.

Of course it is not really necessary to plaster between the beams at all. Wide boards resting on cleats nailed to the sides of the beams are effective; the boards must be stained, however, before they are placed, so that when they shrink there will be no raw stripe visible at the edge.

The wood coffered or wood paneled ceilings are built independently of the true floor construction and should be regarded as a decorative surface over the beams, just as the plaster is. But what possibilities there are—from slabs with the bark still on them and rough-sawed boards between, as in the summer mountain cabins, to the extremely delicate painted oak or walnut of the high Italian Renaissance.

The soft gray grain of wood is a natural background for fine patterns picked out in strong primary colors, and painted wood ceilings are so very old that we can trace them far back in the early Egyptian civilization; but the painted stone ceilings are more ancient yet, the oldest great man-made decorations existing. We must include among our ceilings those in the Pyrennese caverns near Altamira, carved and painted thousands of years before Egypt began, with spirited figures of mammoth and bison and other mammals long extinct. They have none of the Egyptian or Mesopotamian conventionality; the animals are naturalistic though truly decorative with their blacks and ochres and clear brown-reds.

Suggesting but not imitating beams upon a ceiling of broken planes—a broad, original treatment. Frank Lloyd Wright, architect

A decorative ceiling in an informal type of room—unpeeled slabs with rough boards forming panels. Tooker & Marsh, architects

Imported old material, cleverly combined as a carved and modeled ceiling of the early Italian Renaissance, decorated in color. H. P. Whitney's, town house, New York

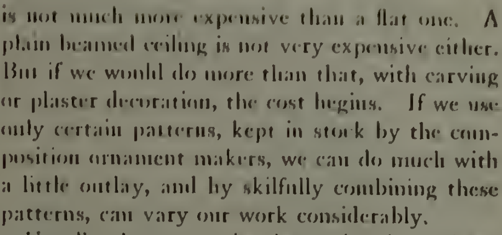
So color decoration is as old as ceilings themselves. Those finest ones of all, the modeled plaster ceilings of Italy, were always colored, deep tones in the panels, and rich with gilding on ribs and moldings. The typical Italian room is color all over, walls with fresco painting, and floors of marble or colored tile. Sometimes the vaulted ceilings were painted in fresco, such as the Sistine Chapel vault or that Tiepolo ceiling which the raiding Austrian aeroplanes have recently destroyed. The beams of the French medieval châteaux were colored, even the Gothic church-vaulting was often painted.

The tendency toward white ceilings is comparatively modern and typically English, for while in the age of Louis XIV and XV they retained only gilding on part of the ornament (the rest being white), the English Stuart and Georgian

plaster ceilings were entirely white. The Jacobean ceilings were a characteristically English development. On a plain plaster ground, fine moldings were applied in geometrical patterns with interlacing circles, squares, quatrefoils, or lozenges. Ornaments were developed at the intersections or in the centres of the squares, and modeled ornament along the cornice, if the cornice were of plaster. It was all very delicate and in low relief, the ribs seldom more than an inch in projection or width, never the heavy imitations made to-day. In fact the greatest difficulty in designing ceilings seems the keeping of all modeling sufficiently fine in scale.

Ornament seems twice as heavy on ceiling as on wall. Those ponderous old fellows, the classic Romans, used the most delicate ceiling decoration that we know. Such as remain, in the tombs of the Appian Way or on the Palatine, are all on curved surfaces, but there are fragments of similar flat decoration in the museums.

Detail of modeled ceiling in one of the Penn houses in Philadelphia—showing influence of the Brothers Adam



A particularly good example in the Jacobean manner—delicate applied moldings in geometrical patterns. In the Stuart Duncan house at Newport. John Russell Pope, architect

Showing beams stiffened by side casings, moldings covering what would in time become a crevice between plaster and beam. Fairacres, Jenkintown, Pa., Wilson Eyre, architect

There is no reason for a ceiling being flat. We have had flat ceilings *ad nauseam*. Let the floors be flat because they have to; why not arched ceilings for our more important rooms?

The first curves were constructed in brick or stone, and since they were shaped like the inside of a barrel, we called them barrel vaults. Next came the intersecting barrel shapes called cross vaults or groined vaults. The purist ridicules a reproduction of them in lath and plaster—but away with such sophistry! Almost all architectural decoration is an adaptation in stone of a wood form, or of a stone form in plaster or wood. Our Colonial Doric entablature, which by the way no one criticizes, is an adaptation in wood of a stone form which was a previous adaptation in stone of an earlier wood form—a "back to nature" process with a vengeance! If we curve our ceilings, we are not trying to make them look like stone; we are merely assimilating the suggestion of a pleasing form.

As to cost, a curved plaster ceiling is not much more expensive than a flat one. A plain beamed ceiling is not very expensive either. But if we would do more than that, with carving or plaster decoration, the cost begins. If we use only certain patterns, kept in stock by the composition ornament makers, we can do much with a little outlay, and by skilfully combining these patterns, can vary our work considerably.

Usually, however, the decoration is modeled anew from the architect's drawings, cast in plaster, and stuck in place on the ceiling; or better, modeled in the wet plaster *in situ*, according to the old method. The Brothers Adam, in their extremely flat decoration, used a mixture of glue and fibre, but their formula is lost. Their ceilings were almost always decorated in it. It seems strange that they should have had so little influence on contemporary work here. One of the Penn houses in Philadelphia is among the few that have ceilings of the sort, but most of our Colonial ceilings were perfectly plain, except for a cornice around the edge and perhaps a little modeling in the centre where the lamp hung.

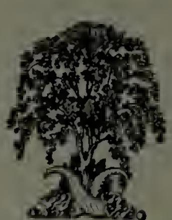
Treatment of skylight as a paneled ceiling—a difficult problem. W. C. Massarene, architect

But what myriads of possible decorative subjects there are! A friend has her library ceiling covered with the Egyptian map of the heavens, painted in gold and flat color. A certain architect in New York had to have four automatic sprinkler outlets in his office ceiling, and he surrounded each with a conventional decoration in plaster representing one of the Four Rivers of Paradise! What threatened to be a blemish became the most interesting detail of the little room.

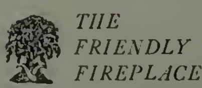
A difficult element is a skylight, and seldom successfully treated. The classic example is, of course, the great eye of the Pantheon at Rome. Our skylights now lack its great simplicity, for, if they are of large extent, we must glaze them and therefore divide them into small parts. Of course they may be fitted in with the paneling, if the ceiling be paneled, but this seems the best that we can do.

Flat color decoration upon a groined vault. Decorations by Chase. Rogers house loggia

FROM A COUNTRY WINDOW



EVEN IF we were so inclined, we have no place here to discuss fireplaces in a learned manner, admitting immediately that an open fire is the most wasteful form of heat, that chimney swallows flutter thunderously in the flue and let loose showers of soot, and that when unlit the open hearth will cool a room more rapidly than the most efficient steam heating plant can warm it. Acknowledging all this to be the cold, scientific truth, we yet assert that the fireplace is the most attractive part of a room's furnishings, and that by its presence a room is made the most enticing of the whole house. You can fill your library with sleepy-hollow chairs and take from them deep physical satisfaction; you can line it with books and from them obtain the utmost in mental appreciation, but for spiritual enjoyment only the open fire will suffice. Warmth may be found in the depths of a padded chair, sparkle in a well-written book, but it is warmth and sparkle added to a vital friendliness which set the hearth fire above and beyond the others.

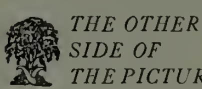


THE FRIENDLY FIREPLACE

If your open fire of seasoned cherry smokes a little, let it smoke—others in the household do it. And if it soots up the under side of the mantel, what does it matter? We count among our acquaintances a benighted city dweller who regrets keenly that his fireplace is blameless in the matter of smoking; the first time we saw him remove a smouldering brand from the hearth and wave it in the room we feared for his sanity, but a little tactful interrogation revealed that the pungent odor of burning wood was almost as the breath of life to his nostrils.

If the seductive charms of a dying fire lure you before the hearth for aught but rest or play you will come to know your weakness, for the hearth fire is a jealous mistress, weaving her potent spell over those who would work in her presence. You may feast your eyes on the beauties of her flickering flames and conjure up queer fancies from her molten embers, but let you try to kindle the fires of your brain for constructive effort and she will exert her sway and lull you to an inglorious repose.

SOME MONTHS AGO there appeared on this page an essay on the sense of possession and its attendant emotions of pride and pleasure. Many of us have known and reveled in this extra sense, but have you ever let your thoughts dwell on the antithetical sensation of dispossession—the reverse side of the masterpiece, the drab canvas on which the artist has succeeded only in portraying a nightmare of blurred impressions?



THE OTHER SIDE OF THE PICTURE

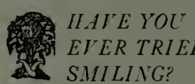
It must be accepted as positive truth that for every heart made glad by the acquisition of a country homestead there has been one saddened by the necessity for disposing of it. Such a necessity need not imply legal eviction or even unwilling relinquishment, for in working out the destiny of the former occupants the Fates may have decided that success and happiness would be better achieved by a change of habitation and mode of living. But even though the change was made with the utmost willingness, there was the deadening, inescapable feeling of dispossession, the wrench of parting forever from things which have seemed a part of one's spiritual and physical being.

We can imagine the hearty assurances of the men folk that the new place would be just as good, and the brave efforts of the women to believe that this would be so—"after we get used to it"—but we know that there was more than one tear shed as this or that routine duty was done for the last time. The customs and habits of a lifetime cannot be disrupted without a corresponding mental disturbance, nor can one's eyes be bereft of the objects to which they have grown used without a feeling of irreparable loss. There is in all of us a fondness for things as they are, a wish to let the old order endure.

There has been an auction of such items of farm and household furniture as would not fit in with the new scheme of things, and it has served to set the vise of regret still tighter. More than one could bear were the businesslike enthusiasm of the auctioneer and the amused indifference of the crowd as articles, priceless in association, have gone for a few cents. Yet to these emigrés was denied the solace of a last look around the old place, for the bare rooms, reproachfully echoing back their footsteps, drove them forth, and the empty barnyard rebuked them for their desertion.

This, then, is the other side of the picture; bitterness, poignant regret, which is not easily effaced. It is the sense of dispossession—may you never know it.

ONE DAY not long since I was coasting down a hill with the motor idling and with the brakes set enough to take up the slack. As a consequence the car was moving with a quiet singularly foreign to its nature, and its descent was unnoticed by a bucolic gentleman in the act of driving his team out from a side road. Subconsciously, as one does whose machine has revealed to him its capabilities as well as its mysteries, I gauged accurately the clearance distance, and slithered by the then startled farmer without giving warning. Having no wish to alarm or offend, my peaceful soul was bruised by the volley of epithets which hurtled after me—intermingled with which were the caustic questions, "Can't you drive?" "Where's your horn?"



HAVE YOU EVER TRIED SMILING?

Another time—and an occurrence like this, I venture to say, has happened to all of us—I scraped into a tight situation through no fault of my own, and was, nevertheless, prepared to meet the storm of abuse which was tendered me. The dialogue which ensued was short, sweet, and brutally to the point, and I blush with mingled feelings to relate that I rode off a verbal victor, leaving mine impromptu enemy fiery, purple, but inarticulate. And why not? As nothing more than a hypothetical case, this situation had been rehearsed by me many times in advance, and I was letter perfect in lunge, parry, riposte and finesse, thus overwhelming the adversary with the exuberance of my fencing. . . . And yet, there was that same leaden feeling under my diaphragm, and I drove home cross, scolded the dog, barely refrained from kicking the cat, and ate a joyless dinner.

Something was radically wrong with the system, for whether I came off first or second best I had learned that there was negative satisfaction to be derived from such contretemps. I forthwith resolved upon a new *modus operandi* and there came, the next morning, a chance to put it into effect. In gliding along a winding country road, the car came nose to nose with a team of indignant horses, and we—the other driver and I—slewed automatically to a clearance of inches. The passing was done in a flash, but in that flash I had smiled—cheerily, ruefully, amazedly—some kind of a smile which yet brought a glimmer of white teeth in return. And the glow of rightness with the world which, for me at least, succeeded the exchange of silent greetings lasted throughout the day.

Have you ever tried smiling?

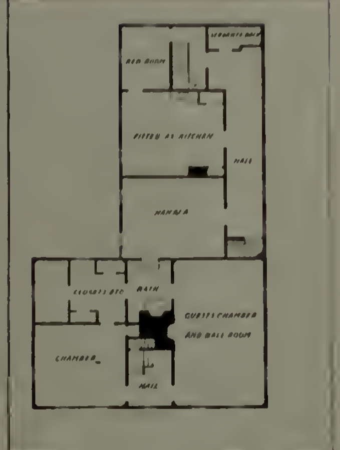
NUTTINGHAME AGAIN REMODELED

By Chas Edw. Hooper

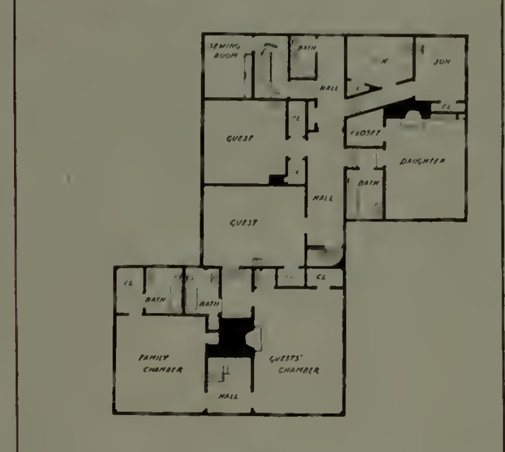
Photographs by Wallace Nutting and the author

The old first floor plan above, with the new one below. The whole dining room wing is added and a broad piazza back of the living room

At the right the lattice sheltered doorway into the living room. At the left the expanded piazza



The two plans of the second floor, showing how four baths and the additional bedrooms have been worked into the rather awkward layout



GIVEN a simple farmhouse of the Revolutionary period with low stud and a large central chimney, to which had been added at a later date a considerable rear extension with rooms a foot higher than in the old part, butted squarely against the main house, with no lines whatever in common and a roof which reared itself high in the air in all the horror of its "Gothic" overhang and jigsawed brackets, and, to conclude, a side piazza and a front "stoop" on the lines already laid down — what would you do?

The original house was built before Yorktown, and with the thrift of the early builders it was constructed largely of second-hand timbers, which are as good to-day as any of the newer material used with it.

When the writer first saw it, he confesses to an overpowering wish that something would happen to it at once, something swift and decisive. But this would not have been fair to the owner and client. Then the mind became a blank and lapsed into despair, all the more hopeless because the inconsiderate owner insisted on retaining certain features of bad design but unquestionably good workmanship and condition. After all, the problem *was* a problem and one to be solved, and we could readily understand why the owner had called loudly for help.

However, the secret of the manipulation of anything generally lies in the construction of the thing itself. The main principle in our problem seemed to be an embellishment of old forms with details entirely foreign. This gave us a clue. We would construct our enlargements and alterations on blocks of the old Georgian style and use as an embellishment a modification of the Gothic-Classic hash, which should be near enough the old form to tie in with it, and in itself something not entirely criminal or unarchitectural. By consulting and comparing the sketch plans, one will readily see what has been accomplished in this direction.

The old kitchen, now used as a living room, has been little changed. Our only step in this direction was to replace a bit of wall paper over the mantel with a wood panel. The previous owner had introduced several details of an old house of about 1700, which, however, did not jar as much as might be expected. He had also removed the ceiling and cased in the rough beams, which was not a feature of the period and the only excuse for which may be found in the extra air space it gave at the top of the room. As the room was 16 x 25 feet and only 7 ft. 1 in. high in the original finish, it served its purpose.

The parlor we tampered with only to the extent of introducing bookcases and a window seat, thus transforming it into a library. In this room are kept the better books—those one cares for—while in the long room at the rear, called the book room, we find the lighter passing fiction. Unfortunately for the perfect repose of the exterior of this room, the former owner had added a new window so as to form a mullioned motive. The intention was transparent enough and the end attained, but it would have been better if the two windows had been combined into one motive in a flat bay.

Upstairs, the ballroom has been (with slight change) renamed guest chamber. The family chamber is across the hall and over the living room. The floors of the bathrooms were raised one step to avoid certain trouble with the open ceiling below, as well as to permit an easier adjustment of necessary piping. As this story is 7 ft. 5 in. stud we did this with ease as to head-room.

The old chimney in this part of the house was in such a condition that we had to tear it down to the top of the lower story fireplaces and rebuild new.

The fireplace in the ballroom was built without a hearth—just why is a question. The former owner had laid a shell of concrete on top of the floor, either to tempt fate or fool the unwary. By cutting away the greater portion of the interfering floor timbers and injecting a header, we were able to lay a plausible hearth on tire irons.

The floor in the ell is 1 ft. 8 in. above the level of the old house, and we had here a stud of 8 ft. 8 in. which by contrast seemed palatial. Such little rearrangement as has been done here can be readily seen from the plans.

The new extension from the ell contains one large sleeping room and bath for the daughter, and two small bedrooms for the boys. The fireplace end of

The former dining room was turned into a wide and comfortable reception hall, from which the main stairway springs

Just inside the front door of the original house starts the narrow winding stairway of an earlier generation

A corner of the daughter's bedroom—in the wing last added, but with the simple broad paneling of the earlier work

the daughter's room is of wood wainscot and incorporates a bookcase in one end.

On the lower floor, the room next the old part is retained as a hall, and the fireplace side is wainscoted and has the wine closet on one side and the coat closet on the other. In order to gather borrowed light the doors into the book room and dining room are of glass.

The nearest opening to comparative freedom in design lay in the rear addition. Hence the dining room is perhaps the best room in the house. Its ceiling is of wood and beamed. This beaming is permissible with the period but not probable for the type of house. We used it on the authority of the living room ceiling, already remodeled. The fireplace side is also of wood, as is the dado which reaches to the height of the window stools. All details are quite simple, and the paint, as in the rest of the house, is white. Our fireplace here has a 5-foot opening, and the hearth is of 9 x 9 in. Dutch tile, as are all the new hearths in the building.

The one innovation of the plan is the fuel closet next the fireplace, which is filled from the outside and saves much scattering of waste and tedious handling of material when wanted.

The real problem in brickwork was the injection of the hall fireplace into the kitchen chimney and the addition of tile flue linings. This last was made necessary by the uncertain condition of the chimney. To effect this, the breast in the hall was taken out and the new fireplace built on a new foundation and as far back toward the chimney as possible. The flue linings were started from below but continued from inside the old masonry by lowering them in from the top, the mason working up alternately from one length of tile to another. As there was plenty of room to spare, the filling about the linings gave additional strength and security.

The exterior was but little changed. In fact, the only real remodeling lay in making the cornice of the ell conform to the older structure and extending and tieing its roof in with that of the latter. In this way the ell became the central portion of the completed building. We were fortunate enough to be allowed the same stud in the new extension as in the old house, reducing the height of a considerable roof thereby.

What was the former parlor is now the library, with bookshelves to the ceiling on two sides

As an afterthought the porch extension was decided upon. Utilizing the existing piazza as a guide, and the space between two of its columns as two units, the problem was simple. The flooring of this porch is of concrete.

Over the old kitchen door on the south end of the old house we essayed a flat arbor. This motive was made to fit and belongs to the doorway. In like manner a new trellis was affixed to the house wall to carry the climbing roses where they will be most effective and least in the way.

We would conclude by stating most emphatically that we have not in the foregoing created an architectural masterpiece which might serve as a model for new work. The problem was a problem in the truest sense of the word, and the result can hardly be called architectural. Sometimes the thing is possible, but in the present case it was not. When we are confronted with like conditions we invariably fall back on the methods of the craftsman builder and try to effect our solution in the light of his understanding. We have endeavored to render a plausible account of ourselves, working under the limitations enforced. Will the reader be able to see into our methods and agree with us? We trust so, for it is with the idea of giving him an insight into a designer's line of reasoning that the foregoing has been written.

The new dining room. At the right of the fireplace is a wood closet, filled from outside

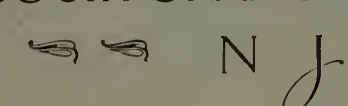
The fireplace in the living room. The only change here was the new paneled overmantel

Doubtless there will be many more houses built of monolithic concrete construction when we have learned some of the many ways in which a concrete surface may be made attractive

THE HOME OF ALBERT MOYER ESQ.

Before the concrete was quite hard the forms were removed and the surface scrubbed with water and stiff brushes, the lifeless color of the cement being thus eliminated and the variety and sparkle of the pre-selected aggregates revealed

SOUTH ORANGE



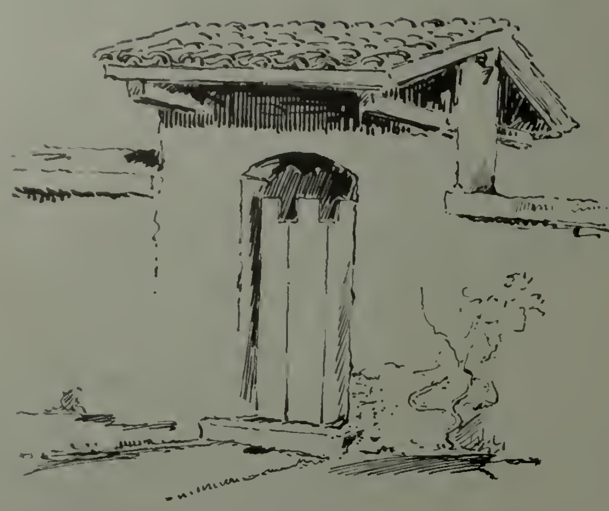
Showing the Successful Use of Color in Concrete Construction

Tracy & Swartwout, Architects

A mixture of one part each cement and three-quarter inch trap rock, and three parts limestone and white marble screenings the size of sand gave the scrubbed surface a pleasing texture and color

Tile inserts were used sparingly and in low tones, all tiles being handmade, of course. For the roof a Japanese pan tile is used, taking the run of the kiln in colors from smoky reds to salmon

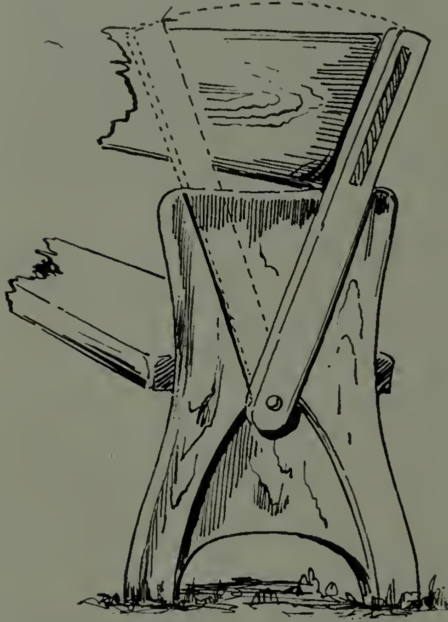
IDEAS FROM A TRAVELER'S SKETCH BOOK



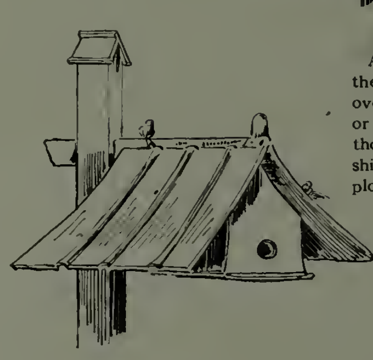
A sheltered gateway in a 'dobe wall—from Mexico. Two wooden beams are carried right through the wall to support the framework of rafters. Roughly made tile, such as the Mission Fathers used in Southern California, provide an enduring roof

From a garden of Japan where a tiny stream of water is piped through bamboo canes. Overflowing from the bronze bowl set upon a weathered stump, squared at sides as well as top, the water splashes upon a worn stone below

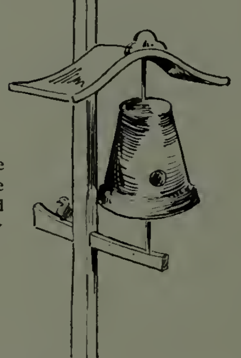
From the porch of an English inn comes this fine old seat with its wainscot back. The fact that one end did not need an arm provided an excellent opportunity for the designer to give it a character all its own



Hastily sketched from a trolley car glimpse of an old-time settle in Germantown, Pa. It is not infrequent that we miss a pleasing garden view through sheer laziness in not turning the bench around. The pivoted back could hardly be more simply contrived



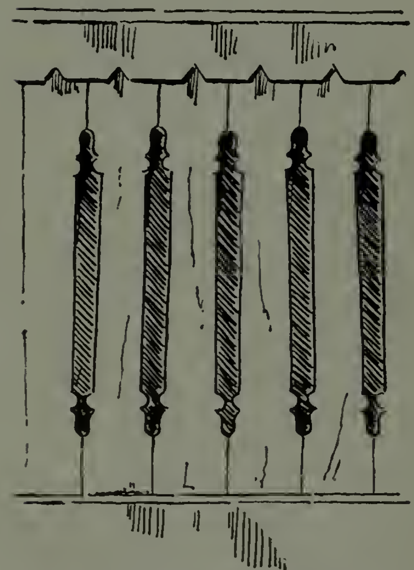
A bird house adapted from the lanterns of Japan. The wide overhanging roof is of copper or some less precious metal, though the thin upper ends of shingles could easily be employed



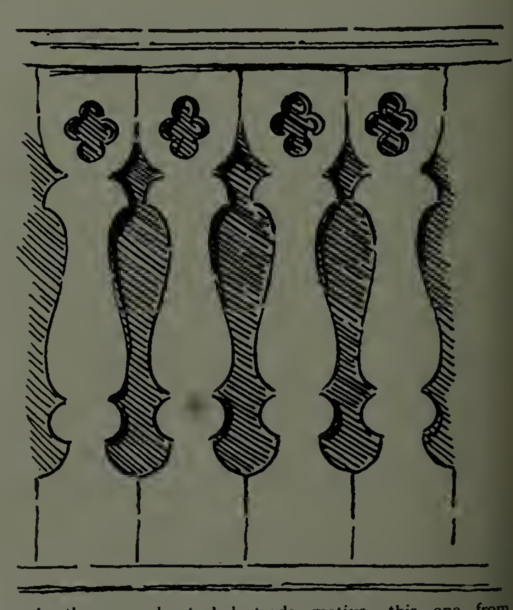
The lines echo unmistakably the temple gongs of Japan, but here the purpose is the sheltering of a bird family and the house proper is merely an inverted flower pot

A bench at the Mission Inn, Riverside, Cal., that possesses all the straightforward simplicity and sturdiness of construction that characterizes the work left by the padres throughout the long line of missions along the Southern Pacific coast

Stone seats are usually cold and frequently damp, which stimulated the ingenuity of the man who covered this Santa Barbara seat with a wooden grille top. A white painted form in more delicate detail would serve well for a marble seat



We strive painfully after originality in turned balusters to grace a railing for a porch or garden enclosure, ignoring the simplicity and grace in these sawed out boards from Bulgaria



Another sawed-out balustrade motive, this one from Hungary. The boards are bound together in bundles of three or four and sawed out on a jig. The Swiss woodworkers offer many such forms

A BIT OF HEAVEN IN MY GARDEN

By Kathryn Jarboe Bull

GRAY sky and fair, black thunder clouds and cobalt blue, star pierced darkness and round golden moon—all of these I have, just for myself, reflected in the tiny pond deep sunk in the lawn. In reading books and magazines on the creation of gardens, I had sedulously avoided all articles on fish ponds and lily ponds. I did not want to add the care of pets to my other labors, and water lilies appealed to me only in masses, and only in marshes or lakes. But, in my search for blue flowers, I soon discovered how very limited the range was. Purple, yes, but I had enough of that. Delphiniums occasionally gave me the color I wanted, but even they wandered off into purples, lavenders, and opalescent pinks. Bee balsam had the same degenerate habit. Corn flowers were too fragmentary. Only the sky above me was of the right shade and tint; only by reflecting that sky in my garden could I obtain a mass of blue.

A dwarf Japanese maple (at left) carries out the suggestion of diminutive landscape gardening given by the miniature pool in a miniature lawn

The discarded articles were sought out and studied. A cement pond was, apparently, a simple, easy, and economical structure. The Man for whom I grow my garden offered to dig the hole, and on the day when we set to work, as an augury of future success the bluebirds arrived in hordes, and in the trees above us selected the sites for their homes and proceeded with the labor of house building.

The pond is three feet wide by eight feet long and three feet deep, but to allow for the cement walls the hole had to be dug six inches larger on every side. The framework for the cement the man and I together constructed out of two-inch planks that had been left from the building of the house, and only now did we have to call in outside labor. The mixing of the cement seemed, at that time, quite impossible. We have since become adepts in the art. An Italian laborer did the work in one day. The materials required were two loads of sand, two of small rocks, and eight bags of cement. The shaping and the smoothing of the broad rim at the top of the wall we did ourselves. Half a week of patient waiting was required before the pond was dry enough to remove the boards and let the water in, but my reward was ready for me. No sooner was this done than I had what my heart craved—a patch of heavenly blue, and, from that day to this, I have had for my very own a bit of heaven in my garden.

The pond is without drainage of any kind and is kept filled by an occasional sprinkling with the hose. The evaporation amounts to not more than two pailfuls of water a day, and only a moment's interruption of watering the garden suffices to replace this. It would be easy, of course, to supply a drain pipe at the bottom and a drip fountain, but for so small a pond this seems to me unnecessary. We siphon the water out with an ordinary garden hose when the pond is cleaned for the winter, and the sloping sides prevent any breaks or cracks from snow or rain that may fall in and freeze. These sloping sides are absolutely necessary. Without them the ice would pack solidly and breaks would surely occur. One very severe winter, for some reason, our pond did crack all the way around, about four inches from the bottom, but we found this easy to repair by chiseling out the crack, making it deeper and wider, and plastering it over with a paste of one part sand and three parts cement.

Water lilies or water grasses to keep the pond clean and sweet are of course essential, and here, again, I found that I could repeat the chromatic scale of my borders with yellow, pink, and violet lilies (*Nymphæa Marliacea chromatella, N. M. rosea and N. Laydekeri lilacea*). Inasmuch as it was for the reflected sky that I built my pond, I keep the pads trimmed away, leaving only a few to supply drinking and bathing facilities for the smaller birds of my garden which, standing on the edges of the leaves, drink their fill, or depressing the centres, bathe in the cups so made. The warblers, finches, wrens, bluebirds, and chipping sparrows all avail themselves of these privileges.

Goldfish, too, I had to have, to eat the larvæ of mosquitoes, but I found that they added little to my burdens; an occasional leaf of the commercial fish food, now and then a bit of bread, and all the angle worms that come to my trowel when I dig or weed; and assuredly I am amply repaid for this small amount of work by the tiny darting bodies, streaks of lightning on a dull, lowering day or gleams of gold in the summer sun. To add to their larder, I have hung a light over the pond, one of the small dried fish lanterns from Japan. The moths and flies attracted by the flame fall into the water and provide any midnight suppers that the fish may crave. Every year when the pond is cleaned for the winter, we find a dozen or more baby fish, so our family is sufficiently increased. The children in the neighborhood bring me frogs in the spring, but I have not yet decided whether I am more charmed by the mellifluous "brekex-brekex-hrekex," or more distressed by the knowledge which I try to conceal even from myself that these small green monsters do, occasionally, destroy the offspring of the legitimate inhabitants of the pond. The fish are easily cared for in the winter. At first we kept them in an ordinary tub in a light corner of the cellar, but now we have provided for them a tiny aquarium that is sunk into one of the benches of my indoor garden.

A miniature lake in a miniature lawn of itself suggests Japan with its diminutive landscape gardening. So, for one corner of my pond, I sent to my nurseryman an order for a Japanese maple, the crookedest, most dwarfish that he had. Comprehension of my ideas being his chief charm, he selected for me a tiny tree, not more than three feet high, of the fine, cut-leaved variety that in its growth had had no heaven-reaching tendency, but rather a desire to return to earth. Now, hardly taller than it was when it came, it leans out over the pond, reflecting in the spring the brilliant red of its new leaves, and in the autumn a rich red gold that is nowhere else obtainable, unless, perhaps, in the scales of the fish that dart in and out among the mirrored leaves. A couple of Japanese quinces cuddled on either side of this try in vain to outrival with their scarlet blossoms the brilliancy of the maple leaves.

At another corner I have tried—and it is only fair to record my failures with my triumphs—to grow Japanese iris, but successive plantings have given no success although the place would seem to be ideally suited to them. The variety I selected was *Zama-No-Mori*, which, translated in the catalogue, means Boundless Ocean. Possibly the roots brought with them from their former home the native lack of humor, and unable to recognize the joke, refused to lend themselves to the obvious absurdity; but, whatever the cause, they would not grow and I have been obliged to substitute a great clump of German iris which has proved most successful. I chose the soft rose and white Wyomissing, and the blossoms, on stems three and four feet tall, are even lovelier in the depths of the pond than in the air above.

But all these leaves and blossoms, on stems in themselves or their reflections, and the darting bits of golden life, are only superficial pleasures. The reason for the existence of the pond is the fact that it brings heaven itself into my garden.

"The reason for the existence of the pond is the fact that it brings heaven itself into my garden"

One of the chief glories of the place lies in its magnificent elms. This is the side and rear of the house, taken from under an apple tree near the tennis court

The PRESIDENT'S HOUSE, WILLIAMS COLLEGE
WILLIAMSTOWN, MASS.

The Home of President

HARRY A GARFIELD

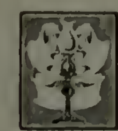
The front entrance is one of the most charming bits of early American architecture in all New England. General Sloane built the main part of the house in 1801 for the home of his son

The carved woodwork was beyond the capabilities of the local craftsmen, so it was made in Boston, brought around to Troy by water, and thence on mules up to Williamstown

The living room which in a comparatively recent remodeling of the house was greatly enlarged by throwing two rooms together

The dining room is a part of the new portion, but the character of the white paneling has been kept in close conformity to the original work

A side entrance from the driveway leads into an angle of the main hall and directly to the president's study. The original square house is the portion to the right of this porch



A glimpse of the wide, easy stairway from the rear end of the main front hall. The house was occupied by Dr. Mark Hopkins while he was a professor. After his election to the presidency in 1836, the house was acquired by the college, and since that time has been used as the official residence of the presidents

The main piazza is on the side of the house opposite the carriage entrance, and from it one looks down over a wide sweep of lawn to the new college church, itself a splendid example of the New England meeting-house

Behind the tall and luxuriant screen of clematis lies the tennis court and a small garden of roses and old-fashioned flowers. Farther off to the right, down the hill, are the stables and coachman's quarters

ED DILLON'S PLAIN, OLD-FASHIONED FARMING

By H·W·COLLINGWOOD

THIS is a story of old-fashioned farming. A plain farmer came along and tied a few ribbons in green to a discouraged farm. Then it got up, looked in the glass, smiled out the wrinkles, blushed with clover blooms, and became happier and more handsome than ever before.

I had something of this in mind as we stood on the ridge of Ed Dillon's farm at Montgomery, N. Y. This farm is shaped somewhat like a turtle. That is not bad when you remember that a walker of that shape won the most quoted race in all history, and as we shall see, the turtle shape is ideal for a dairy farm. A ridge runs through it, with a gentle slope east and west. To the east the Wallkill River curves and twists around the farm, making the feet of the turtle. If you could take this mile of frontage like a string and pull it straight, you would have less than half a mile, but the water is in no hurry to reach the Hudson and go to work, so it loiters and dawdles along through this pleasant country, about as straight as the cow path made by the lazy cows, which pass their drowsy life along its banks.

"The house is probably a century old, dating back to that fine old time when Orange County was a leading butter producing section of the country"

Thus a fringe of rich pasture swings around the farm like the turtle's feet, while the ridge rising gently up like the shell gives drier ground for corn and hay and grain. Now and then the river jumps out of its bed and fertilizers the pasture with yellow mud, until the grass comes soft and rich. The cows travel back to the barn to be milked, and to pass the winter. The manure they leave there is hauled to the ridge for the grain and grass. Should there be any washing of plant food off the hill, it will be held in the grass land and pasture below, the feet of the turtle catching and holding the sheddings from its back. Travel for miles up and down that beautiful valley, and you can hardly find a better location for a dairy farm.

Mr. Dillon's veteran cow, which has had as much to do with the development of the herd as has Mr. Dillon himself

Yet this farm had lost its grip. The turtle had crawled into the mud for a sleep. The house is probably a century old, dating back to that fine old time when Orange County was the leading butter producing section of the country. They had such a reputation for butter making in those days that the world gave them a name, and handed it out as "Orange County." Then there came a time when whole milk was demanded. The churn took a back seat in favor of the tin can. There may be only one third of an ounce of plant food in a quart of milk, but if one cow gives 3,000 quarts in a year, and you keep thirty cows for fifteen years, in the course of that time you pull out with your fingers and send away from your farm more than fourteen tons of nitrogen, phosphorus, and potash. That would mean forty tons of nitrate of soda, forty-five of acid phosphate, and nearly nine tons of muriate of potash. All of that would have been left at home had these farms kept on exporting nothing but butter or cream. Nor is this the worst of it, although this drain of plant food is bad enough. Mr. Dillon and his brother stood side by side and compared notes. One was selling milk from this farm at an average price of a trifle more than $2\frac{1}{4}$ cents a quart. The other in New York, a few hours distant by car, was paying 10 cents a quart at retail for practically the same grade of milk. It is bad enough to lose plant food, but it is worse to lose this part of the consumer's dollar.

Renters ran the farm for years. A renter may be at heart a fine farmer, but he cannot obey the dictates of his own heart. The ruling force over him is a pocket book, and the emptier it becomes the heavier the cross he must carry. Devise some system of credit by means of which a poor man or a renter may buy a farm and safely equip it, and there would at once enter the profession some of the ablest and most thorough farmers this nation has ever seen. They would then be upbuilders. As it is, without fair credit or capital, they are soil robbers skinning the soil, and never knowing that priceless thing to a farmer, real affection for a farm. A long procession of these men mounted this turtle's back, chipped away a little of the shell, and then slipped off.

A city man had his chance. It is a toss up sometimes as to whether a self-respecting farm has greater dread of a renter or of a city man. One hasn't enough capital, the other often has too much. One knows that at best the farm can hardly pay him a fair living, the other expects to make a fortune. One has to work so hard that he cannot listen to science, the other spends so much time listening that he does not think it necessary to work.

Then there came Ed Dillon, a plain, natural farmer. Mr. Dillon had just brought one farm back, and had sold it to good advantage on the strength of the spine he had put into it. Now he was after another farm. Your true artist has an eye for his model and a hand for his brush. Mr. Dillon had an eye for a cow, and a hand for clover seed. Here was a man who could take a pile of coal ashes and tin cans, and in a few years turn it into a rich clover field. Put him up on a platform and ask him to tell how he did it, and about all you could get out of him would be that he seeded clover and seeded it right. Some of these men raised in the hard school of experience are true scientists without knowing it. Unconsciously they have learned the life habits of plants and animals, and the behavior of soils, until they know by instinct what others must toil for years in order to learn. There is a sort of modern theory that the world is fed and clothed through the efforts of purely scientific farmers or agriculturists. It is true that science has most of the machinery for public advertising, but the truth is that humanity still has its back covered and its stomach filled by the plain, humble men who farm with common-sense hitched up with a twelve-hour day. Science can make more noise, but horse sense always provides the powder.

Mr. Dillon knows a cow as Edison knows a talking machine, or Bell knows a telephone. If you were to watch his herd walk up from the pasture into the barn, you would say, "Here is some wealthy and expert breeder, who after long years of breeding has developed a herd with the cows as nearly alike as peas in a pod. This man must have started with some of those $10,000 cattle you read about. He has selected and bred until the type is fixed." The truth is that Mr. Dillon did nothing of the sort. He just picked up those cows here and there among the dairy herds which came to his notice.

But he had an ideal cow in his eye when he bought, and one in his herd too. There is a fine old veteran cow in that herd that goes marching in and out with the rest. Some people might regard her as merely a bunch of beef and bone and nerves, tied up inside of a hide, just eating grass and grain and making it over into milk. The old cow is more than that; she is a model, an artistic pace maker, a picture of what a cow ought to be on that farm. No pure blooded aristocrat, but a plain working cow, with a character and instinct for milk-making much like that of her owner for making clover and grass grow. Very likely that old cow, standing there day after day as a living model, has had about as much to do in developing that herd as has Ed Dillon himself.

The scientific man would look at that beautiful herd and regret that Mr. Dillon has not studied all the laws of breeding and heredity, and all the rest as applied to a cow. I think it doubtful if he could have produced a better working herd even with this training, for his is a natural gift. I once heard a college professor express his regret that the poet Whittier could not have had the education and literary training of Longfellow, or other polished writers. I am glad he never had it. I think if he had been tied up to the form and laws of language, that the fire would have been drilled out of him, and he would have left the world not the very bread of life which he did, but a good deal of warmed over and well cooked mush.

The cow that the poet sings about is a fine, benevolent creature, leaving her rich pastures at night to walk home so as to associate with beautiful dairy maids, dressed up in their evening clothes. There are no milkmaids to greet this herd at the barn, but a milking machine instead. The little handful of grain in the cows' manger is the bait which draws them home, and not any sense of duty. You will hear all sorts of opinions about milking machines. They never will fully substitute for the human hand, neither will the hay loader entirely substitute for the pitchfork, or the horse cultivator for the hoe, but in the future expert man labor will be harder than ever

to obtain. Success on the farm will depend on how far a man can humanize wood, rubber, and metal. Mr. Dillon's son says that several times the entire work of milking thirty cows has fallen to him. It would have been an impossible task without a machine. I doubt if under present conditions the great crops from this farm could be fed into a cow and the milk pulled out of her by hand at a profit.

As the renters and the city man came and went, this turtle of a dairy farm came to think that eternal winter had started in, so he pulled in his head and feet, and shut up his tough, hard shell just as he would if a fox had crawled out of the stone wall and jumped upon him. As for racing against any mortgage, this turtle simply quoted his old ancestor who ran against the hare, and got further into his shell. But Mr. Dillon put a mixture on the turtle's back which started him up quicker than a coal of fire. He stuck out his head and feet, took a brace, and said, "That feels good, let's be on our way. I think I can beat it." The mixture was composed of lime, clover seed, and common-sense.

Oh! the turtle has a heart. The tougher the shell, the sweeter the meat. If you ever have a chance to dine with one of the old time Creole families on the Gulf Coast, where a black cook has lived over from slavery days, jump at that chance as you would at a great life privilege. The memory of that dinner will brighten all your years, and the best of it will come from the turtle which the cook takes out to the chopping block and hammers with the ax until the shell is broken.

You can see how tough this farm shell was by walking over the last remaining pasture on the ridge. Perhaps you know what these pastures go to after a term of years. Moss creeps in and sterilizes great patches, or leaves them in coarse weeds. Sorrel starts up to wave the red flag of discontent. Redtop survives, and there is some bluegrass and clover in favored spots. You find green uneaten patches all over the field. They are mostly white clover and coarse grass, which spring up around the droppings. The cows will rarely eat this growth, though it is said that sheep will do so. It is just a case where wealth breeds poverty. These droppings are rich in nitrogen and potash, but there is little or no phosphorus. Thus this rank growth has no taste or quality. Cows are not chemists, but they know when phosphorus is needed. If they were forced to live on this rank grass, green or dried, they would in a month's time be chewing old boards or bones or fence rails, as an indication of their craving for bone forming food. Scatter acid phosphate or fine bone around these green patches, and before long the cows will come and gnaw them to the ground, for phosphorus will bring them back. And this is the sort of chemistry which shows that the greatest fertilizer need on these dairy farms is phosphoric acid.

Such a pasture might provide for two cows on three acres, and this would mean a season's income of $4. What does such an income indicate as productive value for the land? That represents the turtle with the shell on. A few feet away is the same kind of soil on the same ridge, two years along in the rotation. It will cut at least two and a half tons of clover hay per acre at the first cutting, and such hay is worth at least $20 per ton at the farm. That clover field represents the turtle with the shell knocked off.

To hear Mr. Dillon tell it, this was the simplest and easiest thing in the world, yet spend your day in the fleetest car rushing through that section, and see how many such clover fields you can find. There was one alfalfa seeding on the farm to begin with. It was a fair stand, but last year the crop was light. They gave it a good coat of manure, and it came back this year with a heavy yield. There are no bacteria on the roots, and that puts alfalfa right into the class with timothy or millet or corn. They hang around and wait to be fed and provided for. They take the nitrogen you may give them and make good use of it, but they use it up, and thus make the farm that much poorer. The bacteria on the roots of clover or alfalfa get out and steal the nitrogen, instead of hanging about waiting for manure or fertilizer. *Thou shalt steal nitrogen* is the command given to the legumes, if it is to bring the farm back.

To make this difference between an acre income of $1.33 with the shell on, and $50 with the shell off, Mr. Dillon would first plow that old pasture. It would all go under—the tough sod, the weeds, the droppings, and a good coat of manure from the barn. After fitting it well, corn would be drilled in with a fair amount of fertilizer, mostly phosphoric acid. When the warm weather came how that corn would jump up and grow as the old sod mellowed and gave up its fertility. Good culture scratches its back, and sun and air cook the tough shell into a dinner for that corn. In September the corn stands like a long forest, and it is cut and packed into the silo. Through the long winter the cows chew it down and wipe their teeth on clover hay, with a mouthful of feed as a tooth powder. The manure spreader shakes and kicks the rich manure all over the old corn field in the spring, and it is plowed and then goes into oats. Personally I doubt if oats alone pay on the average dairy farm, but "the grain comes in handy" they all say, and who would ever attempt a chance in success? I should, however, seed alsike clover in the corn, and also in the oats as a cover crop.

The oats are cut, and then comes the crowning feature of this rotation, the clover. The oat stubble is plowed, and fitted for wheat or grass, and it *is* fitted, with a hand made cut. This is where the lime goes in, at least one ton of strong, biting lime to the acre. It goes down into the soil and stirs up the old turtle until he tries to stand on his hind legs and dance. Failing in that he turns around and expresses his joy in clover. Last year, in order to get going at once, Mr. Dillon seeded to grass and clover in the oats, thus gaining a year over wheat seeding. After two years of farming he fills the barn and a big silo, and is obliged to organize a great overflow meeting in outside stacks. The farm has come back and lapped over.

No man ever brings a farm back even though he plasters it with dollar bills, unless he has that vision in his brain which enables him to look in the face of a cow or a corn or clover plant, and quickly estimate its capacity. It isn't science, or book learning, or brute strength, although all these things can be made to sharpen or strengthen it. It is what they call horse sense, but why it should be named after a horse I cannot understand.

Some farmers put their best crop in a narrow strip along the road, but you will have to go to the back side of the hill, far from the highway, in order to find Mr. Dillon's first clover seeding on this farm. We waded into it, and it seemed like going in swimming. The clover stood nearly three feet high, a solid mass of red bloom. It stood so thick that it seemed as if you could hardly tie another plant to a knitting needle and drive it down in, yet at the bottom of this the young plants of timothy were coming on thicker even than the clover, with a new epistle on good farming. I have seen clover fields all the way from Colorado to Maine, but never, anywhere, thicker or thriftier clover than this. Put this field down in Iowa or Illinois, the home of clover, and the County Agent would at once organize the farmers to take a trip out to the farm and look it over. With such a growth as this it is a question whether alfalfa, out of its natural home, as it is in this section, would pay better. No wonder the turtle ran out his head and put his claws far down into the river as this brilliant patch appeared on his shell.

It is easy enough to tell how a farmer takes his drill and puts in the wheat with eight quarts of timothy or six of clover seed per acre. But in order to read the answer go out and look at the clover the year after the wheat is cut. Then you will see how impossible it is to tell any one how to do it. Unless a man has clover blossoms in his heart he can never make the seed grow to the best advantage in his field.

It is a wonderful come back, and withal so simple and old fashioned and true that you cannot tell just how it was done. As a rule the young scientist is ever ready to talk and explain and criticise and suggest, yet here is a case where the youngest and most talkative of the tribe would be silenced by the contrast between this clover and its companion of two years ago, the old pasture. I hardly think Mr. Dillon realizes what will follow when after five years every field on the turtle's back has had its taste or its bite into clover. The possibilities of such a come back are beyond belief, for a farm seventy-five miles from New York, three feet deep in clover, is worth more for productive purposes than the rich three hundred dollar land in Illinois or Iowa. What shall we call the plain men who bring run-down farms back to that figure simply by knowing how to seed clover and grass? And the beauty of it all is that this is plain, old-fashioned farming, with just enough of the scientific frills to shine like a necktie in a new fashioned collar.

When the warm weather comes you can fairly see the corn grow as the old sod mellows and gives up its fertility

The alfalfa came back this year with a heavy yield, due to a good coat of manure

To see the herd you might think it the result of long years of selection and breeding, but in reality Mr. Dillon picked up the cows here and there among dairy herds—only he knows how to choose a cow

THE KITCHEN OF AN ARCHITECT'S WIFE

By Kathrine L Sullivan

NO DESCRIPTION could do the new kitchen justice, without first allowing its obligation to the little yellow house that was the home of the young architect and his family for eight short, happy years. Tucked away under the New England pine trees, it told its story of a century. Through March wind, summer humidity, and winter chill, the poor old house gently complained that it was fashioned for other times, and that it would be as sensible to equip a square rigger with steam, or to turn a carryall into a twin six, as to try to adjust this old house and its kitchen to to-day's use, planned as they were for the needs of a century ago.

The woman was young, and the kitchen was old, and often they quarreled. Bitterly she charged it with monopolizing all that was good of the lower floor exposure, and proudly it declared that in its youth it was the family room and as such was entitled to a place in the sun. Wisely, however, it never tried to explain the ancient need of seven doors, and yet no cross draft, that boon to summer cooking and ironing.

Then again the old room and the woman were friends, detesting alike the modern range, or Royal Rub as they called it, which thrust its tortured nickel front into the middle of the floor. It sprang menacingly from a sheet of zinc, whose edges, sharper than the scriptured serpent's tooth, cried woe to the finger ends that strayed too near in washing the floor. To be exact, it sprang ten inches from the floor and fifteen from the back wall, harboring in these areas flatirons and other utensils of nomadic tendencies.

Hard by, a copper boiler rose tall and lowering, which a deal of venturesome climbing and scouring kept clean. Denied this, it cast revenge in a powdery dust which settled with particular malice on the Royal Rub, or such food as might be in process of preparation thereon.

The pantry was dark, narrow, deep, and high, with inaccessible shelves sufficient unto the storing of supplies for a regiment. Its cavernous depths were used only by the mice and such traps as might appertain thereto, as revealed by occasional cleaning. Such slaves to unused areas in our houses does custom make us, that we take little thought that these areas must not only be built and paid for, but must be lighted, heated, and cleaned while our tenancy shall last. A poor commentary on economy! Here, one literally "walked a mile to make a pan of biscuits," for to convey materials and utensils to the kitchen table, and to return to their places such as must abide in the pantry's gloomy depths, went far toward solving the problem of perpetual motion.

The sink was iron, wood encased. It stood between a window and a door and froze up on cold nights, but was so placed that never a ray of light from either opening reached it when in use, since the person standing in front shaded it successfully.

Well outside the door, the modern refrigerator, coldly declining to elbow its way into the old kitchen, stood arrogantly aloof at the foot of three perilous steps.

At length the happy day came when tentative plans and specifications told the glad tale that these two were to build a house for their average sized family, where all kitchen wrongs should be righted.

The new kitchen is on the northeast side of the house, but the dexterity of the plan gives it an additional western exposure. It is abundantly lighted by two casement and two double hung windows and its three doors have uppers of plate glass in small panes. A word should be said of the value of the casement window where possible—it admits twice as much air as the double hung. The floor is about 12½ x 16 ft. and is of rift sawed Alabama pine, oiled. With ordinary care, it has not shown a splinter after nine years' use. The walls are plastered and covered with cream-white enamel cloth. The junction of the baseboard and floor is fitted with a quarter round, doing away with dusty corners. There is no sheathing, simply a chair rail of wood. Walls and woodwork are painted with a white enamel paint so hard and dirt resisting that little cleaning is necessary, and repainting has been done only once in nine years.

This is a country place with no gas, and a section of a hotel range was the stove selected. It is set on the floor in a cement hearth and directly against the wall. It has an advantage over the built-in range as it requires no special construction and can be installed anywhere. It has no senseless nickel embellishments. Setting on a cement hearth, an ash dump into the cellar was a simple matter of cutting a hole in the stove, inserting a galvanized pipe and connecting with the ash barrel in the cellar, thus doing away entirely with the unpleasant and dirty task of removing ashes daily.

An electric light on an elbow furnishes light at night directly on top of the stove. A water feed swings from the back out over the stove and kettles may be filled without lifting. This device always proves highly entertaining to visitors.

The bath boiler is hung horizontally, encased in a ventilating hood over the kitchen range. While this carries away odors, efficient ventilation is secured by an opening at the floor into the flue by the side of the range, carrying out the time-honored principle of ventilation of the open fireplace. All of the furniture is stationary but a chair and table. The controlling idea in the placing of the stove, dresser (described in detail on page 68), sink, table, and ice chest, was to make for economy of steps and to avoid doors interfering with the worker.

The ice chest has come into its own and stands proudly on the same floor level, placed in the back pantry so that ice may be supplied from the porch. It drains into a dry well through an air cut-off and trap in no way connected with other sewage. It is raised sixteen inches from the floor, thus doing away with much stooping. The space underneath is utilized by a zinc lined, three compartment vegetable bin. Here vegetables are dry, covered, cool, and near at hand.

The china pantry serves both dining room and kitchen with equal convenience and forms the easiest connection while at the same time effectively separating the two rooms as to noises, odors, etc., with its two swinging doors. It is a small room 8 x 8, amply lighted and aired by a southeast casement window and two handsome glass swinging doors. These doors are so placed that the only possible view from the dining room discloses a dresser full of interesting dishes, and the kitchen door at right angles makes a view from one room to the other impossible. It is heated by a three-section wall radiator inverted so as to furnish three shelves for heating plates. A chute connecting with the laundry provides for the disposal of soiled linen. The walls are lined to the ceiling with cabinets with glass doors affording shelf space for china occasionally used, for emergency supplies such as crackers, etc., a closed compartment for extra table leaves, in short, for everything which is used in the dining room and has no business in the kitchen.

The china pantry sink has two compartments of nickel plated copper and is well lighted, being placed just under the window. Here all dining room dishes and silver are washed in one compartment and rinsed and drained in the other by the simple process of letting the water run on and off. One swinging long arm faucet supplies both hot and cold water and swings back out of the way leaving the whole space clear, a contrast indeed, to the four familiar long arm stationary faucets which lend themselves so readily to the breaking of one's best dishes. Silver is never put in the pan; after being taken from the table, it is placed in an agate pitcher of warm water with a teaspoonful of soap powder. When the water is poured off and the pitcher refilled with clean scalding water, the silver is immaculate and never shows tarnish even though not polished once in three months. Dishes may be washed, wiped, and put away without walking a step because of the placing of the shelves and sink.

A slide so connects this pantry with the ice chest that left-overs may be put away without going through the kitchen and the entire work of clearing away a meal may be done in this little room with no waste of energy.

To sum it up: this kitchen is the machine shop of the house, where with the minimum of effort, the maximum of housework may be done, and it has justified the best that might have been expected of it. But if the description pictures it a cheerless laboratory, planned with scientific skill and so chemically cleaned as to render it stripped of every bit of the homely cheer so dear to all our hearts, the writer does it wrong. The aluminum kettle sings as cheery a song as any iron ancestor of old. The brisk little alarm clock ticks away merrily over the annunciator. Simpkins, the venerable yellow cat, stretches her comfortable length and dozes and yawns at the glowing coals under the grate; a troop of noisy, hungry country boys and girls swoop in, intent on plunder, and the old kitchen spirit hovers over it all, the same yesterday, to-day, and forever.

Showing the hood and ventilator, and the relation of the sink and dresser to the stove

BIRD NEIGHBORS

CONDUCTED BY T. GILBERT PEARSON

Secretary of the National Association of Audubon Societies

[*Mr. Pearson will be glad to answer any questions relating to birds; for convenience, kindly address Readers' Service,* COUNTRY LIFE IN AMERICA, *Garden City, N. Y.*]

A WORD FOR THE ENGLISH SPARROW

For many years no audible voice has been raised in behalf of the outcast English sparrow, and feeling against him has waxed ever stronger; but "there is so much good in the worst of us, and so much bad in the best of us," that it seemed there must be something to be said for him. And there is.

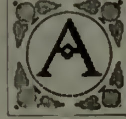
I WAS greatly interested to read in the May number of COUNTRY LIFE IN AMERICA an article by Mr. Harvey Whipple, in which he comes to the defense of that much maligned bird neighbor, the English sparrow. I have long had in mind to utter some such protest, and am glad to add my testimony in the bird's behalf, to the end that many who have condemned him through hearsay only may give him the benefit of a doubt until they have proved his misdeeds.

One of the greatest faults cited against him is that he is belligerent by nature, and drives away other more timid and more useful and desirable birds. I wonder how many who glibly say and write this have really seen the English sparrow seriously molest other birds. I have been an interested observer of birds for many years, and my impression of the English sparrow is that he minds his own business pretty well. Each winter I attach a feeding box to a tree near our windows, besides spreading crumbs on the ground for those that prefer to feed there. Needless to say, we have a great many visitors each day. Hairy and downy woodpeckers, blue jays, chickadees, nuthatches, and brown creepers nibble at the suet, while flocks of juncos and tree sparrows, and a pair of song sparrows scratch among the crumbs. English sparrows are welcome at the feast also and mingle freely with the other birds, and I have yet to see one of them attack another bird. Indeed, they attend strictly to their own affairs, presenting quite a contrast to some of the other birds. The juncos, for instance, are by no means the demure, "gray-robed monks and nuns" described by the poet, but are veritable little "scrappers," although they confine their quarrels to their own family. But when the song sparrow arrives at the feast it is the signal for war; first at one and then another bird she darts, be it sparrow or junco, until the table is cleared and she sits alone at the banquet. If her mate joins her he shares the fate of the others until her desires are satisfied. During the summer months the English sparrows are frequent garden visitors; indeed they build in my trees and shrubs with the robins, song and chipping sparrows, bluebirds, vireos, catbirds, and orioles, and again I can honestly say that I have never seen an English sparrow quarrel with a bird of another species.

There is no getting away from the fact that he is a noisy bird, and that he does disfigure our houses when he builds his nest in the eaves or behind a blind. But I do not know that he makes much more noise than the robin or the blue jay, and certainly it is not as monotonous as the chippie's constant twitter.

It is also charged against the English sparrow that he steals grain and spoils crops. But is this confined to the English sparrow? I have not found it so. Song and field sparrows as well, and even robins, riddle my peas, although I have never noticed that any bird actually pulled my seedlings from the ground. My neighbor often charged the birds with doing this until I convinced him that cut worms were the culprits. If the birds do bother the seedlings, a few strings stretched above the rows, with fluttering pieces of cloth attached, will keep them away, and it is claimed that they will not rifle the pea pods if the vines are strung on a trellis of string. But supposing they do take some of our garden crops, are we not demanding of the mites too sharp a distinction between "mine" and "thine," especially when we consider the immense amount of good they do and how futile our gardening attempts would be without the birds? Surely they are entitled to some share of the harvest that they have helped to grow. While most people concede the usefulness of birds in general, they do not give the English sparrow credit for his share in the good work. I have watched them early in the spring, before many of the birds were about, busily chasing across the lawn flies and moths that were looking for a place to deposit their eggs and breed a new supply of pests. This spring I saw one English sparrow catch a dozen winged insects inside of five minutes. When they are not catching insects, they are busy eating seeds of knot grass, plantain, and other lawn pests, just like the other members of the sparrow family that are welcomed in our communities.

Now my experience may be very unusual, but may it not suggest to bird lovers that they observe for themselves before they condemn? One so-called bird lover proudly tells how he lures the English sparrow to his bird table and then shoots him! With our constantly increasing army of insect and weed pests, can we afford to exterminate an ally in fighting them? ANNA M. BURKE.



A WRITER in a recent issue of this magazine, in summarizing the points against the English sparrow, looks in vain for a few favorable traits in this bird's character. He says: "It is almost incredible that a bird with such prodigious resource, with such an unflagging spirit under unanimous displeasure, a bird that goes on increasing in defiance of persecution, that has flocked in our midst, defaced our dwellings, and cluttered our eaves with its clamorous broods, the while a bounty has been put upon each scraggly head—it seems almost unbelievable that the humble object of such ungrudging dislike should not possess a few redeeming qualities."

To be sure, the merits of the English sparrow are not as evident as its faults. The evil that it does lives after it, while the good is generally lost to the world. Let me meet a few of the pessimistic criticisms by some common-sense.

In the first place, the sparrow is a very good scavenger in towns and cities. It is called dirty; but it is no worse than many other birds. People breed pigeons purposely, and yet pigeons are far dirtier than sparrows. In the bleak winter days, when all the trees are bare and deserted by other birds, the sparrow's ever-cheerful chirping relieves the monotony of a blank and silent landscape. The sparrow is blamed for eating grain. Rats and mice eat more, and they are not more beset than the little sparrow. Shrikes, certain hawks, and cats, especially the latter, drive away more wild birds than does the sparrow. But not many people think of blaming pussy. Rats are greater disease carriers than sparrows; so are certain insects, which these birds occasionally eat. An authoritative writer, James Buckland, of London, in an admirable pamphlet entitled "The Value of Birds to Man," gives the following evidence in favor of the subject under discussion. He writes:

"Some years ago the agriculturists of Hungary, moved to the insane step by ignorance and prejudice, succeeded in getting the sparrow (*Passer domesticus*) doomed to destruction. Within five years the country was overrun with insects, and these same men were crying frantically for the bird to be given back to them, lest they should perish. The sparrow was brought back, and, driving out the hordes of devastating insects, proved the salvation of the country."

In New Zealand, also, the sparrow became a national savior. When the virgin soil was being extensively broken, a certain caterpillar attacked the cultivated areas of the country in such force that it became a terrible plague. Its vast numbers turned whole fields brown; drove live stock before them as a forest fire; stopped railway trains from running, owing to the hordes which crossed the tracks, preventing the engine wheels from gripping the rails. The plague became a menace to the agriculture of New Zealand. All human efforts to stem the tide of oncoming insects were futile. Native birds were looked for, but were lacking, owing to insufficient protection. The English sparrow was introduced from the old country, and from its extreme fecundity, rapidly multiplied in numbers. In a very short time the career of the caterpillars was ended.

Once again, the English sparrow saved a country—the same land that it saved before, New Zealand. Again quoting from Mr. Buckland:

"That formidable imported weed, the Scotch thistle, threatened at one time to overrun the whole of New Zealand. Much time and money were spent by the settlers in cutting off the plants close to the ground, and in pouring turpentine upon the split stumps, hoping thereby to kill the roots. Vain labor. The wind-driven clouds of thistledown, which were planting the weed far and wide, grew yearly denser and more frequent. At length the fields became a packed growth of prickly plants, which nothing could face.

"The sparrows took to eating the seed. In tens of thousands they fed on it, giving it the preference of all other hard food, and the weed was conquered."

Are not these facts sufficient to cause us to mitigate somewhat our harsh judgment and ill-feeling toward our commonest neighbor?

KENNETH P. KIRKWOOD.

The commissary department of a worm eating warbler's menage, conducted under friendly human auspices

AFIELD WITH A HOME-BRED "PRO"

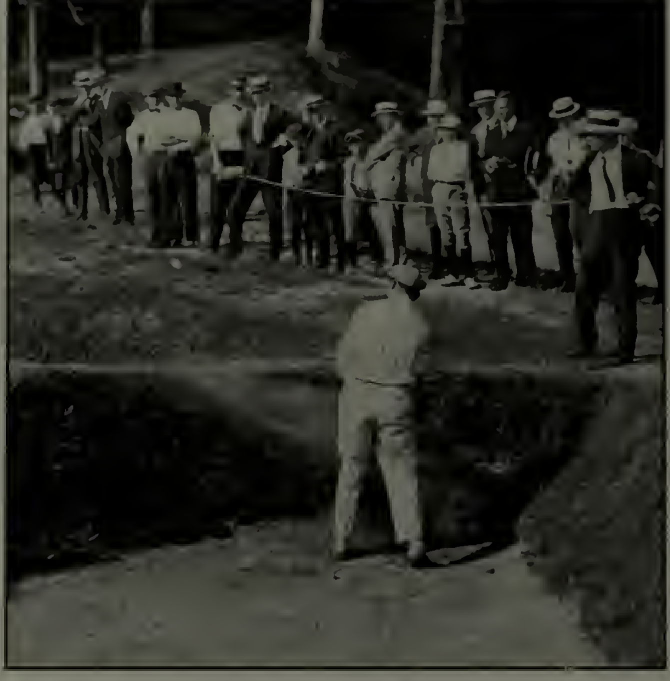
Walter Hagen's Game of Golf

BY HERBERT REED

T IS surprising to find how unfamiliar the average amateur is with golf as played by the best professionals. Usually at the open tournaments there is a large gallery following the winners, but the gallery that takes an interest in a loser is made up of personal friends. The time to follow a champion is when he is in trouble. It is then that the amateur can pick up points that will improve his own game. Walter C. Hagen, the present Metropolitan Open Champion, is an excellent example of this. Naturally he is followed by a large crowd when he is winning, but I really believe that he is a more interesting player when he is in difficulties.

His play is always attractive. He has a fine, free swing, and practically no faults. He plays easily, with confidence, and with true sportsmanship, which by the way is no unusual thing among professional golfers. When he won the National Open Championship in 1914 he was something of a surprise party to most followers of the game. A home-bred, he had not been looked upon as dangerous. Yet there were a few people who had watched his development at his home club in Rochester who felt that he was capable of a great deal. At the time a good many people seemed to think that his victory was in the nature of an accident. For that matter, the same thing was said of Robert A. Gardner when he won the National Amateur Championship years ago. Since then, as every one knows, both Hagen and Gardner have proved that their honors were gained by fine, consistent golf, and that in each of them there had always been the making of a champion.

Hagen's first opportunity to prove that he was no accidental champion came at San Francisco, where he won the Open Tournament at the Exposition from a really fine field of professionals. Those who followed his play in that tournament were convinced that even were he to lose his title he would always remain in the front ranks of the professionals. That he has done so the records show. In the Metropolitan Open Championship at Fox Hills a year ago he made a bad start and could not quite catch the leaders, although playing some of the most remarkable golf it has ever been my good fortune to witness. In his second round it was evident at an early stage that he was not to win, and as a result not more than a score of real enthusiasts followed his play. This little gallery was treated to two of the finest strokes in the game, one of which is shown in one of the accompanying photographs. In this instance Hagen's ball lay in the sand trap whither the tricky wind which so often prevails on this course had carried it. The ball was snugly against the bank of the trap farthest from the hole. To stand any chance of getting it out, Hagen was forced to turn his back to the hole. Using a heavy headed niblick he swung down into the sand fully six inches behind the ball, which ran around the curve of the bank, rose high in air, and dropped on the green six inches from the hole. The only other man I have seen make a stroke exactly like it is Walter J. Travis.



Well out of serious trouhle. Hagen was forced to take his position in the sand trap with his back to the putting green

The other startling stroke in that day's play was made early in his second round, and its accomplishment should be a lesson to the amateur. How many amateurs, I wonder, carry a left-handed club? For that matter, some even of the very best professionals are often caught without one. In this instance Hagen's drive was badly pulled and in being further carried by the wind, the ball came to rest in a little gully against a wooden fence. It seemed unplayable. The average man would have cast his luck and picked up the ball. Not so Hagen, to whom nothing seems to be unplayable. Using the left-handed club, he picked the ball out cleanly for a good 125 yards. It is such strokes as these that the amateur needs to learn.

This year Hagen played well in the National Open Championship at Minikahda, finishing behind Chick Evans, Jack Hutchinson, J. M. Barnes, George Sargent, Gilbert Nicholls, and Wilfred Reid. It required splendid golf, however, even to keep in that company, and as we all know, Evans, now that he has learned to putt, is practically golf perfection.

Although any one can learn to play golf, it is common knowledge that some men enjoycer tain natural advantages. Hagen is among these in that he has wrists of steel, and large hands which make most effective the interlocking grip brought to this country by Harry Vardon. His swing when using the wooden club does not show the tendency toward flatness that marks the play of so many of the professionals. If the reader will study the accompanying photographs he will see that the follow through is not as strained as in the case of the famous Saint Andrew's method. In fact, I have found that as a rule the club head finishes back over the right shoulder when the swing is made purely for purposes of illustration. It seldom appears in the snapshot of actual play. Hagen is a free, long hitter with the wood, although not as long a driver, as a rule, as Gilbert Nicholls and a dozen or so other professionals. Hagen's driving appears almost effortless, as indeed good driving should. It is when he comes to the irons, however, that he appears at his best. In common with most of

A posed picture of the Hagen drive, valuable as an illustration of the over-lapping grip with left thumh along the shaft

The last shot in Hagen's first championship. He sank this putt and won. The picture shows him "rooting" for the ball

the professionals, he does not hesitate to take up plenty of turf, using a cleek where the amateur would choose a midiron. His stance when using the iron would repay the study of the amateur, for he makes the strokes well off the right foot. While, as a rule, free and easy in his approaching, he can and does use the stiff arm style when necessary. Nearly all of Hagen's strokes are made with what for lack of a better term I shall have to call spring. It is most difficult to describe, and I shall not attempt it, but it is a quality that makes for grace and ease and all round attractiveness in his play.

An excellent example of Hagen's deadly approaching. The ball appears to be traveling to the left of the pin, but the position of the player's body shows that he has put left to right and under spin on the ball

Hagen is among the best and most daring putters in the game. He does not use the pendulum method advocated by so many of the authorities, which is seen at its best, I think, when Francis Ouimet is on the green. In putting, Hagen crouches somewhat and his knees are slightly bent. There is none of the apparent awkwardness and the humpback of so many of the professionals, especially James Barnes. Hagen putts very noticeably off the right foot. It is not what one would call, perhaps, a distinctive style, but reminds one of the old days when the putting cleek was in such great favor. Hagen's style is as good as any, I think, because of its freedom. He does not make so solemn an affair of it as Heinrich Schmidt, for instance, who has been known to take more than three hours for a single round. The Hagen method is one that makes for confidence.

In this connection it is interesting to note how he prepared himself for his important matches on the Pacific Coast, for it is characteristic of the man. He put in his practice days on the course at Del Monte. Many of those who watched that practice thought that he was a much overrated player because so many of his approach putts went a foot or two, and now and then even a yard, beyond the hole. The Rochester expert was proceeding on the simple theory that it is easier to cut down the strength behind the ball than to work it up. It is the old, old story of "never up, never in." The average player, I think, would do well to give this method a trial.

In another article I suggested that it might be a good plan for the average player when practising to begin with the putter and gradually back away from the hole, taking up the wooden clubs last. The idea was not original. I know of instances in which it has worked out well. There is, however, a good criticism of it to be made, and that is that the most difficult club to handle successfully is taken up second. This is the mashie, in the use of which very few amateurs are in the same class with the professionals. Most of these men, and Hagen is among them, began their golf at a very early age, and the first club that most of them owned was a mashie. It is a common experience to find one's caddie swinging a mashie in every spare moment. And most of the good professionals were at one time caddies. In the course of time they came into possession of more of the iron clubs, getting around to the wooden clubs last. Francis Ouimet is an excellent example, for although he played for many years as an amateur and has only recently been declared a professional by the United States Golf Association, he was always deadly with both putter and mashie. Hagen himself will tell you that there is no short cut to success with any of the iron clubs and that there is no way in which to attain the proficiency of the professional save constant practice.

The average amateur gets more enjoyment out of a screaming drive or brassie shot. This is only human, but those who would follow in the footsteps of Hagen, or for that matter those of any of the ranking players, must learn to curb the human impulse, and, like Hagen and the rest of them, devote themselves whole-heartedly and patiently to the irons.

The professionals are all loud in their praises of Chick Evans, our new Open Champion. He is as popular with them as he is with the amateurs. The "pros" frankly admit that only Barnes had a chance to catch up with the Edgewater star. The opportunity came in the fourth round. Barnes started the round three strokes behind, but when Chick made a hash of the fourth hole, the latter led the Whitemarsh "pro" by a single stroke. This was the psychological period of the tournament, and Evans rose to it while Barnes did not. Chick picked up a stroke at the fifth. Had Barnes made a 3 at the 220-yard seventh, and not found a trap at the ninth, he would have been only a stroke behind going to the tenth. Oddly enough, the professional and not the amateur seemed to feel the strain. I believe that we have in Evans an Open Champion who will win the title again, largely because his metier is medal play.

Chick Evans, present Open Champion, who had this shot to tie Hagen on the day the latter won his first big title. Hagen sank his shot and Evans failed

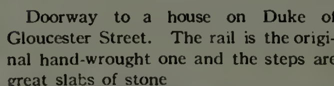
A splendid example of the difficult chip shot by a master of it, and well worth close study

Hagen getting away a pretty drive from an elevated tee dead on the flag. The finish of the swing, it will be noted, is not such as posed pictures show

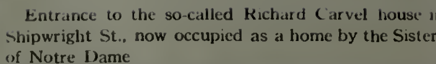
Hagen putting in the third round in the 1914 Open Championship, which he won. He was as good then as he is to-day

On the lip of the cup. The picture well illustrates the lack of stiffness of the Metropolitan Open Champion on the green

Old Doorways of Annapolis



A doorway in the Harwood house that shows a very much lighter and more gracious touch in the detail than most of the classic prototypes



Entrance to the so-called Richard Carvel house in Shipwright St., now occupied as a home by the Sisters of Notre Dame

A severely rigid entrance to the house built in 1742 by Samuel Ogle, proprietary governor of Maryland. The porch railing is, of course, of a much later date

By the original charter, the cashier of the Farmer's National Bank is obliged to dwell in this part of the bank building, erected early in the settlement of Annapolis

Front door of the Chase house, begun about 1762 by Samuel Chase, a signer of the Declaration, and finished by Governor Lloyd

Doorway to a house on Duke of Gloucester Street. The rail is the original hand-wrought one and the steps are great slabs of stone

Another doorway to the Ogle house—a very unusual combination of a door and a window

Another example from the richly portaled Ogle house, with vaulted ceiling—the despair of a modern designer

THE NEW BUSINESS OF FARMING

CONDUCTED BY F. D. COBURN

[Mr. Coburn will be glad to answer any questions relating to farming; for convenience kindly address Readers' Service, Country Life in America, Garden City, N. Y.

FITTING SCHEME TO CONDITIONS

HE who makes the best financial success of his farm is the one who best fits his system to his individual surroundings. Rules are made for average conditions, but the average is a composite of variations. No two farms will give the best returns from exactly the same system of farming.

Butter making on the farm is generally a losing proposition, but it is easy to imagine many conditions under which it would be profitable. The dairyman who uses extra care to keep his product clean is throwing away the fruit of his labor if he sells his cream where it is mixed with unclean supplies and thus brought down to a lower grade. The man who pays the creamery for making his butter, while he spends the equivalent in time on the road hauling his product to the creamery, or at some other unproductive work, is giving away the price of the work done at the creamery.

Butter made from clean cream under sanitary conditions is worth more than that from the average creamery cream. The farmer who sells such butter receives more money for a better product, and does not simply ask an additional price because the product goes out under his name. In this sense he is not seeking a special market. Whether or not the farmer's net income will be increased if he spends his time working for cleanliness in the dairy and in converting his clean cream into high grade butter is purely a matter of the individual conditions. The ideal condition, it goes without saying, is the proper kind of co-operation among the farmers of the neighborhood.

Climate and soil are the most important factors to consider in determining what crops to grow. Freight and express rates to the best markets are also important, and the area of land available to compete in production must be considered. But all of these may be overcome if the price received for the crop pays the added expense. Tomatoes and cucumbers are grown through the winter under glass in New York and under the sun in Florida. The cost of the greenhouse is offset by the transportation charge, and both are paid for by the out-of-season price.

The value of the Connecticut tobacco crop is surpassed by only four states, and each of the four has eight times the area of its New England competitor. The high quality of the Northern grown tobacco, combined with the limited area available for the growing of this particular grade, permits the expensive culture under cloth. The Oregon orchardist meets his heavy transportation charge by additional labor in the orchard, which produces the maximum percentage of high grade fruit.

If a farm has soil especially adapted to corn, but is so remote that the freight rate to a corn market eats up the profit, this condition can sometimes be entirely met by feeding the grain to live stock on the place. Pigs transform corn into pork and at the same time condense it. One pound of pork represents five or six pounds of corn, but the freight rate on pork is approximately only twice that on corn, so the rate per pound of corn as represented in pork is reduced to one third what it would be if shipped in its original form.

Again, if the corn is sold as grain, the fertility of the farm will decrease, and the yield per acre be less than if it is fed to live stock. If a field will produce thirty bushels of corn without manure, and this corn is sold at 70 cents, the gross return will be $21. But if the same field, fertilized by having the corn fed to live stock and the manure returned to the ground, can produce eighty bushels, this corn can be fed to live stock at a price of only 40 cents, and yet the gross return will be $32.

Uncle David Enoch was right when he said, "I get the profit in two ways when I feed stock—the profit on my stock and the enrichment of my farm." If he thus builds up the fertility of his land, the farmer is raising the productivity of his farm and by intensive cultivation increasing the size of his business.

The American farmer fits his scheme of farming to his conditions by increasing the yield per man. The Chinese farmer lives by forcing the production per acre. In America there is plenty of land and in China plenty of labor. It is not uncommon for a farm of two acres to support a Chinese family of twelve. Some Western wheat farmers raise a crop on one half of their land each year and plow the other half for the succeeding season, thus increasing the area which one man can cultivate by extending the time of plowing over the whole season. The Chinese rice farmer raises the young plants in a seed bed, transplanting them at the latest moment into fields which have meantime been growing other crops. He thus adds thirty to fifty days use of his land at a heavy cost of labor.

Competition and a desire for the ultimate dollar of profit have forced business men to rigid economy in details. Leaks that would ruin the American manufacturer or the Oriental farmer creep into every farm business in this country. No manufacturing company could prosper if it wasted products as the farmers of the corn belt did when they threw away fertility by burning corn, or if it permitted the losses that the average farmer does in his handling or neglect of manure.

It is well to realize the different problems confronting the man who would plan his farming with the same care employed by the business man. The Bureau of Farm Management, before deciding on the desirability of an enterprise, takes into consideration the following factors:

(1) Profitableness as determined by general and local experience.

(2) The extent and distribution of the enterprise. This has much to do with the stability of the supply and demand.

(3) Location with reference to markets.

(4) Conditions existing in the market centres, especially combinations of dealers which control prices.

(5) Soil and climatic conditions.

(6) Cost of equipment required.

(7) Amount and character of labor required.

(8) Seasonal distribution of labor.

(9) Extent and possible market for the product, and the probable effect on market prices of a considerable increase in the supply.

(10) Effect of the enterprise on the fertility of the soil.

In studying any particular crop the Bureau seeks to know:

(1) Kind and number of operations required.

(2) Number of men, horses, and machines that may or must be used for them.

(3) Dates between which these operations may or must be performed.

(4) Amount of work each man, horse, or machine can do in a day.

(5) Proportion of days which will be lost by weather, condition of soil, etc.

With such data at hand it is possible to work out a system of cropping which will provide the maximum of profitable work for men, horses, tools, and land for the year.

Compared with the selling of grain, the agronomist must consider that only a proportion of the fertility leaves the place when dairy products such as butter and cheese are sold. The economist can easily find that an inexpensive way to purchase fertilizing material for the farm is to buy it in the form of feed stuff. Good cattle will live on the purchased food, improve the fertility of the farm, and pay its owner for the privilege.

Horace Greeley displayed true prescience when he said; "By and by, it will be generally realized that few men live or have lived who cannot find scope and profitable employment for all their intellect on a 200-acre farm." We must remember that, "the larger return is won by the farmer who is qualitatively more efficient because he shows greater skill in performing his work. He uses better judgment in planning his farm operations, regulating his field system, selecting seed, etc."

The NEW DAWN OF THE DAIRY INDUSTRY

By E. L. D. Seymour

T IS perhaps inaccurate to intimate that in recent years the American dairy industry has ever approached a twilight in its history; nevertheless, its entire tissue is to-day so strongly animated by a new spirit and energy, and so surcharged with enthusiasm and determination, that instinctively one sees in the approaching opening of the National Dairy Show, the first dazzling rays of the dawn of a new and glorious era of success.

Four significant phenomena impel one toward this conclusion: First the liberation of our national agriculture and especially its dairy industry, from the toils of the foot-and-mouth disease epidemic. After months of warfare and appalling losses, the organized forces of education, coöperation, and efficiency stamped out the last vestige of the pestilence — not without sacrifice and heavy expenditure, but cheaply enough in view of the value of what was at stake. Second, the closely related reincarnation of the National Dairy Show after a year's seclusion because of this same plague. Few men realize what the long quarantine of the 1914 show animals meant to their owners in terms of hardship, suspense, and financial sacrifice; or how loath the promoters of the Show were to let 1915 go by without the occurrence of their magnificent exposition. Now the Show has arisen Phoenix-like from the ashes of the past, and New England and the East are to have the privilege and honor of sheltering, supporting, and benefiting by it. Springfield, Mass., from the 12th to the 21st of October should be—*will* be—the Mecca for all who have an interest, professional, personal, pleasurable, or otherwise, in this cornerstone of successful farming and food production.

Third, there is the obvious awakening—or rather rewakening—of the dairy breed organizations. This is in part expressed in the necessarily brief résumé of their prospects on page 51, but it has been even more strongly indicated in the tendencies toward consolidation, greater harmony, and increased activity that have characterized the recent meetings and activities of the associations. It would seem that each breed is on the threshold of unprecedented popularity, achievement, and service.

Finally there is the amalgamation of all the dairy interests in the formation of the National Dairy Council, whose admirable and tremendous campaign has opened so auspiciously. However unfortunate the circumstances that have let the supply of dairy products catch up with, or even approach, the demand, thereby causing considerable hardship and concern throughout the business, the outstanding fact now is that this state of affairs has been observed, its gravity appreciated, and the one effective means of bettering it decided upon. This is in brief the coöperation of all forces and agencies in the promotion of an educational and advertising propaganda to increase the public appreciation of the food value of dairy products and their use.

It is practically impossible to express or to grasp the extent of the complicated benefits that will inevitably attend the progress of the new period of dairy history. They will reach out through the farthest ramifications of the industry to every individual and activity in any way dependent upon or associated with the dairy cow, her existence, her improvement, and her products. Perhaps even a superficial review of the factors that have made modern dairying what it is will suggest the nature and relationships of these beneficiaries, as well as the astounding magnitude and importance of the industry.

Cleanliness, sanitation, and scientific accuracy and efficiency are vitally essential in every detail of modern dairying

Such problems as that of sheltering the dairy herd in buildings that are convenient, sanitary, comfortable, and architecturally pleasing are being solved more thoroughly and more satisfactorily to-day than ever before

Most fundamental of all is, of course, the cow, individually the producer of milk, generically the medium through which the science and art of breeding are effecting their wonderful improvement. The day of the scrub is past; the modern cow, whether registered or grade, carries enough of the blood of the purebred to make her an efficient, profitable machine.

Behind her stand the breeder and the dairyman; one the creator or builder, the other the maintainer or controller of this machine. The list of men who can be and are honored for their work in these two lines is a long one; its study is a source of inspiration for every American farmer.

The environment and management of the dairy cow involve a whole series of factors and industries, such as feeds, building materials, silos, barn equipment, milking machines, and the innumerable appliances that contribute to the health and comfort of cattle and the enterprises that manufacture and sell them.

The field of dairy products contains an equally imposing list. Milk, butter, cream, butter fat, cheese, ice cream, skim milk, buttermilk, milk powder, evaporated and condensed milks, casein for industrial use—every one of these has its associated industries, machines, markets, and army of handlers and consumers. Separators, churns, milk testers, and pasteurizers are merely the beginnings of a long list of inventions that carry the crude product over its long and intricate journey through the dairy, the creamery, the cheese and butter factory, the refrigerator car lines, the wholesale and retail dealers' establishments, and into the homes and on to the tables of the multitudes.

Transportation and marketing are but two activities in which organization is all important. Of late even the producers have organized to meet and successfully fight the juggernaut of prohibitively low prices. The breeders are long since organized and with obvious results.

Legislation is still another field in which dairying receives careful consideration. Health measures, quarantines, the standardization of foods and their protection against adulteration, all these require infinite study, careful judgment, and diplomatic yet decisive action.

Coming finally to the subject of study, investigation, and teaching combined, we find one of the most imposing factors of all. The Federal Dairy Division at Washington, the departments and authorities of the State Colleges and Experiment Stations, local cow testing associations, and the publicity departments of the several breed associations represent an inconceivably large fund of information upon every phase of dairying yet referred to, the bulk of it obtainable by any individual merely for the asking.

Such in the barest, briefest terms is the dairy industry of America, an industry that involves some twenty-two million cows worth nearly a billion and quarter of dollars, an annual output of at least six hundred million dollars' worth of products, an export trade of more than fourteen million dollars, and most vital of all, the feeding of the nation's families and children! Who, that reads of these things can fail to see in the National Dairy Show an event of mighty significance?

THE "NATIONAL" COMES EAST

BY JOSHUA L. BROOKS

President, Eastern States Agricultural and Industrial Exposition

WHAT can and will the National Dairy Show do for the East? That it will do a vast amount of good by stimulating us to improve our dairy herds and methods and better our farming generally, is certain beyond all argument. One indication is the fact that the Eastern States are welcoming the Show with an enthusiasm surpassing that aroused by any project ever directed toward the betterment of their primary industry.

Since the first announcement that the Eastern States Agricultural and Industrial Exposition had convinced the directors of the Dairy Show Association that the Northeastern States needed the intimate touch with this foremost dairy congress, we have received hundreds of expressions of approval and support, many most impressive in their enthusiasm, sincerity, and spontaneity. As an illustration, in the town where my farm is located is a farmer who in the past has been of the type sometimes called unprogressive. His place indicated it. He did not house his implements, his buildings were shabby, his methods inefficient. But this last spring I noticed that he was apparently trying to reform. He had cleared away the rubbish in his door yard and about his barn, his cultivated fields looked better, his horses and cows were obviously getting better care. One day he stopped me and after a little ordinary conversation spoke of the National Dairy Show.

"That Show," he said, "is the best thing that ever came into this Eastern country. Do you know, I'm laying out my summer's work so that I can go to that Show every day. And I'm going to take my boys with me, and my wife. We'll soak up all the information we can, and it's not only going to be a fine vacation, but it's going to make better farmers and dairymen of us. One of the boys had planned to leave the farm this spring, but he's changed his mind and, like the rest of us, he's interested in his work. We've all tried to do better this season; we've got a new set of ideas."

Independently, stimulated not by the Show itself, but by its promise, this farmer had made an analysis of himself and his conditions and found a probable remedy for his unsatisfactory environment. What results, then, may we not expect from the exposition itself?

When we really brought about the migration of the National, the plan had been given no publicity whatever. Yet few of us anticipated the promptness, extent, and enthusiasm of the reception accorded the announcement. In February and March the trustees of the Massachusetts Agricultural College "loaned" us one of its dairy professors who visited some two score winter meetings of dairymen and farmers in the Northeastern States and told them that the biggest thing in the world in the way of dairy shows was to come here for their benefit. The invariable sentiment expressed was "This is the biggest and finest thing that has happened for the dairymen and farmers of this region in many years."

There is no virtue in denying that in this region agriculture, and especially dairying, had gone backward. If some extraordinary convulsion of nature should suddenly wipe out of existence five million acres of improved farm lands, the world, even in these war-callonsed days, would stand aghast. This, in effect, is what has happened in New England, the only difference being that the disappearance of that great food producing area has taken place gradually over the period between 1860 and 1910, instead of all at once. As for dairying, the Commissioner of Agriculture of Maine said last May before the Interstate Commerce Commission: "As a matter of fact, during the last ten years, the production (number) of cows has fallen off by 36,000 in this state (Maine), 54,000 in Massachusetts, 27,000 in New Hampshire, and 37,000 in Vermont."

Moreover many business men feel that as a result of these and other conditions, the Northeastern States are facing an industrial crisis. Now, we may not hope to reclaim a large part of the millions of acres of farm lands that once were under cultivation (much of it is more suited to forestry than farming), but something must be done to make the most of what is still under the plow—to make the farmers of to-day and to-morrow more efficient, thereby cutting the unit cost of their products for the benefit of themselves and the consumers.

Our cornerstone of good agriculture is dairying. In less than a generation it has jumped from an incidental side-line to an organized business that ranks among the half dozen largest single industries in the country. No one agency has had a greater part in bringing about this change than the National Dairy Show. As an educational force it has been unique, but hitherto its usefulness as such has necessarily been out of reach of most Eastern farmers because of its location in Chicago.

We therefore felt that if we could transplant it to the East for a year, our farmers would go a generous half of the way toward making it a school of instruction and a source of aspiration and progress, not only for themselves but for their children as well.

In one of his letters congratulating the Eastern States Exposition on its enterprise in bringing the National to the East for 1916, President Butterfield of the Massachusetts Agricultural College said, "Of course it should be followed up by a great campaign of education and coöperation." This we have already planned for. If we cannot have the National Dairy Show in 1917, we shall have the next best thing to it. But a once-a-year event will not be enough. The $750,000 exposition buildings and their grounds, first utilized to shelter the Dairy Show, will remain as a permanent reminder of its purpose and achievement and be the headquarters for a 365-days-in-the-year movement for the coördination, on a coöperative programme, of all the various agencies—national, state, and local—that are working for a better and fuller country life in the Northeastern States.

THE NATIONAL DAIRY SHOW AND THE DAIRY INDUSTRY

BY WILLIAM E. SKINNER

General Manager, National Dairy Show Association

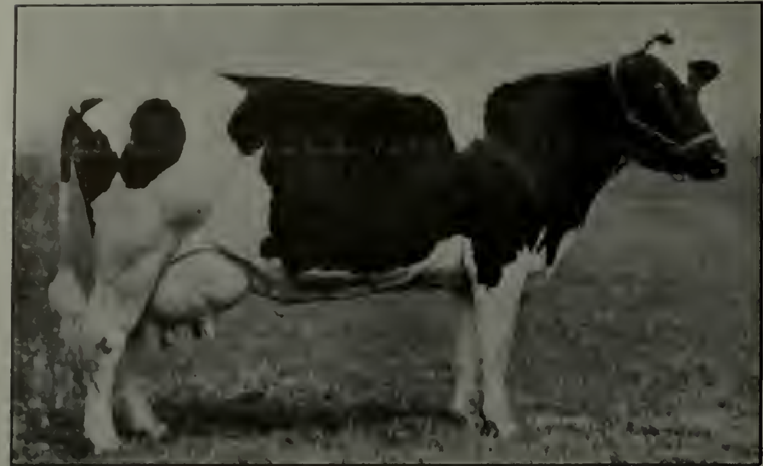
IF AN historian will some day write the story of the dairy industry of America, many a patriot whose name has never been mentioned in connection with the work will be found on the roll of enthusiastic supporters of the dairy cow. All history shows that there comes a time when the cumulative work of men who have marched before reaches the stage where it must be brought together, correlated, and welded into a tangible foundation for still higher achievements. Men are always found to rise to such occasions, and in this case it was a small group of broad-visioned men—a very small group, when the vast army of those interested in dairying in this great country of ours is considered—who, counseling together, realized that the methods employed in the care and use of milk, nature's universal food, must be elaborated; that because of the tremendous growth of population it must be treated in a more scientific manner; that the genius of man must be invoked toward still greater sanitary and mechanical knowledge, that the industry so vital to humanity might prosper and develop in a manner commensurate with its commercial standing and importance and its relation to the family food supply. The result was the launching of this most liberal school of instruction and comparison—the National Dairy Show—that there should be developed advanced knowledge in breeding, feeding, and care of dairy cattle, and higher ideals in manufacture and distribution of milk and its products, and that all of the people engaged in the many branches of the dairy industry might be put into close and harmonious touch and become better informed as to the magnitude, importance, and dignity of their industry.

After much labor, the outlay of considerable wealth, and many trials and vicissitudes, the National Dairy Show was developed into what it now is—the greatest exposition of its kind in the world. It exerts a tremendous and powerful influence over the whole industry; and it is going forward by leaps and bounds, illuminating the way for the establishing on the American continent of the best dairy cattle and the best dairy products in the world.

The progress of the Show in the decade that is just closing is largely symbolic of the progress of the mother industry. Up to six years ago its success educationally and inspirationally far outweighed its financial success, resulting inevitably in an unstable condition. Then radical departures and a new burst of energy and determination resulted in a new start on a firm and permanent foundation. Between 1912 and 1914 the premium money was increased from $6,000 to $15,000; machinery exhibits occupied some 30,000 square feet in 1912, 40,000 in 1913, 42,000 in 1914, and this year will require fully 60,000. The exhibits of cattle in 1912 were 10 per cent. greater than ever before; 1913 brought a further increase of 10 per cent., 1914 still another, and, unless catastrophe occurs, there will be a thousand of the finest dairy animals in the world at Springfield this fall. The increase in attendance has been in proportion; about 100,000 in 1911, twice that the next year, nearly 300,000 in 1913, and fully 360,000 in 1914. No less than half a million people, it is estimated, will witness the Show this year.

Thanks to the splendid coöperation of the Agricultural Colleges and the Dairy Division of the Department of Agriculture, the Show has become an exposition of each year's attainments along lines of dairy knowledge in these seats of learning, so that there results practically a ten days' intensive course in better dairying in a setting impossible elsewhere. Beginning—as does dairying—with the cattle, there are exhibited those animals that have passed the acid test of competition at the fairs and shows throughout the country—contestants for ribbons and titles that really represent the year's supremacy. Here, if ever, comparisons are not odious, but rather the source of invaluable information and benefit. The country wide milk, butter, and cheese contests, the students' judging contests, the Departmental demonstrations and exhibits, the machinery displays—all combine to give the Dairy Show an appeal and a value to the man, woman, and child of the country that it is hard to duplicate elsewhere.

To pick this vast national organization up bodily and move it East required much courage; but the faith that the men of the East felt and expressed so inspired its directors that they consented to a pilgrimage. And already they are convinced of the wisdom of the decision.



Finderne Pride Johanna Rue 121083 and King of the Pontiacs 39037, in the eyes of Holstein breeders and enthusiasts, represent the best that their breed can offer. Her production of 1176.47 pounds of butter fat is a world's record for all breeds. He is a sire of 97 proven sons and 184 Advanced Register daughters, including many of the breed's highest performers

Among the Jerseys, Oxford Cocotte 235180 represents a combination of beauty and functional development that is close to perfection. Spermfield Owl 57088 not only exhibits his quality and vigor in every line of his noble figure, but has impressed them deeply upon a long list of noteworthy sons and daughters

The Ayshires have developed slowly but very surely until now the achievements of such animals as these—Garclaugh May Mischief 37944 and Imp. Hobsland Perfect Piece 16933—are attracting nation-wide attention and winning enthusiastic champions in the ranks of the best breeders and dairymen

The pride and hope of Guernsey men rest with such types as are represented by Bloomfield Pandora 20760 and Imp. May Rose King 8366, perhaps the greatest individuals of a truly great family But after all, who shall say what breed is "best"? It is by *all* these animals and their like that the guerdon of modern dairying is being carried onward and upward

THE JERSEYS

THE first question for the dairy farmer is, what cow can do her required work most economically, and efficiently—that is, produce the richest milk at the lowest cost of labor and feed. This, we claim, the Jersey can do. Less than ten years ago the American Jersey Cattle Club began the practice of giving a gold medal to each cow making at least 800 pounds of (85 per cent.) butter in a year. To-day it contemplates raising that standard to 1,000 pounds, owing to the ease with which the present-day Jersey produces the former amount. That she is fast being recognized as the most efficient economical producer of butter fat is shown by the fact that in the past year the number of Jersey breeders in the United States increased more than 33 per cent.

She thrives and produces successfully from northern Alberta to southern New Zealand, and no cow produces milk richer in food nutriments. The Federal Government has found that her milk contains 9.2 per cent. of solids not fat, while more than four thousand Advanced Register cows averaged last year 5.34 per cent. butter fat, making her average total food solids more than 14.5 per cent. A four months series of tests conducted by the Federal Government at the St. Louis Exposition, showed that for each pound of food consumed, the Jersey cow produced more food constituents than any other breed.

That the Jersey of the future will be an even greater economical food producer is indicated by these and other recent achievements. A great movement is under way to educate the public in the food value of dairy products. The greatest obstacle in their path is the inefficient, parasitic, so-called "criminal cow," that consumes more in food than she returns in milk. The American Jersey Cattle Club is carrying on a vigorous campaign to promote the use of pure-bred Jersey bulls in dairy herds, as well as the supplanting of these boarder cows with Jerseys as far as possible.

Breeding experiments show that the proper infusion of Jersey blood with the cow of ordinary breeding, will increase the amount of butter fat produced by the offspring one hundred pounds or more per year. That means that if Jersey sires could be used on the dairy farms now sheltering inefficient cows there would be added annually more than two billion pounds of butter fat to the present production of our dairies and more than six hundred millions of dollars to the dairy industry. This, of course, is impossible in its entirety, but the work has been started and much will be accomplished in the next ten years. This is part of the work the Jersey cow must do, and Jersey breeders will see to it that she fulfils her destiny.

M. D. Munn.
President, American Jersey Cattle Club

THE HOLSTEIN-FRIESIANS

BY reason of the intelligent effort and progressive methods of probably the largest number of high class breeders that were ever engaged in raising pure breds, the Holstein-Friesian cow has, in the last decade, been brought to a marvelous efficiency. Ten years ago there were registered 7,981 cows and 3,842 bulls; last year 46,549 and 26,116. Ten years ago the transfers of cows amounted to 9,044, last year to 42,014. Ten years ago our Association had 1,530 members; the present list includes more than 9,000 names. In 1905 we had but one cow with a record of 24 pounds of fat in seven days; 1915 showed 196 animals to have exceeded that amount.

Despite the many demoralizing conditions of recent years, the breed and its organization have marched straight onward. At the consignment sale held after the last annual meeting, the superior quality of stock offered and the prices received were without precedent, 140 animals bringing $155,090—an average of $1,107.78. A seven months old bull brought $20,000, a yearling $6,000, a mature cow $4,600, and a heifer under two years $2,000. The breed records have now reached 44.4 pounds of butter (80 per cent.) in seven days, 183.1 pounds in thirty days, 1,506.3 pounds in a year (semi-official), and of milk in this time, 31,343.4 pounds.

Under the leadership of its reëlected officers, the Association will continue to work along its established, successful lines. Some of the features of the work will be the registration of pure breds; the supervision of the making of their records, and their publication; publicity through the efforts of a literary committee; and the offering of prizes at the leading fairs for records and exhibits of these cattle and their products. New lines of service were inaugurated when it was voted to donate fifty bull calves to southern Illinois where great interest is being shown in dairying; and to contribute $5,000 a year for three years to the campaign of the National Dairy Council.

Other suggestions embodied in the reports of the officers dealt with: a census of pure bred Holsteins, to be repeated at stated intervals to determine the average life of producti eness of the breed; the encouraging and aiding of the organization of local breeders' clubs; the sending out of a competent organizer, a corps of speakers, etc. (in many communities the affiliation of national and local organizations has already been effected); the incorporation of cow testing association work in the Advanced Registry system; and the education of the public as to the food value of milk. A new feature of the A. R. work will be the 305-day test to be made under the rules for 365-day tests and allotted a due share of prize money.

The success of the Holstein-Friesian Association is due and will continue to be due to its sane and conservative methods, its insistence upon straight forward conduct by its members, the high moral and intellectual standard of its membership, and primarily, of course, to the wonderful prepotency and productive powers of the Holstein-Friesian cattle.

D. D. Aitken.
President, Holstein-Friesian Ass'n of America

THE GUERNSEYS

IT IS safe to say that the Guernseys have only begun their career in the improvement of the dairy industry. They stood at the top in 1901, in the Pan-American model dairy breed test, the only test in which all dairy breeds competed, and one in which victory was a significant indication of the characteristics which make Guernseys dairy world leaders. For it was based on highest net profit in butter fat and butter production, highest average butter score, best color and flavor rating, lowest pound cost of butter produced, and greatest return for money invested in food. Since then how rapid has been the development of the breed in the achievements of its members and its popularity! The first certificate for a year's record on the butter fat production basis by a cow of any breed was written April 30, 1902, by the American Guernsey Cattle Club, certifying that Glenwood Girl 6th 9001, had produced 12,187.33 pounds of milk and 572.3 pounds of butter fat. Recently a Guernsey has produced 24,008 pounds of milk and 1,098.18 pounds of butter fat. Within the last five years the number of registered Guernseys has increased 130 per cent.

The example that Guernseys have set in making long period official records has gradually been followed by all the other breed organizations. The outstanding characteristic of the Guernsey—namely, the ability to produce most economically dairy products of the highest natural color, flavor and quality—is a significant and powerful factor in educating popular taste. Every one realizes that the market standard of milk is continually rising, from the standpoint not only of cleanliness, but also of quality. As Guernsey milk comes more and more into use, the demand will become more urgent that its standard should be approached by all market milk. The 5,000 cows in the Advanced Register average more than 8,800 pounds of milk and 450 pounds of fat, and of them 1,500 mature cows average more than 10,000 pounds of milk, and 500 pounds of fat—sufficient evidence of quantitative as well as qualitative production.

In this breed, production and prolificacy go together. A Maryland cow is now making her fifth Advanced Register record, although nearly ten years old. Her first four records average 10,776.93 pounds of milk and 564.51 pounds of butter fat, and her fifth promises to exceed 750 pounds, she having already made 634.16. Besides, she has had seven calves, one of which has four official Advanced Register records, another two, and a third is now making her second.

The future of the Guernseys, like their past, will be progress onward and upward with ever increasing production; their influence, combined with that of the other dairy breeds, is rapidly bringing the dairy industry to a higher and more satisfactory basis than the country has ever before enjoyed.

James Logan Fisher.
President, American Guernsey Cattle Club

THE AYRSHIRES

FROM her native Scotland the Ayrshire cow came to the United States endowed with a strength of constitution acquired by long battling with the rigorous climate of that country and wresting her living from its bleak moors and highlands, that admirably fitted her for the rocky hills and scant pastures of New England. Here she maintained her Scottish reputation as a profitable dairy cow under adverse conditions, able to give the largest possible returns for the food consumed. But as she gradually moved westward, pastures grew better and she found opportunity to establish a reputation as a wonderfully good dairy animal under all conditions. Yet not until the Ayrshire Breeders' Association inaugurated the Advanced Registry test was her real worth established and recognition accorded her as the profitable cow for large working dairies, as well as the ideal animal for country estates, where pleasure takes precedence over profit.

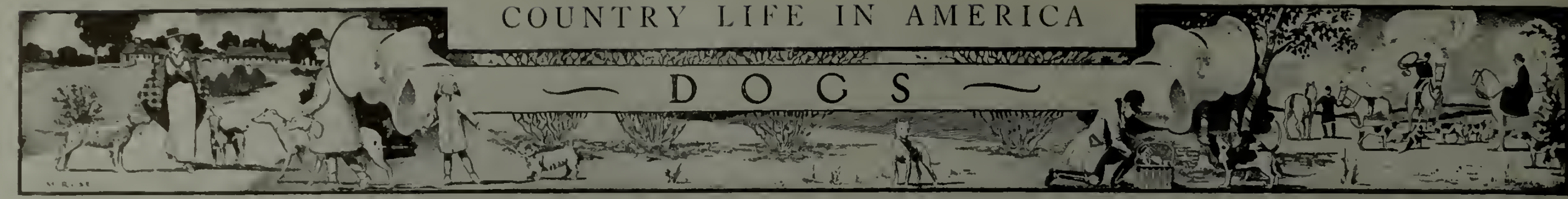
Her milk is perfect for table use because the cream is equally distributed, giving it a uniform and permanent quality. As a food for growing children and invalids it has no equal, since the fat and casein are well balanced, the fat globules small, and the curd friable, making in its natural state an easily digested whole.

Owners of Ayrshires have done little to bring them into public notice, leaving them to be known by their works; but the recent greatly increased inquiry for information has stimulated us to help tell the Ayrshire's story, and the Association is preparing a campaign of publicity which it is believed will shortly see her come into her own in every branch of commercial dairy work and what may be called ornamental husbandry.

Perhaps the greatest single step in placing the Ayrshire cow before the public was the offer by Mr. John R. Valentine, Byrn Mawr, Pa., of a $500 silver trophy to be competed for by all dairy breeds at the National Dairy Show until it had been won three times by a cow of some one breed, when it should become the property of that breed Association. The first year it was won by the Ayrshire, Oldhall Ladysmith 4th, owned by Patrick Ryan, Brewster, N. Y. The next year it went to a Guernsey owned by W. W. Marsh, Waterloo, Iowa, and the two following years to the Ayrshire, Kilnford Bell 3d, owned by Adam Seitz, Waukesha, Wis.

Up to August, 1916, the highest existing official Ayrshire records for a year's production were those of Garclaugh May Mischief of Pennsylvania, 25,329 pounds of milk, 895 of fat, and a profit above cost of food of $529; Auchenbrain Brown Kate 4th of Pennsylvania, 23,022 pounds of milk, 917.6 of fat, and a profit of $642; the four-year-old August Lassie of West Virginia, 17,784 pounds of milk, 720 of fat; the three-year-old Lessnessock Buntie of Ohio, 15,794 pounds of milk, 584.4 of fat; the senior two-year-old Henderson's Dairy Gem of Ohio, 17,974 pounds of milk and 738.3 of fat; and the junior two-year-old Willowmoor Etta 3d of Washington, 16,621 pounds of milk, 666 of fat. For a five consecutive year record including the production of five calves, Lily of Willowmoor, also of Washington, has 84,911 pounds of milk and 3,362.35 of fat.

C. M. Winslow.
Secretary, Ayrshire Breeders' Association



CONDUCTED BY WALTER A. DYER

[*Mr. Dyer will be glad to answer any questions relating to dogs; for convenience, kindly address Readers' Service,* COUNTRY LIFE IN AMERICA, *Garden City, N. Y.*—]

THE HOUND OF THE CZARS

Y FRIEND Charles Livingston Bull, the animal artist, is, as the boys say, "nutty" over the Russian wolfhound, and it is to him that I owe largely my appreciation of that breed. At the Westminster show he delights in pointing out to me the wonderful beauty of the Borzoi's lines, and I have come at last to view the matter somewhat with his eyes. I suppose it is natural for us to like some breeds better than others, and I confess that I never warmed up very much to this Russian, but I can see now how the Borzoi must appeal to an artist, and I am quite willing to admit that he has other good points as well. Leaving out all question of personal preference, therefore, let us see why this breed has become so popular.

In the first place, the Borzoi is perhaps the most spectacular of all dogs in appearance, and that goes a long way with many fanciers and dog owners. He never can fail to attract attention in the show or on the street, or when sailing over fences in the open country. When running he is an epic of motion.

Major Borman, one of the breed's best friends in England, says: "The most graceful and elegant of all breeds, combining symmetry with strength, the wearer of a lovely silky coat that a toy dog might envy, the length of head, possessed by no other breed—all go to make the Borzoi the favorite he has become." Major Borman knows the breed; we will let his estimate stand.

The Borzoi, or Russian wolfhound as he is more often called in the United States, is a dog of ancient lineage, akin to the long-coated Persian greyhound and belonging to the greyhound family. For centuries, probably, he has been bred in Russia as the sporting dog of the aristocracy. The rest of Europe has known him for only a few decades.

It was perhaps forty years ago that the first Borzois were imported into England. The Czar presented dogs to the royal family of England, so that his position in English society was assured from the start. English fanciers took up the breed about 1880, and the Borzoi Club was founded in England in 1892. The English, however, made more of a companion than a hunting dog of him, wolves being less plentiful in Great Britain than in Russia, so that our English importations have differed somewhat in character from those brought direct from Russia.

The first Borzois were brought to this country in the early '90's, and were called Siberian wolfhounds. Later we adopted the name Russian wolfhound. Interest here was spasmodic until Mr. J. B. Thomas, Jr., took hold. He bought dogs in England, Canada, and the United States, and then imported some fine dogs from Russia, including the famous Bistri of Perchina and Sorva. Bistri was a typical example of the breed and his stuffed remains are preserved at the Museum of Natural History in New York. Mr. Thomas's continued enthusiasm has had much to do with the ever increasing popularity of the breed in this country. We now have plenty of good breeding material here, with several large kennels doing a good business, and the future of the breed seems assured. Borzois are becoming more and more common among dog owners in all parts of the country, and the show entries are always large. There were thirty-four of them at Madison Square Garden last February.

Grace, speed, strength, and beauty are the Borzoi's physical characteristics—if you concede the attribute of beauty to so narrow a head. The Standard calls for a dog built on greyhound lines, but taller and somewhat leaner than the greyhound. The greyhound's action is quicker than that of the Borzoi, but the latter is a stronger runner, with a longer stride and greater staying powers.

The Borzoi's chest should be deep and narrow, the body muscular, neck, back, and loins bespeaking strength, with the back arched over the loins. Both fore and hind quarters should be powerful, the thighs well muscled, hind quarters somewhat straighter than those of the greyhound, hind legs well set forward and well bent at the hocks.

The Borzoi's head counts fifteen points in the judging. The skull should be longer and narrower than that of the greyhound, and there is usually an angle at the brow, producing a Roman nose. The eyes are dark and set somewhat obliquely. The ears are small, thin, and carried down.

The coat is long, fine, and silky, sometimes with a curl. White usually predominates in the coloring, which may be all white or with markings of tan, fawn, blue-gray, brindle, lemon, or black. Whole colored specimens of these tints sometimes appear.

Cyclone, one of Mr. Thomas's Russian importations. This dog is said to be responsible for some of the best breeding in the country

Razloff o' Valley Farm, a solid white dog of wonderful coat, standing 31 inches at the shoulder. He is a grandson of Ch. Bistri of Perchina. Owned by Mr. D. C. Davis

The Standard calls for a dog 28 to 31 inches high at the shoulder. In England the minimum has been raised to 29 inches. The average weight is 75 to 105 pounds, bitches 15 to 20 pounds lighter. A desirable height is 31 inches; some dogs have stood 33 inches or more.

Common faults in the Borzoi are shoulders too heavy, chest too wide, turned-out elbows, splay feet, cow hocks, head too short or thick, light eyes, and lightness of bone.

The Russians are good breeders, as a rule, and the puppies are not difficult to rear if proper care is taken. Fairly high prices are the rule, prize winners being valued up into the thousands occasionally. Good puppies, eight or ten weeks old, may be had for $35 to $50. The Borzoi is at his prime when three or four years of age.

Being a somewhat nervous, restless breed, more than ordinary care should be exercised in training the puppy. He should be broken early, if possible, of a tendency to run away or roam, for the Borzoi is naturally a great ranger and wants to use his legs. The puppy should be accustomed to the collar and lead when quite young. It is better, however, not to try to keep one on a chain. A good sized fenced-in run is better, and the fence needs to be pretty high. The breed does not take kindly to close confinement, and some individuals can never be made into house dogs. In the main, variety of diet, plenty of exercise, and patience in training are the requisites in rearing a puppy.

There appears to be some difference of opinion as to the Borzoi's disposition. The breed's stanchest friends claim that he is naturally affectionate, and a one-man dog. He seldoms picks a quarrel. I am inclined to think that individuals differ rather widely, some being sweet-tempered and some not. Perhaps they have been spoiled by their aristocratic training. They are often snobbish, sometimes wilful.

I knew a Borzoi once that did no end of damage by breaking loose occasionally and running wild. In almost every instance the owner heard of chickens killed or some other damage done, sometimes ten miles from home. This Borzoi seemed unable to resist the call of the wild when it came, though between times she was docile and affectionate. It was bred in her to run and kill.

Mr. Bull owned one once that never did become civilized. "She was extremely beautiful," he told me, "extremely strong-willed. There was always a contest whenever I wanted her to do something she did not care to do. She was fairly intelligent and could learn the meaning of almost anything, but she would obey only when she felt like it. She was very playful and loved a good romp. She was quick as a flash and sensitive to a harsh word.

"She was about a year old when we got her and had never been handled at all. She had been brought up in a big kennel, the runt of the family, and had to fight for whatever she got to eat. And the first time she was handled the kennel man tried to give her a bath and let her escape by backing out of her collar. It was her first bath, first collar, and first handling, and was a bad start, especially as the man lost his temper and whipped her for what she did not know.

"I have faith," he added, "that if I could get a little puppy and bring him up by hand, I might have a different story to tell."

Mr. Bull's dog never did learn the true meaning of human comradeship. She had been spoiled at the outset. No collar, harness, or chain could hold her, and at last she had to be disposed of.

I tell this story not to depreciate the breed, but to discourage any one from buying a Borzoi whose good training in early youth cannot be vouched for. The breed is sensitive and the character may be easily ruined, and it is far too fine a breed to be spoiled by careless handling or inexperienced training.

I believe it all comes down to that, and that most of the arguments that can be mustered against the breed are due to lack of human wisdom rather than canine depravity. There are enough instances of Borzois who have turned out well to prove that this is so, and I believe that a Borzoi puppy, taken young, may be made into as trustworthy a companion as a St. Bernard or Great Dane, as well as the most striking ornament the owner can add to his estate.

It must be admitted that for sheer beauty of lines the Russian wolfhound stands preëminent. Although this is an ideal sketch, Mr. Bull has not allowed his pencil to flatter the breed

Most of these tendencies to wrong doing, indeed, may be traced directly to the fact that bred deep in the blood and bone of the Borzoi is the instinct of the wolf hunter of the broad steppes, and that is a noble calling. In Russia the Borzoi has for centuries been used for this purpose. He can not only run down the fleetest wolf, but kill his quarry as well. This seems almost impossible when you look at the slender jaws, but the powerful neck and shoulders have to be reckoned with. The wolf runs a straightaway course, with no doubling, but he is no match in speed for the Borzoi. The dog's method is to come upon him from behind, seize him back of the ears, and with a lightning-like twist, break the wolf's neck.

In Russia, however, the Borzoi is usually trained to capture, not to kill the quarry. When a wolf is started, a pair of Borzois are unleashed. Side by side they race after their prey, overtaking him one on each side. Suddenly, often simultaneously, they pin him back of the ears, and hold him until the huntsman comes up to deliver the *coup de grace*, or to muzzle the beast and take him alive. Can you blame a dog, with the spirit of such a chase in his blood, for being a bit restless at the end of a chain, or imprisoned in a suburban back yard?

The Borzoi runs by sight only, not by scent. He is nimble enough to catch a jack rabbit or a fox, and powerful enough to kill the big gray timber wolf. In the West, Borzois have for some time been used with great success for hunting and killing coyotes, and there are indications that they are to be employed even more extensively for this purpose in the near future. W. A. D.

THE TOY POODLE

I WANT to get one of those little fluffy white dogs that seem to have become so popular lately," writes a correspondent. "Can you tell me what they are?"

They are toy poodles, sometimes called toy French or toy silk poodles. It is true that they are becoming fashionable and popular. During the past year I believe I have seen as many of them in automobiles and in the streets as Pomeranians or Pekingese. And I have found a number of people who seemed to be puzzled as to the identity of the breed. I imagine this is because one usually thinks of a poodle as shaved and trimmed lion fashion, in the accepted manner of poodles, while many of these toys are not clipped at all, but carry long, fluffy coats all over head and body.

The shows have not proved to be correct indicators of the increasing popularity of this breed. Only four were entered at the Westminster show this year, and only one at Mineola. Many of the smaller shows have not benched any. Yet somehow the little woolly thing has captured the popular fancy. Perhaps one reason is the relative cheapness of the puppies. Good males may be had for $10 up, and females somewhat less. It is not a difficult breed to rear.

Like other long-haired, soft-skinned toys — and larger dogs, for that matter — the toy poodle is somewhat subject to skin trouble. Whether this is mange, eczema, or plain itch, something must be done if the dog is to retain its crowning glory — the beauty of its coat. The first thing to do is to omit all sweets and all cornmeal from the diet, and give a tonic. If it doesn't improve consult a reliable veterinary.

There are undoubtedly many more toy poodles in this country today than large poodles. The big fellow, in fact, seems to have gone out of fashion. He was always accounted the smartest of the canine race, but managed to gain an unenviable reputation for uneven temper. The toy apparently does not share this fault.

The large poodle is a dog famous in song and story. His alertness and intelligence have always made him a favorite with mountebanks and animal trainers. The best trick dog is a poodle, and this undoubtedly developed one side of his nature to a remarkable degree. He is close kin to the water spaniel, and probably descended from the German pudel.

The toy variety, which was developed in France, is merely the larger poodle in miniature, though the white ones display a striking resemblance to the Maltese dog. The points of the toy are the same as those of the big dog, but the former should not exceed a height of fifteen inches at the shoulder. The toy's weight ranges from two to five pounds, three or four pounds being commonest. The colors are all black, all white, all red, or all blue, but only the white ones are in demand at present. The eyes are dark, and the nose, lips, and nails are black or very dark liver.

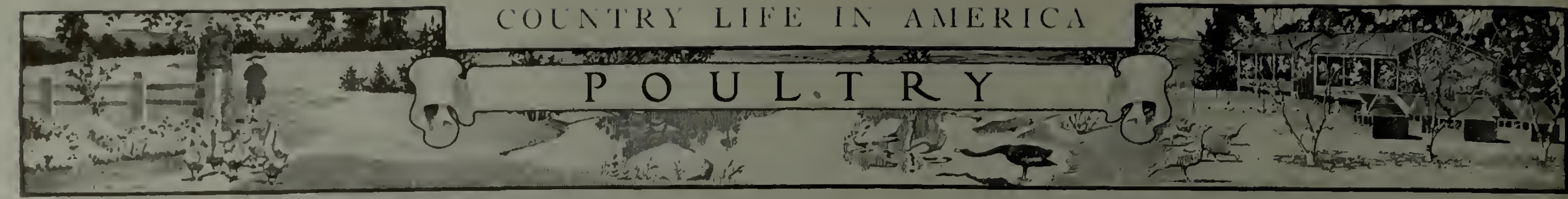
The toy poodle is perhaps not as striking in appearance as the Maltese or the Yorkshire terrier, but for those who favor a fluffy little white ball of a dog, there is none better, for the toy poodle has inherited some of the brains of his ancestors.

For exhibition purposes it is customary to shave and clip the toy's coat in a pattern similar to that long in vogue for the larger dog, but I find that among dog owners this custom is being more and more generally dispensed with. A long-haired white dog is always a care, for he is a sight when dirty and bedraggled, but owners probably find that frequent baths and combings are less trouble than occasional trips to the canine barber. W. A. D.

Mrs. Maude Dickerson's Ch. Tiny Boy (left), Little Miss Fixit (above), and Ch. Kibo

Mrs. W. Ward MacLeod and Congo Prince, the only black toy poodle that has competed successfully with the whites

For exhibition purposes it is customary to shave and clip the toy's coat. MacLeod's Jocko



CONDUCTED BY F. H. VALENTINE

[*Mr. Valentine will be glad to answer any questions relating to poultry; for convenience kindly address Readers' Service,* COUNTRY LIFE IN AMERICA, *Garden City, N. Y.*—THE EDITORS.]

CURRENT FASHIONS IN POULTRY HOUSES

STYLES in poultry houses have changed considerably in recent years, though possibly not so frequently as those in hats and gowns, and probably for more utilitarian reasons. The accepted type a score or so years back was a long house divided into pens containing possibly not more than fifty birds each, with an alley at the back from which most of the feeding and work of caring for the birds was done. This alley was likely to be dark, damp, objectionable in other ways, and at best was nearly waste space. Such a plan of construction is now entirely out of style. The nearest approach to it is the long breeding house where a single pen of birds is kept in each compartment. But instead of an alley at the back with its door into each pen, the pens extend the full width of the house, and one passes from one to the other through doors in the partitions between. There isn't a foot of waste space, no dark alley, and the sunlight can reach every corner—this last a most important consideration.

The old-fashioned house usually had plenty of glass in the south front, was made as tight as lumber, waterproof roofing, and unhuman ingenuity could make it, was probably damp, and kept the owner awake nights devising schemes for ventilation and relief for his needlessly sick fowls. The new style recognizes the value of indispensable fresh air, does away with most if not all of the glass, and has the front of the house largely open.

In detail, the front of such a house, of whatever size or plan, is boarded up for say two feet at the bottom, most of the rest of the front being covered with wire netting, with possibly cloth curtains to close it in severe storms. In a long house, too, some of the partitions would be made solid part way from the floor, and entirely so between the roosts. The idea is to prevent drafts or currents of air.

I once saw several houses on this general plan, but with some modifications. Each was 20 x 400 feet, shed-roof style. The interior was divided into pens 20 feet long, each holding 100 hens. Roosting platforms were at the back with nest boxes underneath, and with a house of that width, no curtains were needed in front of roosts. The lower part of the partitions was solid, and a big dry-mash hopper was built into every alternate partition, supplying two yards. The house was higher in front than this type of house usually is, and along the front was a floored alleyway, possibly 4 feet wide and 3 feet from the ground. Through this, a track ran the entire length of the building, on which a small flat car transported feed, water, and other supplies to any desired part of the house, carried out refuse, and saved all lugging. The only apparent drawback to this style of house was the three or four steps down into the pens, but this was more than offset by the other advantages. This raised alleyway gave the hens the full floor space.

The front of the house was largely open above the raised floor, covered with netting, and provided with cloth covered frames to be used when necessary. The hen doors below the floor admitted the hens to the yards in front. This lower part was boarded solid. This is a pretty good style of house, comfortable for the birds, economical of space, and easy to work in.

More recent methods of poultry raising have included the keeping of hens in much larger flocks. By this plan, in a long house like this or a similar type, the partitions are dispensed with, likewise partition fences outside—a big saving—and all run together, sometimes 1,000 or more birds in one flock.

On one large egg farm I visited, the hens were kept in units of 500, a house 100 x 14 feet sheltering that number, each in its separate yard. The house was of the familiar shed-roof type, concrete floor, and entrance doors at each end—though in an exposed situation these would better be located in front; the front is nearly all open, netting covered. This house cares for 500 hens nicely, all in one flock. In this location there is little snow, and hens run out practically all the time.

I have seen some of these long houses, carrying large flocks, elevated from the ground, furnishing underneath a covered run enclosed on three sides, a very good place for the birds to take the air during winter or stormy weather. The floor of such a house is likely to be cold and needs to be well made.

Another style of house for a large flock presents its gable end for a front view, differing from the others noted in this respect. This is on the order of the Mapes house illustrated and described in this Department two years ago. I have been observing the working of some of these houses for two years past, and they have proved so satisfactory that the owner intends to build more. They are about as economical in construction as could be imagined. The bottom is a concrete floored box about two feet high. The sides of the box may be of concrete or wood. On this is superimposed a roof with gable ends, the front being open and wire covered, the rear close boarded with the exception of a window in the centre. The entrance door is in the centre front. The plan includes a room in the rear with a heater of some kind for raising a large number of chicks, the cockerels being removed when of broiler size, and the pullets being left to mature and live and lay without leaving the house. A house say 24 x 36 feet, will raise approximately 1,000 chicks, and care for the pullets afterward.

Sash to Swing Out, Hinged at Top — Shingle — Operating Device Controlled Here — Muslin Screens — Wire Screen — Roosts — Door — Scratching Pen — Alley Fl. — Concrete Footing

Cross section of Mr. Wilson's poultry house, pictured at the top of the next page. Below is the floor plan, showing location of roosts, etc.

Roosts & Dropping Boards — Nests Under Neath — Wire Screen — Scratching Pen — Muslin Screens

Another style of house quite popular and with some excellent features is the semi-monitor. This appears like a large shed-roofed house with a similar but smaller and lower one built against it, front to front. The front is wire covered, and that portion of the house furnishes a scratching shed, the roosting and laying room being the rear portion. Windows in the front of the high part allow direct sunlight to reach the roosting platforms in the rear. One objection I have heard to this house in a region of heavy snows is the fact that snow piles up on the lower roof, covering the windows and sometimes endangering the roof. But it possesses several features which are very desirable and convenient.

A style of house seen but rarely has an alley through the centre with pens on each side. It is objectionable because of difficulty of getting direct sunlight to the pens on one side. It may do for temporary purposes, penning surplus cockerels or exhibition birds, or for fattening stock.

Then there are octagonal houses, with a narrow passage leading to the centre from which all the birds in all the pens are fed and watered. Round houses do away with corners.

When it comes to the smaller houses, there is no end to the diversity of models. Space forbids even a mention of most of the styles. On the one hand is a small, low, box-like affair, holding possibly a half dozen hens, and so small that the attendant must stand outside while caring for the inmates. At the other extreme is a good sized house, most frequently of the shed-roof type, a "three-in-one," as one manufacturer calls it. This is often fitted with a portable hover, the chicks being put in from the incubator, the hover removed when no longer needed, and finally roosts and nests being installed. Thus the one house is successively a brooder, a colony house, and a laying house, and is in use practically the whole year. This is a decided improvement over the old method of raising the chicks in a brooder, transferring them to a colony house, then finally to a laying house.

Portable houses are built in sections to be taken apart easily when desired. Other portable houses are built on skids or runners so as to be easily drawn from place to place. There's a house for every occasion and every location, and he must be most exacting indeed who cannot be suited with some of the many models.

F. H. V.

MICE IN A PIGEON'S NEST

MANY eggs and squabs are lost on account of the presence of mice in the pigeon house, but few fanciers realize the mischief caused by these tiny creatures. As soon as the cold weather sets in, the mice hunt for sheltered places in which to rear their young, and what could be more suitable for their purpose than a pigeon's nest, under the straw or tobacco stems? The food supply is so handy and abundant, too.

While the family is small, very little disturbance is made in the nest, but as it increases in size and number, the noise and movements under the nest frighten the pigeons that are sitting on eggs or youngsters, and cause them to leave the nest. They will fly back after a while in the day time, but after dark they are afraid to return to the nest or cannot find their way back, and eggs are chilled or squabs die of exposure.

Such nests of mice are often difficult to discover before the harm is done, as the old mice rarely come out in the day time. Often the fancier never discovers that there are mice in the nest, attributing its abandonment to some other cause, and the mice are left undisturbed to increase and multiply in warmth and comfort.

These colonies of mice are sometimes quite large in one nest. In one particular instance I discovered a nest containing twenty-nine mice. I was watching a pen of birds shortly after feeding time and my attention was attracted by a hen that flew from her nest to the floor three or four times in rather close succession. Having had previous experience with mice, I divined the cause at once and made careful preparations to capture the whole outfit.

On the floor in front of the nest I placed a wash tub containing five or six inches of water, and procured two short-handled nest scrapers. The eggs were removed to another nest carefully so as not to disturb the mice and cause them to run out. Taking a scraper in each hand, with one swift stroke I scraped the entire contents of the nest down into the tub of water. Several grown mice, in their hasty dash for safety, jumped from the front edge of the nest but landed in the tub of water, and every one was caught in the trap. The count showed twenty-nine mice in various stages of growth, from full grown to the tiny pink mites.

The steadiest pigeon could not be expected to sit on a nest that covered such a colony, and it is a wonder they stand it as long as they do.

It will be found that nests containing the most nesting material are the ones selected by the mice for their winter quarters. And nests nearest the floor are preferred to higher ones, although they are frequently found even in the top tier of nests. P. B. RUGGLES.

Model poultry house at Edellyn Farm, the country home of Mr. Thomas E. Wilson, Waukegan, Ill. It is of the semi monitor type and is a good example of just how attractive such a building can be made if one goes about it in the right way. George F. Dippell, architect

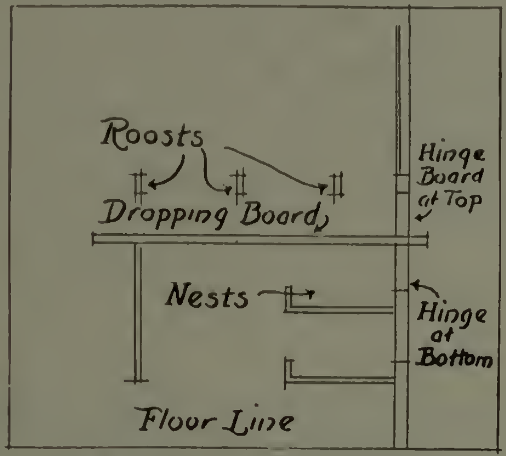
BUILDING BRIEFS

Deeper houses. The modern tendency is to build houses deeper from front to back. The deeper the house, the better protected are the birds on the roosts at the back, and the less need for protecting curtains in front. But unless the house faces properly, and is sufficiently open in front, the sunshine will not reach the back so readily.

Anchoring the house. On one farm, in the concrete foundation were set long bolts in such a manner that they would project through the sills. When the nuts are screwed down, there isn't much danger of such a house blowing away unless it takes a section of the foundation with it.

An overhead loft. In some of the cold-climate houses, before the days of open fronts when a warm house meant a close one, dampness was the great bugbear, and all sorts of schemes for ventilation were devised. A loft overhead with a loose floor, and filled with dry straw, obviated the dampness to a considerable degree. The straw was convenient, too, when needed for litter.

Facing which way? The traditional direction is south. This doesn't allow the early morning sun's rays to penetrate, which is most desirable. An eastern exposure would accomplish this, but a southeastern one would do the same, and would also get the sunshine till mid-afternoon. All things considered, a southeast exposure is most desirable.



Cross section of roosts, etc. in the above house

Small-mesh wire fronts. The one-inch wire netting will keep out the English sparrows which are such a pest to poultrymen. It is surprising, too, how much snow will be kept out by this small-mesh wire in a driving storm. It isn't equal to a good cloth-covered frame, but is considerably better than complete openness.

An overhead track. On some accounts, an overhead track with a suspended car is to be preferred to one underfoot, on the same principle as the trolley found in some stables for transporting feed, bedding, etc. Something of the kind is a great labor saver in a long house.

Hinged colony houses. I have seen a long row of colony houses for growing chicks, each on a solid floor foundation to which it was hinged at the back. The whole upper part could be tipped back, the floor cleaned without trouble, and left exposed to the sun and air as long as desirable; then the house could be tipped back in place again, and hooked down all ready for its occupants.

Locating the nests. This puzzles some. The nests should be dark. They should be easily accessible, both to the hens and to the one who gathers the eggs. Under the roosting platforms seems a very convenient place, but some object on the score of cleanliness. They should be easily removable for cleaning and inspection wherever they may be located.

Materials for a good house. This refers to a unit house on a large farm. Sills, frame, and rafters are 2 x 4 in. hemlock and pine. The roof is single pitch, which is considered best for several reasons—it is easiest to build, gives the highest vertical front exposed to the sun's rays, and throws all rainwater to the rear. The roof is sheathed with yellow pine and covered with roofing felt, pitch, and slag. Doors and roosts are of yellow pine. Nest boxes are of white pine because this is easily cleaned. The siding is of cedar or pine backed by tar roofing paper to exclude drafts. Sometimes the space back of the roosting platform is double boarded, making a dead-air space. Sometimes this boarding is carried up over the roosts, and an outside opening at the back of the house gives excellent ventilation in warm weather. The floor of this house is of concrete, and the front is largely open. It is 14 x 100 feet, and accommodates 500 hens in one flock.

F. H. V.

Front view of brooder house on Mr. Francis Lynde Stetson's Skylands Farm, Sterlington, N. Y. A brooder house may be pleasing to the eye, harmonize with the other buildings, and still do effective work

Rear view of same brooder house, showing the outside covered yards. In the foreground are individual brood coops with wire runs. Alfred Hopkins, architect

OCTOBER POULTRY HINTS

When housing pullets, have the houses as open and airy as possible—but without drafts on the birds.

This is a good time to select next seasons' breeders. As a general rule, those maturing most quickly are most vigorous, and will prove the best layers.

A good egg yield requires heavy and intelligent feeding. Not how little, but how much can you induce your hens to eat?

Long houses should have frequent solid partitions to avoid drafts.

Fatten to the limit every bird that goes to market.

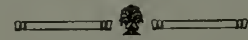
Dry leaves make very good litter, though they wear out quickly. They may be conveniently stored in burlap bags which may be piled in any dry, out-of-the-way place.

Overcrowding in coops at night, thus causing sweating and subsequent chilling when coming out into the cold autumn winds in the morning, is a fruitful cause of sickness.

Cabbages too poorly headed for market may be purchased cheaply, and make an excellent addition to the poultry ration. They may be set in trenches, or stored on the north side of a building or fence, and covered lightly when freezing weather comes.

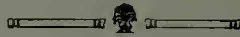
HERE AND THERE

A New Fertilizer Combine No, not a trust or a corporation destined to raise the price of plant food, but a combination of two plentiful materials that should help to lower it, at least as long as the war keeps potash values out of reach. The substances involved are seaweed, already in the public eye because of its high potash content, and peat, also valued because of its nitrogen and humus constituents. Both have been used separately to a limited extent, in different sections, but without thorough and uniform success. Now, it is reported, a process of mixing and decomposing them has been invented, which is expected to produce a supply of an economical, easily handled, efficient fertilizer without in any way endangering our other already overtaxed and rapidly diminishing natural resources.



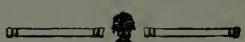
Water-Core—A Tendency In Apples A disappointing feature of a few otherwise desirable varieties of apple is a tendency to water-core. This, as its name suggests, is the development of a condition in which the centre of the fruit and, to a greater or less extent, the surrounding tissues, become soft, watery, and unpalatable. According to investigations in Ohio, the variety King David is especially liable to show this condition. Winesap, Delicious, Kinnard, and Stayman exhibited the tendency to a slight degree, but it was found that in those varieties during the ripening period (after picking) the watery condition greatly if not entirely disappeared. In King David, however, it increased with the aging of the fruit, the only means of preventing it being to pick the crop rather early, before the water-coring process commenced. In the particular investigation reviewed this was done on October 12th; a little experimentation would doubtless indicate in any particular section the best time for picking so as to insure maximum coloring and minimum water-coring.

A Prize Pig And a Prize Pedagogue That genius may display itself even in teaching a one-room schoolhouseful of backwoods youngsters is clearly shown by some contemporaneous history enacted in the mountains of North Carolina. When a Southern farm paper offered a pure-bred pig as a prize for securing a certain number of subscriptions, the teacher in question saw an opportunity to add some practical agriculture to her curriculum. Enlisting the aid of her scholars and their parents, she managed to win the pig. By the time it was delivered she had shown the children how to construct a house and pen for it, and had arranged for a "reception" of both pupils and old folks, at which essays were read and discussions held on the subject of pig raising; then all visited and inspected the stock upon some neighboring pig farms. Practical instruction in feeding and caring for swine was given in the succeeding weeks, and when it was found that pasture was needed to balance the ration, a team was lent by a member of the school committee, land was fitted, and crops of rye, wheat, rape, etc., were planted. Then some cabbage plants were raised and sold for enough to buy grain and other necessaries for the pig, and incidentally enough interest was aroused among the taxpayers, members of the school board, and others to insure the purchase and care of more land and the establishment of a real demonstration farm. Simultaneously the membership of the county pig club has more than trebled and the agricultural welfare of the district improved correspondingly. Obviously there was need here for action, the time was ripe, the opportunity was offered, and the human factor was clever enough to see that it was not wasted.



The Multiple Purpose Motor Car In these days of scientific efficiency, that apparatus or implement gives only partial service in the eyes of many, which accomplishes only the main purpose for which it was designed. By-products of labor, like by-products of manufacture, are assuming a new and increased importance. A recent discovery in this direction finds the automobile a simple and efficient destroyer of gophers which constitute a serious pest of Western farms and ranches. The *modus operandi* consists merely of backing the car up near the opening of a gopher burrow, fitting one end of a rubber hose over the exhaust pipe, inserting the other in the burrow, packing the earth around it with the foot, and running the engine for a few minutes. In a few minutes the gas will come out at other holes a few feet away, and as these in turn are closed up the gas spreads through the whole system of holes until it is thoroughly impregnated. Then the hose is removed and the hole stopped up and left that way. The result is an asphyxiated gopher or family of gophers, with a minimum expenditure of time and trouble.

Gophering in Oregon. In a recent experiment there a two-acre patch of oats that was badly infected with gophers was treated in the manner described, at an expenditure of one gallon of gasolene, and not one hole was reopened, showing the effectiveness of the treatment

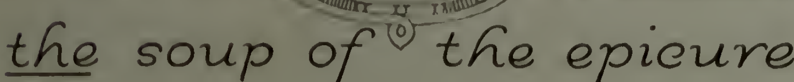


To the Memory of Johnny Appleseed Early this past summer there was erected by the Indiana Horticultural Society a monument to one of the quaintest and most lovable characters in our horticultural history. So many men to whom such tribute is paid are heroes of war or politics or other forms of strife, that it is pleasant to find recognition given here to one whose every thought and act and manner of life exemplified peace and kindliness.

Born in Massachusetts in 1776, and in his early twenties moving Westward with the advancing border of civilization, John Chapman—or as he is better and far more widely known, Johnny Appleseed—spent the remaining forty-six years of his life preaching two gospels—one the religion of brotherly love as taught by Swedenborg; the other the appreciation and cultivation of the apple.

Traveling from settlement to settlement on foot or by canoe, alone, unarmed, often barefoot and bareheaded, he brightened the monotonous solitude of hundreds of cabins with his optimistic philosophy and genial presence; and everywhere he planted apple seeds, collected at Eastern cider mills, urging the settlers to follow his example and to care for the trees that resulted therefrom. Few communities in Ohio, Illinois, Indiana, and adjoining states are without these visible signs of his industry and teaching; but it is right and fitting that after these disappear there shall remain the bronze tablet and huge granite boulder now standing in Swinney Park near Fort Wayne to keep green the memory of one to whom the country owes much, both for his labors and for the inspiring example of his simple, noble nature and Christian life.

Game Laws And Game Preservation There has recently been written by Mr. John W. Talbot of Indiana, and published by the Game Bird Society of which he is secretary, a scathing arraignment of existing game laws and the theory and policy upon which they are based, together with a plea for legislative promotion of wild animal and bird culture in place of the laws that amount practically to persecution of the industry. His well founded and apparently sound contentions are (1) that the advance of civilization and increase of population have been the inevitable destroyers of wild life, hunting and hunters having been but subsidiary and supplementary factors; (2) that consequently closed seasons and allied statutes are wholly unable to bring about any appreciable increase of birds and animals (this is apparently borne out by the facts); (3) that the only way to insure their multiplication is to raise desirable species in captivity just as poultry, horses, cattle, and other formerly wild forms have been domesticated, both for human consumption and the stocking of preserves; (4) that the prevalent systems of licensing such propagation activities constitutes a serious hindrance rather than a help; and (5) that freedom to raise, kill, and market quail, pheasant, etc., just as ducks and chickens are raised, would in no way affect or restrict hunting interests, but on the other hand would make possible three beneficial results against which no legitimate complaint would be raised: first, the protection and increase of our wild life; second, a very appreciable addition to our food supply; and, third, the development and promotion of a new and pleasant means of livelihood for dwellers in the country. Here is a subject worthy of serious thought. This is an age of conservation; if, in our efforts to preserve our native birds and animals, we have been traveling the wrong road—and it would seem that we have—immediately is none too soon to face about and set our course for a goal of real accomplishment.



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That reason is the greater *value* which comes from the higher *quality*—the larger return for the expenditure in social satisfaction, the pleasure of fine eating, and the sense of physical well-being.

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We suggest that you try the Tomato Soup—incomparable for nourishment and French culinary refinement. The base is a pure, body-building, delicious beef "stock." Tomatoes grown and "nursed" by us in richest soil to just the proper ruddy, juicy ripeness, impart their piquant aroma and flavor. Just a touch of sugary carrots, baby onions, glistening white celery and parsley. No unpleasant acids; no fats. Herbs and spices lend their subtle zest.

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Twenty cents the can—Double size, thirty-five cents

Merely heat before serving *At the better stores*

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Tomato	Chicken Consommé
Mock Turtle	Chicken Gumbo
Ox Tail, thick	Clam Chowder
Clear Ox Tail	Clam Broth
Consommé	Chicken
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Julienne	Pea
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THE FRANCO-AMERICAN FOOD CO.

AN HEIRLOOM OF AMERICAN COUNTRY LIFE

By A. G. MORRELL

WHEN, in 1649, King Charles I of England stepped through the fatal window at Whitehall on his way to the executioner's block, there was begun the history of a Maryland estate called The Hermitage—a history destined to continue without a break until this year of grace 1916. As may easily be imagined, the late king's closest associates and most loyal supporters found scant favor in the eyes of the ruling party that followed him. The insecurity of their position increased as the years passed until, by 1659, one in particular—Dr. Richard Tilghman, an eminent surgeon and a direct descendant of the great Duke, John of Gaunt—found London an excellent place to leave. Obtaining, therefore, from the first Lord Baltimore a grant of land in the colony of Maryland, in 1660 he sailed to the Eastern Shore, where, on the Chester River he built him Tilghman's Hermitage. After the lapse of 255 years a part of the original building is still in excellent condition, and in the photograph at the top of the page can be seen on the right of the newer portion built to replace that destroyed by fire in 1832. A rose vine of half a century's luxuriant growth clings to the original English bricks which antedate it by some 200 years. Richard Tilghman, its builder, dubbed by history The Emigrant, still lies within sight of its walls; and his grave, the nucleus of the resting place of seven generations of those that bore his name, may be identified at once by the bronze plate on which is repeated the epitaph that time and weather are slowly obliterating from the flat grave stone.

The Hermitage. The wing at the right is part of the original house built in 1660 by Dr. Richard Tilghman, The Emigrant

The Hermitage is especially interesting in that it has never left the family of Tilghman, and is now owned by Miss Susan Williams, a direct descendant of The Emigrant himself. With loving and reverent care she has kept the fine old house with its store of heirlooms, the family graveyard, the beautiful grounds, and the farm land in as perfect condition as the passage of time allows, adding, some fifteen years ago, a herd of high class Jersey cattle.

The original grant signed by Charles Calvert, Lord Baltimore, hangs on the wall of the dining room to-day. It calls for 400 acres, but the estate has since been enlarged by purchase to three times that acreage. A large part of the area is utilized in producing corn to fill two silos, and wheat, barley, Canada peas, alfalfa, and timothy hay, practically all of which are grown to feed the seventy head of Jerseys, the sleek Berkshire hogs—"next year's hams" Miss Williams calls them—the choice, heavily fleeced Dorset sheep, the seventeen mules, which under the local climatic conditions seem more satisfactory than draft horses, and the flock of White Holland turkeys. Often the crops are raised in the face of difficulties that would daunt many a farmer of other more favored sections. One such obstacle is the disinclination of help to stay in what is a rather isolated place; another is the lack of fresh water, for the Chester is salt, and, though there are a few springs, there are no fresh streams or brooks; and a third is a light, sandy soil which justifies the use thereon of a good share of the 10,000 gallons of water that are pumped from the artesian well every day throughout the summer.

There are no pretensions about the farm buildings, but they are of the most improved modern type, no expense having been spared to make every animal on the place comfortable, to supply eye-pleasing shelters for all crops, stores, and machinery, and to provide all labor-saving conveniences. The interior of the cow barn exemplifies simplicity and neatness; the dairy house might have been lifted bodily out of Spotless Town, and in the hospital maintained for sick stock the acme of cleanliness and order prevails.

Jerseys at The Hermitage. Note the monotonous flatness of the country

The house itself has that indefinable, restful atmosphere always to be found in dwellings which have been used by one family for generations. One might fancy that the spirits of all those who have passed their years within its walls were still exercising over it a tender protectorate. The stately entrance hall extending the full depth of the house, the generous rooms opening from it, the broad ascent to the upper floors, with the "old clock on the stair," the spacious sleeping chambers with wardrobes beloved of our grandmothers, footstools, rare old pictures and prints, and softly burning lamps—all are eloquent of a gracious, unhurried time. Below stairs, one sees portraits signed "Your Friend, Robert E. Lee," and "Your Friend, J. E. Johnston," a certificate of the membership of Otho Holland Williams in the Order of Cincinnati, signed by our first and perhaps our greatest American; a day book, or rather a sort of diary, in the precise, neat handwriting of The Emigrant, penned nearly 300 years ago; and chairs that were once used by Matthew Tilghman, the most distinguished of the name, known as The Patriarch of Maryland.

A word about the herd of registered Jerseys will be found not amiss by some readers. The first foundation stock, of the Pedro (3187) line, failing to meet Miss Williams's expectations, was shortly replaced by St. Lambert blood, with which were later combined some individuals resulting from a Golden Lad-Eurotas cross, and a few other representatives of strong and choice strains. The herd as it stands, in addition to being a profitable farm feature, is a splendid object lesson for the consideration of those who think that Jersey cattle are delicate and short lived. Golden Bouquet, for instance, a fine, big, wedge-shaped beauty of real type, had a round dozen years to her credit in November 1915, when I saw her with a lusty calf a few days old, and looking as fit as a fiddle. Sired by probably the best son of Golden Lad in this country, and out of Royal Bouquet, she is an instance of what breeders call a happy "nick" between the blood of Golden Lad and the Eurotas blood in the Darlington herd, wherein the first officially tested Jersey, Bomba, made her record.

Another strikingly vigorous matron is the ten-year-old Flying Fox's Brown Queen, tracing directly back to such noble sources as the world famous Mary Anne of St. Lambert, whose record of 36¾ pounds of butter in seven days stands as one of the milestones in dairy progress.

The herd bulls are Flora's Raleigh and Jessie's Fairy Lad, both well built, vigorous, snappy, good tempered animals whose calves are already showing splendid promise, and whose excellent condition is doubtless due in large measure to their judicious stabling in separate shelters, each with a long paddock for exercise, from which they can see what is going on and thus keep more contented and tractable than if condemned to solitary confinement. But then, their health and thriftiness are duplicated in every member of the well kept herd.

Altogether an ideal example of country life in America, this, with its stately home, its broad acres, and its well bred live stock. In naming it, The Emigrant of 1660 might well have been looking into the future, for as he came from the stress and turmoil of a kingdom's upheaval and found here peace and happiness, so in this age of haste and unrest, one may with truth say of it,

"Minds innocent and quiet take
"This for an hermitage."

The garden, looking over Queen Anne Slope to the Chester River

Dr. Tilghman's grave (with bronze tablet) about which lie seven generations of his descendants

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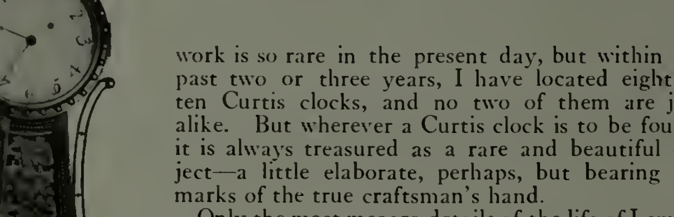
May we send a Portfolio of similar country homes built by us?

CONDUCTED BY WALTER A. DYER

[*Mr. Dyer will be glad to answer any questions relating to antiques and collecting; for convenience kindly address Readers' Service,* COUNTRY LIFE IN AMERICA, *Garden City, N. Y.*]

MINOR AMERICAN CLOCKMAKERS



MOST of what has been written and printed regarding American-made clocks of a hundred years ago or more has had to do with the work of the Willard brothers, and of the Connecticut group of clockmakers that began with Thomas Harland in 1773 and included Daniel Burnap, Eli Terry, Seth Thomas, Silas Hoadley, and Chauncey Jerome. Simon Willard, Eli Terry, and Seth Thomas were undoubtedly the most important of the early American clockmakers, and their clocks have been most sought after by collectors, but there were many other clockmakers in this country whose work was nearly if not quite as interesting.

A Curtis banjo clock with a painting of Phaeton driving the chariot of the sun. Owned by Mr. George M. Curtis of Meriden, Conn.

Curtis clock, owned by Mrs. E. C. Swift of Salem, Mass. It has one original and one modern hand. The picture is an emblematic representation of Commerce, painted in gold and bright colors

Of these clockmakers, Mrs. N. Hudson Moore, in "The Old Clock Book," gives a long list, and it would be impossible to mention them all within the limitations of my present space. I can only touch upon the more interesting or important of them, and for the rest refer the reader to Mrs. Moore's book.

The most prominent name found among the Boston clockmakers of the first half of the eighteenth century is Bagnall. Benjamin Bagnall made tall eight-day clocks in Charlestown, in pine and walnut cases, as early as 1712. He was succeeded in 1740 by his sons, Samuel and Benjamin, Jr., who did business in Boston. The latter had a shop on Cornhill, near the Town House, in 1770.

Newbury was something of a centre of the industry in Massachusetts in the early days. Here the Mulliken and Balch families turned out clocks of various sorts for a full century. At Newburyport, David Wood made clocks between 1792 and 1824. In Concord, Munroe was the famous name. In Boston, Sawin & Dyer made a very interesting wall clock of a lyre pattern, besides many others, during the first twenty years of the nineteenth century.

But of all the Massachusetts clockmakers, none produced work of greater interest or beauty than Lemuel Curtis, not even excepting the Willards. It is surprising to me that so little has been written about him; Mrs. Moore scarcely mentions him. For a long time I thought it must be because his work is so rare in the present day, but within the past two or three years, I have located eight or ten Curtis clocks, and no two of them are just alike. But wherever a Curtis clock is to be found, it is always treasured as a rare and beautiful object—a little elaborate, perhaps, but bearing the marks of the true craftsman's hand.

Only the most meagre details of the life of Lemuel Curtis appear to have been recorded. He was born in Boston in 1790, moved to Concord, Mass., in 1814, and soon after opened a clockmaking establishment there. In 1816 he took out a patent on an improvement on the Willard timepiece or banjo clock. He moved to Burlington, Vt., in 1818 or 1820, and died there in 1857.

Curtis was a follower of Simon Willard if not one of his apprentices, and he modeled his clocks on the general lines of the Willard timepiece. But he used far more ornament than Willard did in even his finest presentation clocks, and his proportions are more pleasing. One of the distinguishing features of the Curtis clock is the circular pendulum box, covered with a convex glass on which a picture is usually painted. The cases are richly ornamented with gilt, with a gilt eagle at the top, and a gilt finial at the bottom of an acanthus-leaf pattern. The middle section is brightly painted, and the hands, if original, are usually composed of a series of loops or circles. The accompanying photographs make further description unnecessary.

Another Curtis banjo clock, owned by the Red Lion Inn, Stockbridge, Mass. The solid hands are possibly a modern addition. The picture on the pendulum box represents the shipwreck of St. Paul

Curtis clock with the lyre form, the property of Mr. L. J. Wyman, Boston. A distinguishing feature of these clocks is the circular pendulum box

I have an idea that collectors will soon be looking eagerly for Curtis clocks, and I would not be surprised to learn of high prices being paid for them. I can heartily recommend them to the attention of any collector of American antiques.

Rhode Island also had its group of famous clockmakers. Claggett was perhaps the best known name. Between 1726 and 1740 H. Claggett was making tall clocks of superior quality in Newport. Thomas and William Claggett, presumably his sons, were engaged in the business between 1730 and 1750. Mr. Luke Vincent Lockwood shows photographs of several interesting Claggett clocks in his "Colonial Furniture in America."

Among the minor clockmakers of Connecticut were the Ives brothers. Joseph Ives lived in Bristol, Conn., between 1811 and 1825. In 1818 he invented a metal clock, with plates of iron and wheels of brass. The large movement required a case five feet long, and but a small number were made. Lawson and Chauncey Ives worked in Bristol between 1827 and 1836. About 1831 they built a factory for the manufacture of eight-day brass clocks after the model invented by Joseph. In 1832 they advertised "eight-day patent brass and thirty-hour wooden clocks." The metal clock sold for about $20. The brothers retired, wealthy, in 1836.

A short time ago I ran across a uniquely shaped shelf clock of mahogany veneer, with carriage-spring works, a striker, and a pewter rim around the dial, on which appeared the words, "Joseph Ives, New York." From this I should judge that Joseph must have moved his factory to New York after 1825.

Philadelphia, New York, Baltimore, and other cities all had their clockmakers whose work may sometimes be found. The genius among the Philadelphia clockmakers was David Rittenhouse, who was born in Germantown in 1732, established his trade in Norristown in 1751, and moved to Philadelphia in 1770, where he made clocks until about 1777. He was a famous astronomer and constructed a remarkable astronomical clock which is now in Memorial Hall, Philadelphia.

A lyre clock made by Sawin & Dyer, 1800-1820, at Boston. In the Metropolitan Museum

Tall clock by Benj. Bagnall, Charlestown, Mass., 1712-1740. Metropolitan Museum

Shelf clock by David Wood, Newburyport, Mass., 1792-1824. Metropolitan Museum

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A small country place?

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Practical information concerning trees, plants, shrubs, vines, etc., cost estimates, time for planting and other details. 20 Blue Print Plans. 32 pages of illustrations. Net, $2.00.

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By Niel Morrow Ladd

President of the Greenwich Bird Protective Society. Member of the Linnaean Society

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lavender flowers in relief. An antique dealer told me they were Meigs ware made in Liverpool and now worth about $25 a pair. They belonged to my grandfather and are at least a hundred years old. I would like to know if you have any information about the Meigs ware. I have occasionally seen small pitchers exactly like mine

Another of Mr. Elting's desk-boxes, beautifully inlaid with various colored woods

An old English strong-box, the predecessor of the desk-box. In the Metropolitan Museum

here. This is an old community and there are a good many pieces of the old "flowing blue" china and old Canton.

L. W. P., University of Virginia.

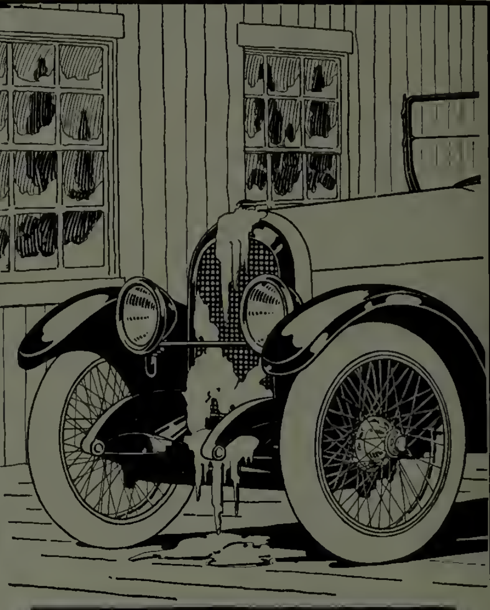
Meigh made some very good pottery about the last of the eighteenth and the beginning of the nineteenth century from the designs of a sculptor named Giarinelli. Job Meigh took the Old Hall works at Hanley, England, in 1780, where the finest work was done. He died in 1817. The firm was known at one time as Meigh & Walthall. Records of this firm show that there was a firm in Staffordshire in 1823 known as J. Meigh & Sons. Another record shows the same name in 1829. In 1843 the business belonged to Charles Meigh. The works are now carried on by the Old Hall Earthenware Co., Ltd., headed by Mr. Charles Meigh, grandson of the first Job Meigh, who was probably the maker of the pitchers in question.

I have several pieces of old pewter about which I would like to have some information. I have tried to copy the letters on one plate with tissue paper. The large letters S and E are clear, also the figure of a winged horse and the head of a wild animal. There are two other stamps; on one are the letters LON, and the other I cannot read.

Mrs. S. N. W., New York City.

The letters S and E were probably the initials of the dealers or former owners. The mark beginning with the letters LON is the London Pewterers' mark. The maker was very likely Dixon, and the date about the latter quarter of the eighteenth century.

I have an old grandfather's clock the case of which is walnut lacquered in Oriental fashion. The front is decorated with Chinese designs in gold on black. The centre of the face is brass, and the circle bearing the hour figures is steel. At the top, in the centre, is the moon face. It has fancy brass corners, each corner having two cupids with a torch in one hand and the other holding up a crown. The weights are brass. On the face of the clock is printed John Ewer, London. There is a piece of paper pasted on the inside of the pendulum door with the following



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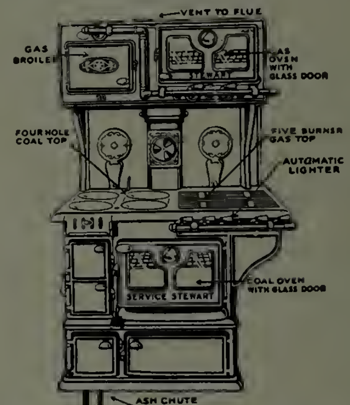
It saves you, too: it supplies warm water for washing car, and does away with carrying hot water from the kitchen in zero weather, makes your garage a pleasant place to work in and keeps down repair bills.

There are several models. Write to-day for free descriptive booklet.



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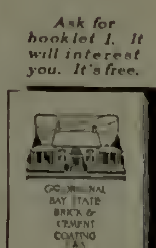

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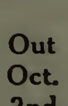

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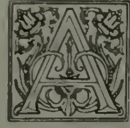

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printing: "John Ewer, London. Admitted to Clockmakers Company 1703. Celebrated maker of long case clocks, Chinese lacquer case, new eight day hour striking movement, original dial with calendar and very fine chased metal corners." This clock keeps good time and is in good condition. Can you tell me about when it was made and how much it is worth?

J. B. M., Allenhurst, N. J.

This clock is apparently a very fine one and should be worth from $150 to $200. John Ewer was a maker of long-case and bracket chime clocks in London. He is perhaps the same man as John Eyre, whose clocks are occasionally to be seen. He was apprenticed to Luke Breed in 1687 and was admitted to the Clockmakers' Company in 1703. This clock was probably made at some time after the latter date.

What would you consider an ordinary Crown Derby cup and saucer worth? The mark is in red.

I have a Sheffield plate tray with snuffers. The bottom is plated with some base metal, probably zinc. They were brought from the Island of Malta to a great plantation mansion in Georgia in 1830.

A. L. B., Le Grand, Iowa.

The Crown Derby cup and saucer would be impossible to value without seeing them. Good ones are worth from $5 to $25.

The Sheffield snuffer and tray, if very simply made, with a bead edging or pierced gallery, and having the zinc base, is probably an early specimen, but if it has heavy ornaments it is later. Early ones in good condition are worth about $25; later ones, about $15.

A MODEL KITCHEN DRESSER

FOR those who are interested in household efficiency we append a detailed description of the stationary kitchen dresser mentioned on page 42:

It is 6 feet, 4 inches long and 2 feet wide, extending from floor to ceiling, and is built of wood with a counter shelf of marble covering its full length and width. It is impossible to overestimate the convenience and durability of this marble. All of the cooking for a family of seven is done here, and nine years of constant use have proved that it is impervious to everything but lemon juice.

The upper section of the dresser is divided into six small cabinets with two shelves each, the lower tier having glass doors. These lower shelves hold all of the dry groceries used, where they are stored in glass jars. As the house is fifteen miles from Boston, a week's supply is bought at a time, the space and arrangement being adequate. In fact, it is the opinion of the writer that this cabinet might well be standardized, since its arrangement could be of equal use to a much larger or smaller family. It was copied for use in the kitchen of a local high school where lunches are prepared for 200 children, and meets the requirements equally well. The high compartments near the ceiling, really placed there to overcome the bugaboo of dust shelves, are invaluable for the storing of empty preserve and jelly jars. Here they are clean and out of the way. Underneath the marble shelf are a flour barrel compartment, and a zinc-lined, drawer-shaped, two compartment bin for sugar and pastry flour, which shape does away with stooping to a sugar bucket and the consequent sugary floor so familiar to us all. The lower middle compartment has shelves for preserving kettles, bread machine, choppers, and heavy utensils not in common use. It seems to this housekeeper that the utensils should be divided into groups—those in almost constant use, those less often used, and those seldom needed, so that their accessibility would be in proportion to their use. Over this compartment is a drawer for kitchen linen, and two small drawers for knives, spoons, and all small articles. A row of hooks just over the marble carries such small utensils as are used there and can be hung, and rows of bowls stand upside down on the back of the marble. The few dishes needed in cooking, and it is surprising how few really are needed, are in the middle cabinet, so that far from "walking a mile," a whole cooking process may be completed without moving a step.

K. L. S

The voice is many times more or less an expression of character. A well-modulated speaking or singing voice should belong to every young lady. It instantly conveys an impression of refinement. There are many good schools where voice culture is made an important part of the year's work.

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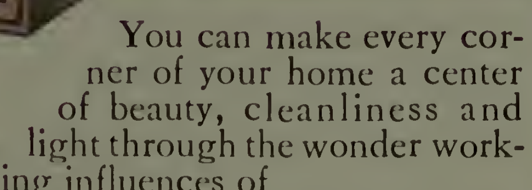

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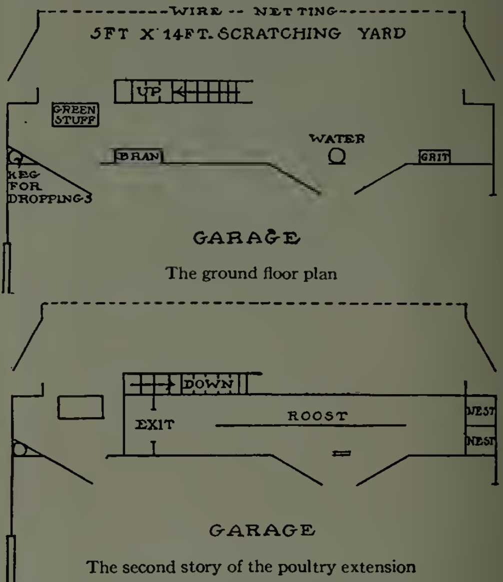
end, and walk in this space, but there never seems to be occasion to do this, everything being within easy reach from the door.

Before commencing to make the cabinet, the long boards on the side of the garage should be removed to a height of 5 feet. One or two of these boards should be nailed at the bottom of the scratching yard outside. Some of them will need to be sawed off to a length of 12 feet and nailed on again to form the back of the roosting room. The back should extend a little below the line where the floor is to come. To insure the roosting room being warm and free from draft holes, the entire back should be lined with tar paper or heavy building paper.

The frame work for the cabinet is put up next, care being exercised to get it level and plumb so that the doors will hang straight. Next the floor of the roosting room is put on, and this should be of tongued and grooved matched boards put on good and tight so that no cold air can come up through the floor. At the open end of the roost-



The ground floor plan

The second story of the poultry extension

ing room is a door 18 x 20 inches, that is merely a frame covered with inch mesh wire netting and with an additional covering of muslin for winter. This door should fit tightly against its frame. It is hinged at the top and is opened and closed from the outside of the cabinet by means of two stout cords. One cord is attached near the bottom of the door on its outer side and the other on its inner side, both cords being run up through a hole in the top of the cabinet. Each of these cords has a loop at the end and when the door is let down for the night, the inner cord is drawn tight and the loop passed over a nail driven at a convenient spot, holding the door shut. To open the door, the right hand cord is loosened and the left hand or outer cord is pulled up and looped over its nail, holding the door open firmly.

The floor of the roosting room extends about 8 inches beyond the exit door and serves as a platform for the hens to reach the ladder leading down to the scratching yard. The ladder is a board 8 inches wide and 4 feet long, with narrow strips nailed on 3 or 4 inches apart for treads. The ladder is inclined at an angle easy to climb and is placed parallel with the roosting room. The bottom of the ladder is nailed to a small platform consisting of a short board nailed to two stout stakes driven well into the ground so there is never any danger of displacing the ladder. (By using care to make these things strong and permanent in the first place, there is no future trouble over annoying little repairs.)

At the extreme inner end of the roosting room are two nests made by nailing a board 12 inches long to the centre of a board 26 inches long (forming a letter T) and fastening this to the floor or sides. If twelve hens are to occupy these quarters, another pair of nests should be placed above these. Make another T like the one just described and nail to it a board 26 inches long by 12 inches wide. Use sticky nails for this purpose and put in plenty so that there will be no danger of the bottom falling out at some future time. Nail securely to the side walls. There is a single roost 6 feet long, set on three stout legs and braced to the back. It is placed about in the centre of the floor and is 12 inches high.

With the interior completed, the top is put on. This should be of matched boards and solid. The front of the cabinet is also constructed of

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Perspective of the model farmhouse fathered by the Department of Agriculture

"These little details affect the size of rooms and of the building and, therefore, the cost. They are sometimes, and of necessity, influenced more by economy than by convenience; but by careful study they may often be made consistent with both. It is economical, for instance, to have but one outside entrance to this house. With this entrance nearest the barns and the entrance from the highway, and treated as it is with the simple and inexpensive pergola and benches, which separate the lawn and the back yard, it should serve every purpose of a front door, and as well also, a kitchen door. In many ten- and twelve-room farmhouses with three or four outside doors, only one door is much used and that one is either in or near the kitchen.

"Very few residences of any size or cost have a kitchen more pleasantly located, better lighted and ventilated, and more conveniently arranged than this little four-room house. It is brightened by the morning sun, cooled by the southern breezes, and shielded from the intense heat of summer afternoons. It commands a view of the garden, the play grounds, the barns, the lawn, the gate, and the highway. It opens on to a screened porch which, in summer, is the most livable nook in the house. Much of the kitchen work may be done there away from the fumes and the heat of the stove which, happily for the other rooms of the house, blow out through the north and east windows.

"The stove is well lighted and, with the porch window closed, it is out of the cross-drafts of air. It is within six feet of the most distant fixture in the kitchen and but little farther from the dining table. All stove utensils are with in reach, and the work table and the fuel in the box beneath it are but two steps away. The ashes drop from the fire box of the stove, through a short pipe to the ash bin beneath the concrete floor.

"The walls of this under-floor bin are shown on the plans by dotted lines. The bin is under the stove and fireplace and extends to the outer foundation wall of the kitchen where the ashes

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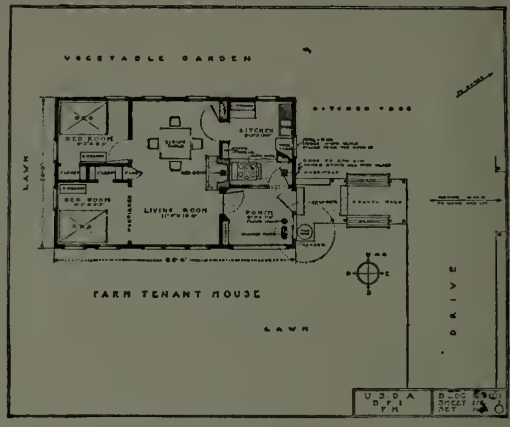
and floor sweepings are removed by means of a long handled drag. If the building is raised on a front terrace, the bin will be 26 inches deep w its floor at ground level. With a cellar under the kitchen, the bin need be extended only to the front end of the stove. It will be deep enough to hold a year's supply of ashes.

"The fuel box, supporting the table top, occupies space which might otherwise be wasted. It is filled from the outside of the house and emptied from the inside through a small door over the concrete floor.

"A trap or dump, like that in the fireplace, is provided for floor sweepings and possible dust from the door of the coal or wood box. It is in the concrete floor, behind the kitchen door, near the fuel box opening and over the ash bin. The carrying of fuel and ashes is thus eliminated from the woman's work, provided the man or boy fills the coal or wood box each week, or as may be necessary, and empties the ash bin two or three times a year.

"The water problem also has been carefully considered in this little plan. Cistern water may be drawn from the bucket pump on the porch or, if desired, from a pitcher pump at the sink. Hot water is heated and stored in the reservoir of the stove. The sink, with only the drain pipe to be provided, is too inexpensive to



Floor plan of the one-story five-room farmhouse

omit from any kitchen and space enough has been saved for it in this one. All such conveniences more than pay for themselves.

"This little kitchen excels many others in not being a thoroughfare to other rooms. The men and boys will wash on the porch, leave their hats and rain coats there, and enter the living room without disturbing the kitchen workers.

"The screened porch is as large as the plan will permit; but too small for all the purposes for which it will be in demand. Besides the usual kitchen work, the ironing and perhaps the clothes washing will be done there. The one screen door locks up the house, and butter, meat, and milk put on the porch to cool at night, will be secure against dogs and cats. The porch will be in demand also as a dining porch, sitting porch, sleeping porch, and play room. Its uses and the comfort of the house in winter may still further be increased by putting in porch sash and a solid door.

"The living room is large enough for the longest dining table that harvest days will ever require and, with its two routes to the kitchen, it is unusually convenient for feeding a large number of workmen. With triple windows on the south and two on the north, a screened porch on the east and an alcove bedroom on the west, it is as pleasant a dining and sitting-room as a $5,000 house can afford and, with a glowing fire in the hearth, it may be as comfortable and as cheerful in winter as a steam-heated mansion."

In one respect only does this plan appear to fall short of the needs and expectations of the modern farmer, and that is in its failure to provide for a supply of running water and a system for the disposal of sewage. These items will, of course, add very appreciably to the cost of the structure—perhaps to the extent of 50 per cent. of its cost. Yet running water is hardly less of a necessity in the barns than in the house, so that the entire cost cannot legitimately be charged to either. And as regards sewage disposal, modern science has devised methods of all degrees of complexity and cost, which though naturally varying in efficiency are all productive of sanitary surroundings. Each farmer can meet his own needs in this direction. E. L. D. S.

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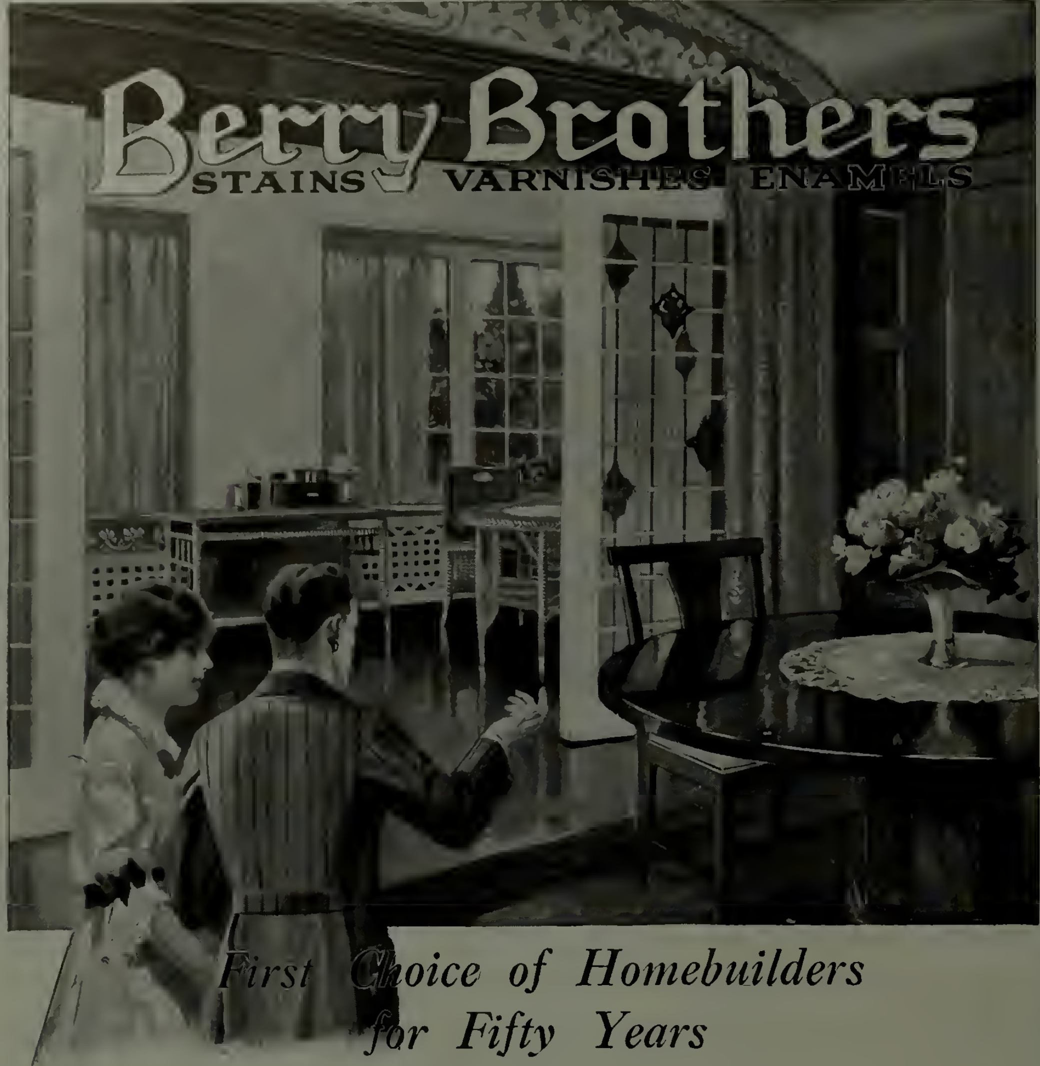

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A BIRD IN THE HAND

THERE is much mothering to be done on this broad earth of ours, but of all the varieties that could be named, mothering a baby bird, a wee nestling, till it can fly away, is as tender an occupation as one can experience. My opportunities in this line, though many, have been purely accidental, for I would never take one from its natural environment at the risk of its life through accident or ignorance. Nor have I ever caged a bird; they are free to fly away as soon as they can find their own food.

My first case was a young blue jay and serious, indeed, was the situation. How, when, and what to feed it, must be decided with despatch. I think that at first he could not see me but felt the least movement near him, at which his beak would fly open, clear back to his ears, but before I could put in a thing, it would snap shut and stay shut. I soon found that, to save him from starving, I must pry the soft little beak open. Gently, very gently it must be done, and then I must stuff a small quantity of food way down his throat. No use to leave it in his beak as he

"They swarmed all over me, crazy to be fed"

didn't know what to do with it. He was a veritable baby. I used a soft little stick for feeding and another to pry open his beak. For only a short time was this necessary, as he soon came to know his adopted mother and would scream for food every time I came near his perch, on the edge of a flower pot or chair back. I first tried the yolk of a hard boiled egg, which succeeded admirably; later, fine cut raw meat; and last of all worms! Constant attention and nothing less, would satisfy him, so that the question of when to feed him proved no difficulty at all.

Only a few days after his arrival a neighbor called to us to come and see another little bird that had fallen from a high nest. Its parents were greatly distressed and a dark storm cloud was threatening, so we took it in and it proved to be a young grosbeak, prettily marked like a quail, as are all young grosbeaks, resembling the mother. Our difficulties were not so great this time, as we had already mastered the art of feeding, and two birds were very little more care than one.

We kept them pretty well together and soon they were very friendly, not to say chummy. If I came into the room where they were, both immediately called to me. I could locate Jay at once, but the grosbeak was a ventriloquist and that elusive voice combined with his quiet colors, set me searching, often in vain, till he would fly to my shoulder. We called him Weepy on account of the sad and melancholy note of his call.

They learned to fly from chair to chair, to the tops of doors and up and down the stairs, their sharp eyes peering about, but entirely unafraid.

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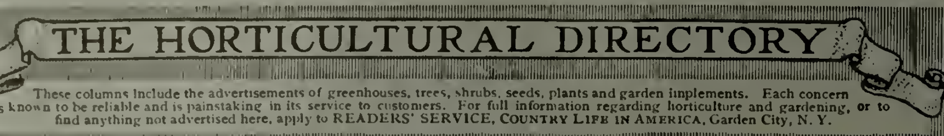

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THE WM. H. MOON COMPANY Nurserymen
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The Moon Nursery Corporation White Plains, N. Y.

They were most appealing and I loved them dearly. When they could fly perfectly and peck their food from a flat surface, came the momentous question of putting them out of doors. Would they fly away and die of neglect, or would they come to my whistle as they did indoors? We had done our best to raise them and must trust somewhat to the test. A grape arbor forms a continuation of our porch, and thither I took them, balancing gracefully and confidingly on my hand. One hop into the vines—ecstatic freedom! but they did not offer to fly away, flitting about in the vines all day and coming to me at my call. We took them indoors for several nights, but after that we left them out unless it stormed. At noon, however, they seemed better satisfied in the house and took long, drowsy naps on a chandelier or other high place.

We had watered them frequently, at first with a drop on the end of a stick, later, in a

"The question of when to feed him proved no difficulty at all"

spoon so that they would learn to dip in the bill. Once I offered Jay his drink in a full dipper to see what he would do. Tipping his head from side to side he studied it and then suddenly hopped splash into the water. I helped him out and put him, sprawling, on the floor, but he went at it again and again. Later, when out of doors he would hop into a small pool we have for gold fish, about seven inches in depth, and we had frequently to rescue him, dripping and looking like any old tramp. He was too sodden to fly, so would hop on to the rung of a chair and dry his feathers with the greatest satisfaction.

Weepy was more esthetic in his tastes; no pool for him, but in the early morning he would trail about in the short, wet grass until dripping with dew. What delicacy, what elegance!

Our friends and neighbors found it hard to believe the tales we told. Great was the amazement on many occasions. When Jay would sail gaily into the porch and light on a peddler's shoulder, or when both of them would fly directly to a grocer's boy, one lighting on his hat and the other on his arm, it would call forth some such remark as, "Say, what do you keep here?" A neighbor, digging in the garden, would be paralyzed to have Jay sweep toward him and light on his spade, quite too fearless. A doubting Thomas, in driving me home one day, could not believe without seeing; so we drove up to the garden gate and one whistle brought Jay with a joyous rush and a scream right to my hand, and Weepy with a slight swish, settled quietly on my shoulder. Unconditional capitulation of Thomas!

We taught Jay to find his own food by hunting with him, digging up loose earth or scratching aside a bunch of leaves. Close under my hand he would sit ready to pounce on any wiggling or crawling thing. His first grasshopper was a miserable failure. It went down legs and all; a horrid pause, then he fell upon his back and we thought him dead, but he was soon up again and violently evicted the scratchy thing. After that it was his delight to pull off the legs and wings of grasshopper or cricket and store it alive in a crack of the walk or under a stone, and very cruel he looked during the process.

Horticultural Harmony

ON some of America's finest estates the greenhouse is regarded as the chef-d'oeuvre among the features of the landscape. These examples bear out the truth of Cowper's saying "Who loves a garden loves a greenhouse too."

Unfortunately, on other estates the greenhouse holds a degraded rank; sometimes it is even permitted to become an "eye-sore" to be hidden from view by a hedge or wall. Perhaps the owners of such houses can echo the remark of Charles Lamb "Sentimentally I am disposed to harmony, but organically I am incapable of a tune."

The LUTTON COMPANY is "disposed to harmony" and has been "making good" for years, building greenhouses that *harmonize with their surroundings*. As a case in point we call attention to the view above, a range of greenhouses erected in Germantown, Pa. Surely you cannot imagine a design that would harmonize more perfectly with the adjoining garage. Furthermore, an important economy was effected in this case by utilizing the garage heating plant for heating the greenhouse as well. A year after the first structure was completed, the owner was so pleased that he ordered us to build two additional greenhouses.

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Fall Planting Number

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Flowers from Frost to Frost . . . . . *Camile H. Irvine*
Color Combinations with Tulips . . . *S. R. Duffy*
Shrubs for Winter Bloom . . . . . *E. P. Powell*
Shade and Street Trees for Present Planting
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Applying plaster inside.

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Natco construction is cheaper than brick or concrete, and, while more expensive than flimsy and dangerous frame, the resulting economies in maintenance and insurance will in the course of a few years pay for this initial increased outlay.
Natco should be used not only for walls, but for floors and partitions—throughout the house.
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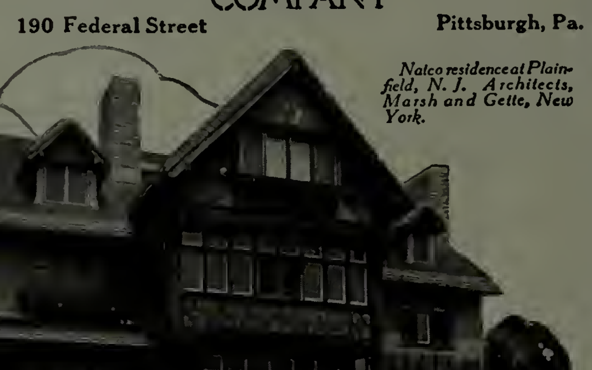

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Then this special construction, noted for its graceful sweeping lines, can be adapted to suit any style of architecture or landscape plan. The King is in itself the beauty spot of the garden.

Write for Bulletin No. 47—Send us a picture of your home. Tell us your own ideas, and let our experts prepare a sketch and plan showing just how a King can add dignity and grace to your garden—No obligation on your part of course.

King Construction Company, 323 Kings Road, North Tonawanda, N. Y.

All The Sunlight All Day Houses

On one occasion we had visiting us a lady whose quantity of hair was laid in braids all over her head. She was much interested in the birds as they hopped about on chairs or soared to the highest tree. Comes Jay, very important indeed, and proceeds to divest a poor cricket of his trimmings, and when it is ready for storage he hops to the high back of her chair and starts to tuck it under the luxuriant folds of her hair, and very indignant he is at the storm of protest it raises. His mischievous nature was much like that of a crow or raven, and he would carry off any small bright thing that attracted him. He once admired, very greatly, a diamond ring on a man's hand, so that the unwary one took it off to see what he would do with it, and I had to make a lively snatch, indeed, to get it before Jay did, or he would have carried it out of sight in a jiffy and would most likely have hidden it in the crotch of a tree.

It may sound improbable to the uninitiated, but birds have a decided facial expression; also, in spite of any argument to the contrary I say positively that birds think, I have seen them do it.

Six tiny mites of wrens

From the day when Jay tore his first grasshopper to pieces his face changed, and my tenderness waned. He grew from an appealing baby to a swaggering stripling and finally to an unlovely pirate, with narrow, cunning eyes and a devil-may-care manner. He brought, one day, four other young jays, whom he left sitting on a telephone wire while he came into the porch and we fed him, and I really think he enjoyed their admiration of his nerve.

When we had tea on the porch the birds had to be put into the house, they made us so much trouble; the special attraction seemed to be the butter. Later in the summer Jay had to be shut in when any one went down town, as he would follow, and being so tame we feared that something might happen to him.

All the summer they stayed with us, even after they needed no care. Weepy, the sweet one, stayed so late into the fall that we feared he had forgotten the emigration laws. Then for three days he was gone and we thought this the last of him, but no, he was back again and spent one whole day in the porch. The next morning, however, he was gone again and did not return. Jay was about, off and on, all the winter but did not visit us at all familiarly the next spring, while Weepy came back early in the spring and fed in the porch and, though we could not touch him, he did not seem much afraid. We soaked some corn for him, as he liked it best that way and would turn over every piece till he came to one soft enough to suit him. The second summer he came in quite near for his corn, but seemed more wary, and now he comes no more!

Two robins were our next venture. One fell from the nest and the other we got from some boys who had it hidden in a barn. Dear, quiet, and lovable, easy to feed and clinging to us till quite late in the fall.

And last, besides least, were six tiny mites of wrens. It happened this way. Our wren house (we always have a wren house) was in the porch so that, with the coming and going of the parent birds and the constant twittering both within and without the little house, the porch was very lively indeed. One morning it ceased, but ever and anon came little screams from the nest, so that we soon noticed the absence of the parents. What happened to them we never knew, but we found one of them dead by the garden gate.

Dreer's Reliable Spring-Blooming Bulbs

DO NOT miss the joy of having a bed or border of Bulbs next Spring. Plant them this Fall as early as you can and success is certain.

We import the very highest grades of the finest varieties and offer in our Autumn Catalogue splendid collections of Hyacinths, Tulips, Narcissus, Crocus, Snowdrops, etc., etc.

The Fall is also the time to set out Hardy Perennial Plants, Vines, Shrubs, etc. Our Autumn Catalogue also gives a complete list of seasonable seeds, plants and bulbs for out-doors, window-garden and conservatory.

Mailed free to anyone mentioning this magazine

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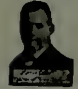

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Cromwell Gardens Fall Catalogue

contains lists of the leading hardy plants, Phloxes, Peonies, Chrysanthemums and Iris, in addition to Bulbs, Ferns, Evergreens, Roses and Shrubs. If you have a garden or are thinking of making one, you will find this booklet helpful. A copy will be sent on receipt of your name and address.

CROMWELL GARDENS
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A NEW Perennial Canterbury Bell which bears an abundance of pale lavender-blue flowers; a most promising novelty on account of its beauty, hardiness and vigorous growth. My spring and fall lists offer the best plants for cold climates. About a thousand kinds, Old-Fashioned Flowers, **BULBS FOR FALL PLANTING,** Lilies, mostly fresh from beds, Wild Flowers, Shrubs, Trees, Vines and **HARDY FRUIT STOCK.** Write now for catalogue M.

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has every point of superiority in its favor: Architectural beauty, perfect protection from fire, leaks, moisture and weather changes—wonderful durability without repairs, and therefore eventual economy. It gives a building character and increases its selling value. We show in border of this advertisement detail of the Imperial Spanish Tiles used on roof of this handsome residence of Mr. Sidney, of Buffalo, N. Y., designed by Lansing, Bly and Lyman, Architects.

Our illustrated booklet, "The Roof Beautiful," printed in colors, containing views of many beautiful homes with roofs of Terra Cotta Tiles, sent free upon request

LUDOWICI-CELADON CO.
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There was nothing for it but to feed the babies. They were little, but, it took the entire family to keep them satisfied. We could not have the whole bevy loose about the house all the time, so we put them in a small tin tub with straw in the bottom and a close wire net over the top. As they grew and could fly about it was most amusing to work with them. The moment the wire was off, out flew the six and they swarmed over me, crazy to be fed and each insisting on the next turn, with wide open beak and fluttering wings. They flew all over the house and we had to gather them in and put them back into their tub, a very vulgar looking dwelling for these

Jay would hop into the goldfish pool for a bath, and had frequently to be rescued when he got beyond his depth

dainty little creatures. We had them out of doors long before they could care for themselves, our previous experience having taught us that it was safe enough since they came to us as to the parent birds.

Soon, seeming able to care for themselves, we decided to leave them out. The morning found them very hungry in their tub. Hurrying to feed them before turning them out, the anxious one found no egg or meat bits at hand so thought to try corn meal, which is so good for little chicks, and would stop their hungry clamor. They took it greedily and flew about the house as usual. In about an hour one was found dead in a rocking chair, another on the stairs, a third on a dressing table, and the others in various places, dead, all of them dead. F. Mayo Seabury.

THE AMERICAN MERGANSER

I SPENT considerable time in watching the many feathered visitors to the open water glades in the Connecticut River last winter, where the ducks and gulls gather in considerable numbers to feed. About half an hour before sunrise they came regularly from their night camping waters at Terry's Island, some of them continuing northward to the swifter water of the smaller streams, but many of them stopping just above the Enfield dam, where the water seldom freezes though it is deep and of sluggish current.

Here the American mergansers, commonly called shelldrakes or sawbills, begin their fishing to satisfy their ravenous appetites, and from sunrise to sunset they are seemingly busy every instant. The adult male and female differ so widely in appearance that they are generally taken for different species. The former, one of our most magnificent birds, is crowned with a gorgeous, slightly crested, iridescent green head and neck, white breast, and glossy black back with white and black markings on wings. Underneath he is salmon pink. This color fades after death to pure white. The female, smaller than her consort, is slate gray with darker markings on back shading to grayish white underneath. The head is reddish brown with a prominent crest toward back of head and neck. The flesh of these active birds is blackish, rank, tough, and unpalatable, but they are nevertheless hunted considerably. To approach them through the open is impossible. They are wary and timid to an astonishing degree, the least motion of one's body, or even one's head, over an intervening elevation is the signal for the most alert vigilance, and any unguarded movement of their natural enemy, man, causes the whole flock to bunch together and swim off to the centre of the river.

I have dressed in white from head to foot and, hidden by bushes and snow, braved the freezing winds to watch these dexterous fishermen and their remarkable diving and swimming feats.

Feeding is their chief object in life, and they

EGYPTIAN DEITIES

"The Utmost in Cigarettes"

Plain End or Cork Tip

People of culture, refinement and education invariably PREFER Deities to any other cigarette.

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The "One" Room

THERE is always the "One" room in every home—the room that gives the most cheer and comfort.
Make that "One" room in your home more cheerful and comfortable.
Start in by removing the old-fashioned wood windows, substituting modern casement windows.

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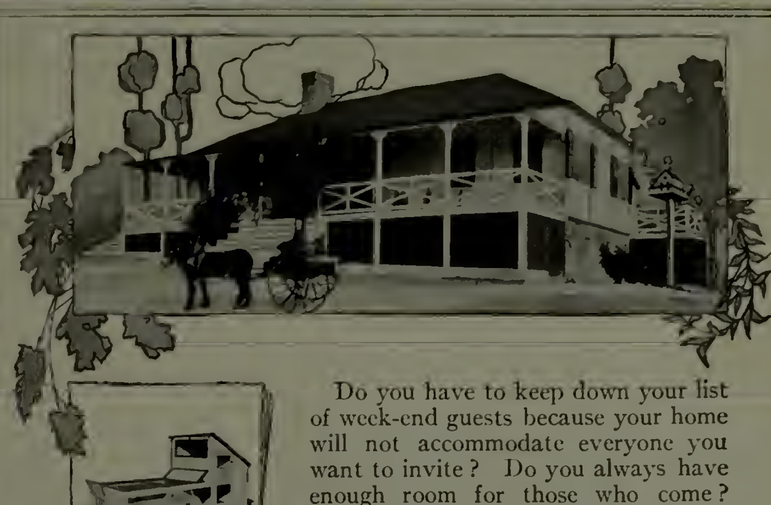
DETROIT, MICHIGAN
Manufacturers of solid steel and bronze windows



Poultry House

Do you have to keep down your list of week-end guests because your home will not accommodate everyone you want to invite? Do you always have enough room for those who come? Don't be cramped. There's an easy way out—erect on your grounds one or more of the

HODGSON *Portable* HOUSES

Screen House

Play House

Then if you have a young married couple among your guests, you can offer them the seclusion and convenience of a cottage for themselves alone. Or if a family are visiting you, they can have a jolly party together.

Hodgson Portable Houses are made in sections which are rigidly constructed and easily bolted together by unskilled workmen. They are thoroughly comfortable in any season, weather or climate. The catalogue illustrates many charming cottages suitable for estates, as well as numerous other styles of inexpensive adjuncts to your home. For a copy address

E. F. HODGSON CO.
Room 201, 116 Washington St., Boston, Mass.
6 East 39th St., New York City

do not hesitate to tackle a fish entirely too large to be swallowed whole. The merganser possibly swallows small fry at a gulp while under water, but with anything worth showing, such as pickerel or perch, he comes to the surface, holding it by the middle. With a twitch of the head and neck and subsequent dexterous manipulation, the fish is always turned about and swallowed head first. This process is followed, evidently, out of respect for the sharp dorsal fins which fold back.

These birds swim incredible distances under water, using both feet and wings, and soon overtake any fish in its own element. Their activity and rapid process of digestion keep them in a ravenous appetite. I have seen one male merganser fishing near two females, swallow three six-inch fish inside of thirty minutes.

One day, after watching for several minutes the repeated divings of a female merganser, I saw her appear with an eel, which was, to the best of my judgment, about thirteen inches long. It proved to be quite a trick to get the eel headed

The adult male and female mergansers differ so widely in appearance that they are generally taken for different species

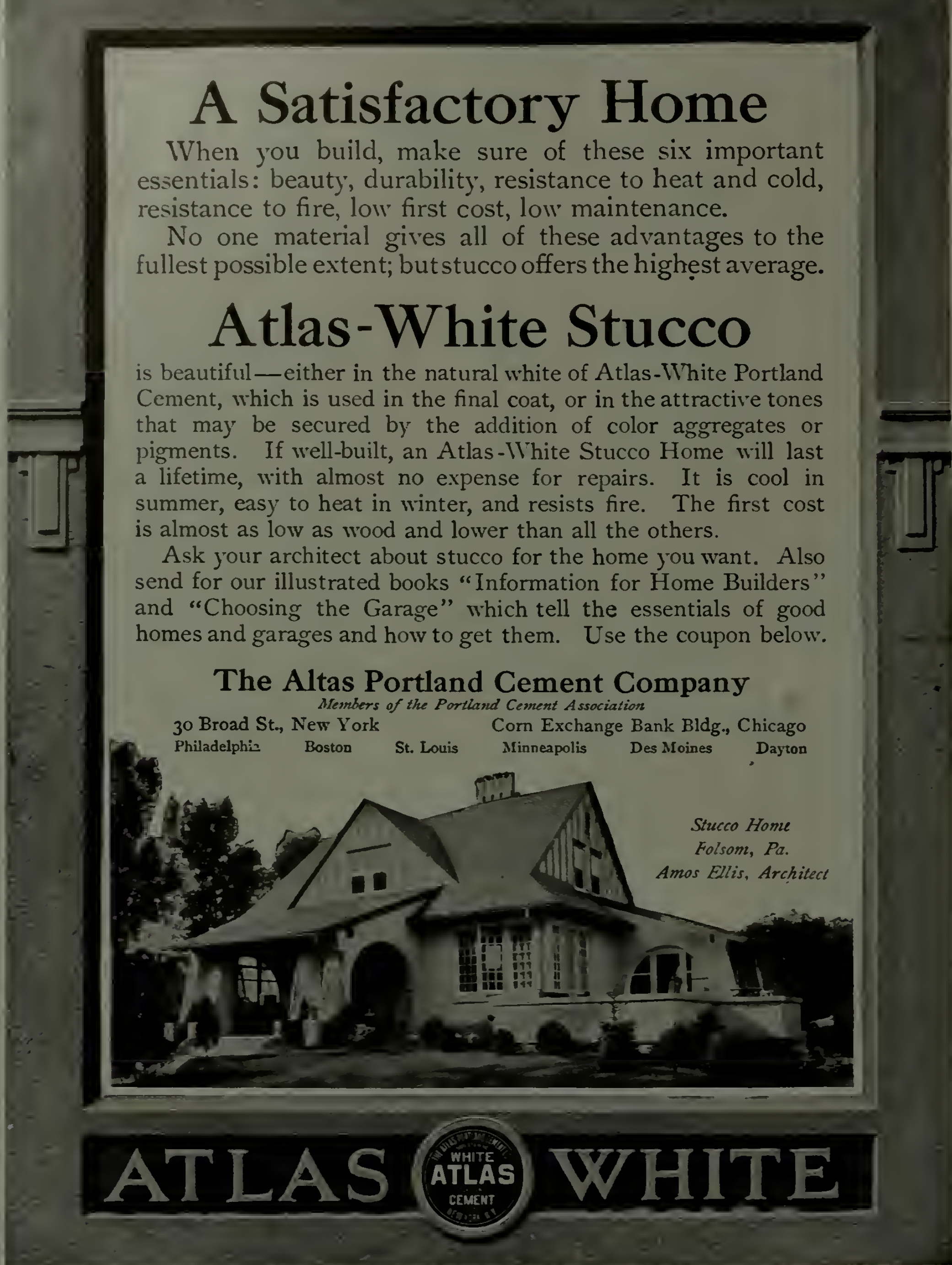
down her throat, and she dropped it twice in the effort, only to grab it easily after a short dive, for another juggling of the slippery customer. After some five or eight minutes, she demonstrated her ability by heading the eel toward her gullet, and with frantic efforts to swallow it, she stretched her whole body straight upward, darted her head this way and that, but the eel refused to budge further, leaving three or four inches of eel tail twisting about her bill.

She seemed satisfied with her first attempts, and swam contentedly around a little circle, doubtless enjoying the tickling of the eel's tail about her neck. This breathing spell proved to be her undoing, for a ponderous gray herring gull swooped down upon her and began a sudden argument for the possession of the eel. Instantly, two more gulls appeared at the battle front and nothing definite was to be seen except flapping wings. The conflict was sharp and decisive, the skirmish shifting amongst the gulls, while the merganser, minus her well earned titbit, took flight to the opposite shore.

The gulls are often seen in close company with the mergansers, watching with sharp-eyed interest every move of their industrious companions. Their eyesight is so keen as to be almost uncanny.

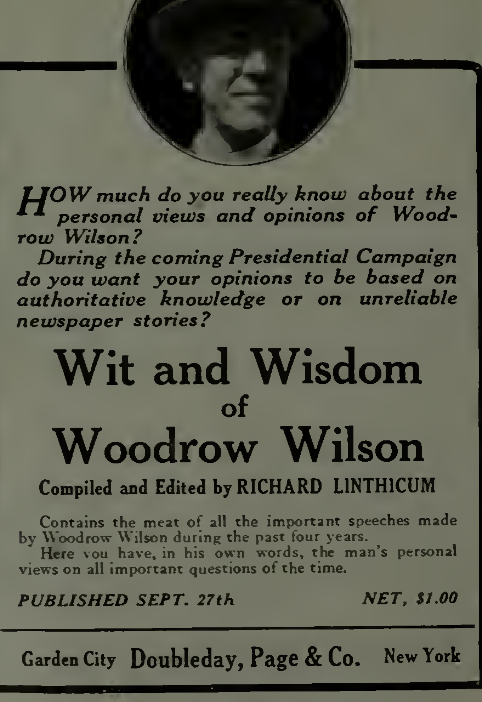
One may row out on a bay usually frequented by gulls to find not one in sight in any direction. Throw out a codfish, and before you know it a speck appears against the sky, which gradually turns into a gull headed your way. Look around again and there are other specks, all attracted from incredible distances by the morsel on the surface of the water.

I once watched a gull on the mud flats of New Rochelle harbor trying its best to swallow some long, eel-like object, which seemed to resist the gull's best efforts. To get a better view, I walked around to where a jutting headland of rock would place me near the scene of activity, but the gull sighting me as I came into close view, started off with his dinner evidently entirely swallowed. It seemed that I was not to learn the nature of his lunch, but as he flew upward and around toward the beach, he suddenly threw out the object which he had swallowed with such pains, and it came down with a flop not far off on the sand. I walked over and found it to be a leather strap, which I picked up and carried to the house. There I found the strap to measure $15\frac{1}{2}$ inches in length by $1\frac{1}{4}$ inches in width, and on one end was a heavy iron buckle. The strap, I surmise, would have proved fairly easy for digestion, but the buckle, on more intimate acquaintance, had caused a sudden change in the dinner arrangement. GEORGE D. BARTLETT.



THE ATLAS PORTLAND CEMENT COMPANY, 30 Broad Street, New York., or Corn Exchange Bank Bldg., Chicago

Send to name and address below Atlas-White Home Portfolio / Garage Portfolio (check the one you want) I expect to build $________$ Home $________$ Garage 1-G-9-16



Farr's Hardy Plant Specialties

(EDITION 1915-16)

A 96 page guide-book to the world of hardy plants. Vivid and accurate descriptions of Hardy Plants, Roses, Shrubs, including Lemoine's new French double and single-flowered Lilacs, the new varieties of Philadelphus, Deutzias, etc., make this book a desirable acquisition to any garden library.

In this book are noted the desirable varieties of Phlox, Delphiniums, Long-spurred Columbines, Peonies, and other plants always desirable in the hardy garden, and which should be planted in the fall.

Farr's Hardy Phlox fill in the color scheme in July and August with brilliant scarlet, blood red, soft pink, deep purple and metallic blues.

Farr's Delphiniums. In the tall, large-flowered varieties, which I have developed, the blooms are unusually large — often 2 inches across — with flower spikes nearly 6 feet tall.

Farr's Long-Spurred Columbines are raised from seeds of my own selection. I have a splendid collection of the long-spurred sorts, and an excellent assortment of the leading English hybrids.

If you do not have a copy of the book "Farr's Hardy Plant Specialties," send for it to-day.

Bertrand H. Farr—Wyomissing Nurseries Company, Inc.,
103 Garfield Ave., Wyomissing, Penna.

The Garden in The Home

The Conservatory is one of the greatest joys of the country home. There the delights of "outdoors" can be enjoyed with the comforts of "indoors." There you may have the year 'round companionship with plants and flowers which means so much to those who love country life.

Moninger Conservatories are found in many of the most beautiful homes in America. Their excellence of design insures a harmonious effect with any style of architecture. And Moninger construction provides the maximum amount of strength with the minimum of shade.

If you are planning a conservatory or any other kind of greenhouse work, we will be glad to submit sketches and estimates without any charge.

JOHN C. MONINGER COMPANY

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1-YEAR TREE Planted in 1914; bearing 17 peaches in 1915

The Rochester Peach (New)

Large, yellow and Red free-stone; flesh yellow, very highly flavored; stone very small. To eat out of hand or canned it cannot be equalled as a table delicacy. Will ship as good as an Elberta. The peach comes into ripening the middle of August, when there is no other yellow and red free-stone of quality on the market, so you can readily see that it will command the highest price.

The tree is a strong, upright grower, hardy as an oak. ***Has stood 16 degrees below zero and produced a full crop;*** while Elberta and Crawford under the same conditions in the same orchard produced no blossoms and consequently no fruit.

It is seldom known to fruit-growers for young trees planted a little over a year to bear fruit. The New Rochester peach solves the problem for you.

Hardy English Walnut Orchards

Are a Commercial Success in this City and County

Commercially, fortunes lie in raising English Walnuts. Never before has the English Walnut been so available to everyone as now. ***Our Glenwood Grown English Walnut of to-day,*** has been bred for its ***majestic beauty*** as well as for the ***golden crop*** it bears. It has likewise been bred for ***Health, Hardiness and Resistibility in Northern Climates.***

The Thompson Orchard, near Rochester, 228 trees, the largest commercial bearing orchard in the East, produced Fall 1915, *260 bushels Walnuts, 32 lbs. to the bushel, sold at 25c. per pound. Wholesale $2,080.* This orchard has been in bearing many years, with absolutely no winter-killing—with occasional temperatures 20 degrees below zero.

YOU can now grow these wonderful English Walnuts around your own home or in your orchard just as you have always grown Peach and Apple trees—Elms and Maples.

SOBER PARAGON

Mammoth Sweet Chestnut

BEARS FIRST YEAR

Paxinos Orchard Crop brought $30,000

Sober Paragon Mammoth Sweet Chestnut will thrive anywhere apples, pears and other fruit trees do. It will withstand extremes of heat, cold and drouth with less injury than most trees. It will even grow in poor soil, cultivation not being necessary, although careful cultivation will greatly increase the yield. The chief requirement is a ***well-drained soil,*** kept free from underbrush. The care and attention that you would give an apple orchard will pay big dividends if spent upon an orchard of Sober Paragon Chestnut trees. Moreover, your orchard begins paying you results almost at once, since you start with BEARING TREES.

Pure Strain Filberts

The Filbert is probably the least understood of all Nut trees in the East, and yet it is a Nut tree of great commercial value and bound to be very important in the future development of Nut culture.

It is admirably adapted to grow throughout the North on account of its hardiness. It comes into bearing early, often at two years of age and is a steady cropper. Filberts will do well on almost any soil but succeed best on clayey loam, rather moist. It is a rapid grower and should be trained as a tree.

Fiftieth Year in Business—Our Golden Anniversary Souvenir Rose Free with every order

Our 1916 Catalogue and Planting Guide—Includes Nut Culture, Fruits, Roses, Shrubs, Evergreens, etc., mailed FREE on Request.

GLEN BROS., Inc., Glenwood Nursery (Est. 1866) 1732 Main St., Rochester, N.Y.

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Improvements

"Pergolas," Lattice Fences, Garden Houses and Arbors

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East or West North or South

Large or small, expensive or cheap, wherever your property may be, you can reach a probable buyer through the Real Estate Department in

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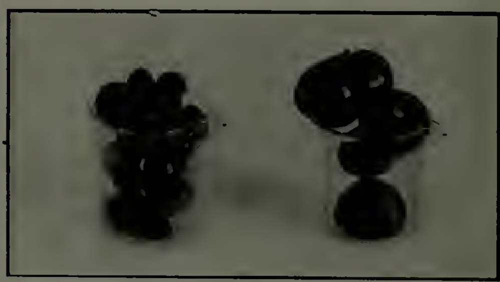
Hicks splendid evergreen and shade trees will beautify and increase the value of your property *this year.* We ship anywhere within 1000 miles and guarantee satisfactory growth. Trees 15 ft. wide. Fall is the best time to transplant. Write for Catalogue L of big trees, shrubs and hardy flowers.

Hicks trees save ten years

HICKS NURSERIES
Westbury, L.I., 'Phone 68

THE AMERICAN CHESTNUT OF THE FUTURE

WHEN war or drought or insects or disease threatens the reduction or destruction of a nation's resources, two courses lie open. One is to combat and, if possible, eliminate the cause; the other is to discover new sources of the necessary materials and abandon the old to the enemy. In fighting the diseases and insect pests that attack our native plants, the former is the more common and often the more desirable plan. But in the case of the chestnut bark disease it will not work, simply



Nuts of wild dwarf chinquapin (left) and hybrid chinquapin obtained by hybridizing the former with the Japanese chestnut

An eight-year-old hybrid chinquapin tree

A four-year-old cross-bred Japanese chestnut bearing its third successive crop

because no means has yet been discovered for destroying or weakening the organism by which the malady is caused and transmitted from tree to tree. Resource has necessarily been had, therefore, to a search for forms of chestnut resistant to the disease and in other respects as satisfactory as the species that is now practically doomed. It is encouraging to note that in at least two directions the desired results are being obtained.

In the first place it has been found that certain native chestnuts of China and Japan are practically immune to the disease—presumably owing to its having existed in those countries for many years. Secondly, it has been possible to import specimens of such varieties to this country where they apparently find conditions entirely congenial. The additional step of cross breeding Oriental forms with our native Eastern chinquapin has now resulted in some very promising types characterized by immunity to the bark disease, attractive form, extremely rapid growth, early and prolific bearing tendencies, and nuts of excellent quality much larger than those of their American parent. Even the second generation of this cross, grown from seed, appears to have

Standard Pumping Units

An ideal water supply for the country home, institution and greenhouse.

Standard Pumping Units represent the utmost in careful engineering design, thorough workmanship and absolute reliability.

In construction, efficacy and cost they are more than satisfactory as shown by the statements of users in the last fifteen years.

Electrical power or gasoline engines of our own manufacture. We furnish electric lighting systems to work with the same power.

Get our catalogue, with special supplement for greenhouse owners.

The Standard Pump & Engine Co.
702 Carroll Street **Akron, Ohio**

OLD BOXWOOD BUSHES

For Sale—Eight magnificent old boxwood bushes, five to six feet in height. Photos furnished.

MRS. GEO. S. WILLS, Fallston, Md.

Darwin Tulips

This exquisite class of Tulip bears flowers four to six inches in diameter on 30-inch stems. They bloom and thrive for years without deterioration such as the ordinary Tulips are subject to.

Pride of Haarlem. The best old rose color Darwin Tulip. 25c per doz. $1 75 per 100.

Margaret. Beautiful globular flowers of soft, blush rose. 25c per doz.; $1.35 per 100.

Clara Butt. Exquisite shade of soft clear pink. 25c per doz.; $1.50 per 100.

Baronne De La Tonnaye. Large, rose carmine flowers superbly formed and retaining their brilliancy to the last. 25c per doz.; $1.50 per 100.

Collection of twelve each (48 bulbs), $1.00 postpaid.

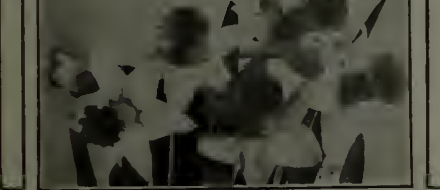
Daffodils

Victoria. The variety shown below, yellow trumpet with white perianth, "double nose" bulbs producing two flowers, [illegible] per doz., $[illegible] per 100. Postpaid.

Trumpet Varieties Mixed. 20c per doz.; $1.25 per 100. Postpaid.

Our Autumn Bulb Catalogue, with full information relative to Darwin and Breeder Tulips, Narcissus, etc., mailed on request.

Arthur T. Boddington Co., Inc.
Dept. L 1 **128 Chambers Street, New York**



This charming screen of many foliage colorings, was planted by the owner of the stucco house. Instead of marring the neighbor's property, it has greatly enhanced its value. Such results are happy for all concerned. We can quickly duplicate this screen for you.

Did You Ever Think of Fall Planting From These Angles of Advantage?

RIGHT now before the leaves are all off, you can tell exactly the shrubs or trees you require, to fill in the open places you have noticed all Summer. The needs are now still plainly apparent, so you can select with a certainty, exactly the things best suited to meet them. In the spring when all is barren, it's a very difficult matter to tell what you do require. You have forgotten just how things really do look when in full leaf; and so you are apt to buy more than needed, and then crowd the planting. Or less than you need and skimp the effect.

In either case it is unsatisfactory. In both cases it means additional needless expenditures.

The season now being at an end, the marring of your grounds, caused by digging them up in the planting, makes no special difference; while in the Spring when you are impatient to have everything look perfect as soon as possible; such scars are indeed glaring.

It being the dormant time for most of the trees and shrubs, there is practically no planting set-back shock; which means that next Spring they will start right off growing vigorously, just as if nothing had happened.

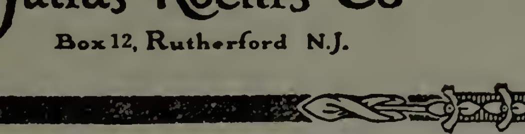
The rush of work of many kinds is now also over, making it easy to get plenty of help for your Fall planting, which, as you so well know, is one of the greatest of Spring's problems.

Having decided then in favor of Fall planting, your next move is where to buy the shrubs and trees to plant. If you could, and would, come to our nursery at Rutherford, N. J.—just twelve miles out of New York—and look at our stock, we are sure you would be convinced of its growthy vigor and general superiority. When we dug down into the roots you would see a most convincing mass, such as every planting expert knows goes such a long way towards insuring success. Our frank and fair methods of doing business can but appeal to you.

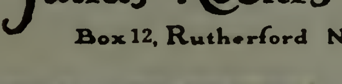
We prefer to promptly replace any stock that for reasons due to us, fails to turn out satisfactorily. If you can't come to the nursery to make your own pleasurable selection, send for our catalogue. Or let us make planting suggestions.

Special Note

In the October issue of Garden Magazine, there is an important article on Fall heeling in of shrubs; or a new-old-method of getting a running start on your Spring planting. If you don't happen to take the Garden Magazine, drop us a card and we will gladly forward you a copy with the article marked.



Box 12, Rutherford N.J.



IMPORTED HIGH GRADE

Tulips, Hyacinths, Daffodils, Crocus, etc.

Upon receipt of one dollar, we will send you, postpaid, 100 Extra Selected Tulips with planting instructions.

Our new 1916 Price Lists of bulbs for fall planting will be mailed to you upon application.

It will pay you to order now for either immediate or future delivery.

ROOS BROTHERS Milton, Mass.

Thorburn's Bulb Catalogue

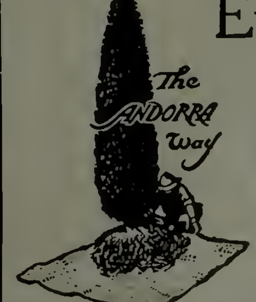
SEND for your copy. Our bulbs are full size, true to name, and very beautiful.

We have a really wonderful assortment of 60 of our choicest bulbs for $1.00. You may send a dollar pinned to your order at our risk.

To those who love flowers and "growing things," our Bulb Catalogue will be a revelation. Send for it to-day.

J. M. THORBURN & CO.
53 G, Barclay St., through to 54 Park Place
New York

Evergreen Planting in September



ALL through September is a most favorable period for the successful transplanting of Evergreen Trees and Shrubs. Our Evergreens are lifted with a large ball of fine roots and earth which is securely wrapped in burlap to insure their safe shipment. Catalogue if requested.

ANDORRA NURSERIES
Wm. Warner Harper, *Prop.*
BOX G, CHESTNUT HILL, PHILADELPHIA, PA.

LET them romp—that is the joy of childhood—and don't worry about your floors and woodwork if you are *sure* they are finished with Pitcairn Aged Varnish.

The floor which is finished with Pitcairn Aged Floor Spar will not easily mar, nor will it be blemished by the leaking radiator, or other household accidents.

Woodwork finished with Pitcairn Aged Finishing Spar has *enduring* elegance.

—and the front door, or yacht finished with Pitcairn Aged Mast Spar retains its richness in spite of the weather's wear.

PITCAIRN BANZAI ENAMEL

The enamel that is *free-flowing*, making it *easy* for your decorator to secure a flawless, unblemished surface—making it *sure* that your white, or tinted enamel work will have utmost, and most enduring beauty.

Send us the name of your architect. —so we can send him and you our Portfolio of Interiors, helpfully suggestive photographs of home interiors.

PITCAIRN VARNISH COMPANY, Milwaukee, Wis.

Distributing Stocks in 25 Leading Jobbing Centres of the U. S.
Sold by Retailers Everywhere

Educate Your Child in Your Own Home

THE mother is the natural teacher of her children. She knows their peculiarities, their temperaments, their weaknesses, but untrained as a teacher, the time comes when she feels her inability alone to proceed further with their education. Possibly not within reach of a really efficient school, she reluctantly gives them up to be taught with other children.

Now, there has grown up in the City of Baltimore, in connection with a great private day school a Home Instruction Department, the high object and purpose of which is the education of children from four to twelve years of age, entirely in their own homes and yet according to the best modern methods and under the guidance and supervision of educational experts, who are specialists in elementary education.

The school was established in 1897, and now has pupils in every state of the Union and 22 foreign countries.

One mother writes: "The system seems to me almost magical in its results." Another previously perplexed by educational problems, voices her relief in these words: "A real Godsend."

A booklet outlining the plan and courses of instruction will be sent on request.

Address Calvert School, Inc. V. M. Hillyer, A. B. (Harvard), Headmaster, 8-W Chase Street, Baltimore, Md.

MRS. MARSHALL'S *School for Little Girls*
A home-like boarding and day school for girls under fifteen, affording an abundance of healthful recreation, and fitting pupils for the leading boarding schools of the East.
Briarcliff Manor *Booklet free on request* New York

Tennessee, Nashville, Box 35, Belmont Heights.
Ward-Belmont FOR GIRLS AND YOUNG WOMEN.
A school of national patronage and prestige, located in the South. Strong Faculty and half million dollar equipment, affording superior facilities for physical, intellectual, social and moral development. Ideal climate and health record. Open Sept. 20. For catalogue and book of views address as above.

Photography, Good Sport

¶ but the results are not always satisfactory. Ask practical help from the photo-man with

The Readers' Service

retained all the desired characteristics. The second phase of this work is the interbreeding of different Japanese and Chinese varieties that have already taken kindly to conditions here, and the careful selection and subsequent crossing of resulting forms. Herein also notable success has been attained, so far as can be judged by the appearance and performance of several generations already grown. Indeed, everything seems to point to the possibility of a new stand of Americanized chestnuts even in the desolated North Atlantic States—chestnuts of such beauty, hardiness, quality, and productivity that the loss of the noble but defenceless trees of an earlier day will not even be regretted.

D. Cunningham.

THE PRICE OF A FARM—AND WHAT IT IS WORTH

TWO of the easiest things in the world for the average man to do are, first, to view with superior pity the other fellow who gets "stung" in buying farm land; and second, to suffer the same painful experience himself in making a similar purchase. Among the many details of preparedness with which a would-be farm buyer *can* arm himself to prevent such a result—but which he usually overlooks or underestimates—is a simple but exceedingly valuable method of comparing the per acre price of land under consideration with its actual value. To illustrate:

A farm is offered or advertised thus: "Two hundred and forty acres, splendidly located, excellent buildings in good condition; 100 acreage of tillage, 50 acres of pasture and mowing, balance timber. Price $100 an acre." We will assume that the location *is* good, the roads, transportation facilities, markets, schools, and other items of environment all that could be desired, and the tillable land in very fair condition. The proposition sounds, therefore, like a veritable bargain—and is consequently irresistible to the majority of unwary, unpenetrating minds.

Suppose, however, that we analyze the property by divisions. The 100 acres of tillable land we may find to be really valuable, worth more, indeed, than the price asked; give it, for instance, a value of $125 per acre. It will therefore represent $12,500 of the total price. Examining the 50 acres of so-called pasture and mowing, we find it apparently a thick sod of lush, rich grass, but as we look closer, and interrogate disinterested neighbors, we learn that it is in many places soft and boggy, that during the average spring it is under water for several weeks, and that as a site for drainage operations it is hopeless. There is nothing to do but value the piece as a source of coarse hay at, say $20 per acre, or $1,000.

The remainder or timber land is next found to be rich in beautiful vistas, bridle paths, and rippling brooks, but most scantily supplied with marketable lumber or even young stands of desirable hard woods. By dint of extensive planting it might be made to yield returns in a generation or so, but as it stands it cannot be said to represent more than $5, or at most $10, an acre as productive property. This means $900 more. The buildings, while accurately described from the practical farm point of view, we find to be hardly adapted to our particular needs, but we can value them at $3,000 either as building material or tenant quarters.

Recapitulating we see that we have given the farm a value of $12,500 plus $1,000, plus $900, plus $3,000; that is $18,400 for the 240 acres, or not quite $77 an acre. Yet, on the basis of a casual scrutiny of the advertisement and a superficial examination of the farm, as a whole, a price of $100 had previously seemed eminently fair and justifiable! And this is only one simple phase of the fine art of farm buying.

E. L. D. S.

Secret History

REVEALED BY LADY PEGGY O'MALLEY

"C. N. and A. M. WILLIAMSON have written nothing better than this stirring tale of life on the Mexican border and in Europe, and no one has told their stories quite so well as little Lady Peggy O'Malley."

—Boston Transcript

"Clean, clever and convincing, readers have a treat before them in this book."

—Troy Record

At All Bookstores. Net, $1.35

Doubleday, Page & Company
Garden City New York

Stories of the East

Of a ship that came within sight of home. The bottom of that ship was overgrown like a garden. Of 600 ragged soldiers from Arabia come aboard. Who was saved? The Turk alone who told this Odyssey to the American?

Of such things is "The Leopard of the Sea," opening tale of "Stamboul Nights," and listed as one of the twenty-one best short stories published in a year. There are twelve other tales full of the color and romance of the East.

Stamboul Nights

By H. G. Dwight

Author of "Constantinople, Old and New"

Frontispiece Net $1.35

Doubleday, Page & Co., Garden City, N. Y.

YALE & TOWNE MFG. CO.

Step inside a YALE padlock with us a minute

and see what it is that gives the Yale Padlock its grip—a grip that hangs on unshaken and unbreakable until you break down the door or open the lock with its own little key.

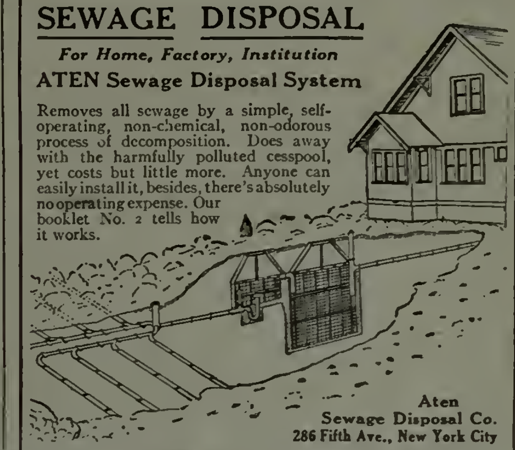
Sturdy, durable, enduring—the Yale Padlock is typical of the security and protection every kind of Yale lock gives you. Made by the manufacturers of Yale house hardware.

Look for the name Yale on the padlock to make sure you get Yale.

For Sale by Hardware Dealers

THE YALE & TOWNE MFG. CO.
9 East 40th Street, New York

The style illustrated is made in many sizes, from ¾ inch to 3½-inches wide. A size for every use. Ask the dealer to show you the No. 800 Series.



We have a man in our office who has a very interesting job.

He receives letters from all over the world—and replies to every one of them, not with a mere printed form; but with a personal letter carefully thought out.

Some days he travels over the greater part of New York looking for the right answer to a single letter.

This man conducts our Readers' Service Department.

If you come across something in any of our magazines or anywhere else for that matter, about which you want more information, just write him a letter.

He'll answer it—that's his job.

Address—

Readers' Service Department, Doubleday, Page & Company, Garden City, L. I., N. Y.

OPPORTUNITIES OF THE PRESENT

It is doubtful if the old glazes surpass that of this Royal Copenhagen

NOT the least of the tragedies of wars is the fact that very frequently what is one family's poignant loss becomes another's gain. Deplorable as this condition may seem, it is as true regarding this war as of all others, but with the difference that for the first time Americans are the gainers.

This is particularly true as regards the art treasures that are coming into the market for our delectation. Fabulous sums have been dangled before the eyes of the old world owners without success in the past, but the present financial stringency abroad has caused these families to part with many of their fine old things, and these are being brought over in large quantities by every steamer. Needless to say, these lovely old things find ready buyers, and those of our readers who are interested in old pieces would do well to make a round of the shops which import old furnishings, for what may be there today is likely to be gone to-morrow. Never before have such lovely specimens of embroidery and various other forms of needlework been obtainable as now can be had. This is especially fortunate, if we may be forgiven such an expression, as the American public are just awaking to the value of these fine old fragments for hangings—not only for over-mantel decorations, but for other purposes as well.

Mr. James Collier Marshall

Director of the Decorating Service of Country Life in America's Advertising Department

will solve your problems of home decoration

—color schemes, hangings, floor coverings, art objects and interior arrangements. Mr. Marshall's long acquaintance with the sources of supply enables him to make, if desired, judicious selections and to obtain most favorable prices. This service is free to our readers.

Address inquiries to Decorating Service Department

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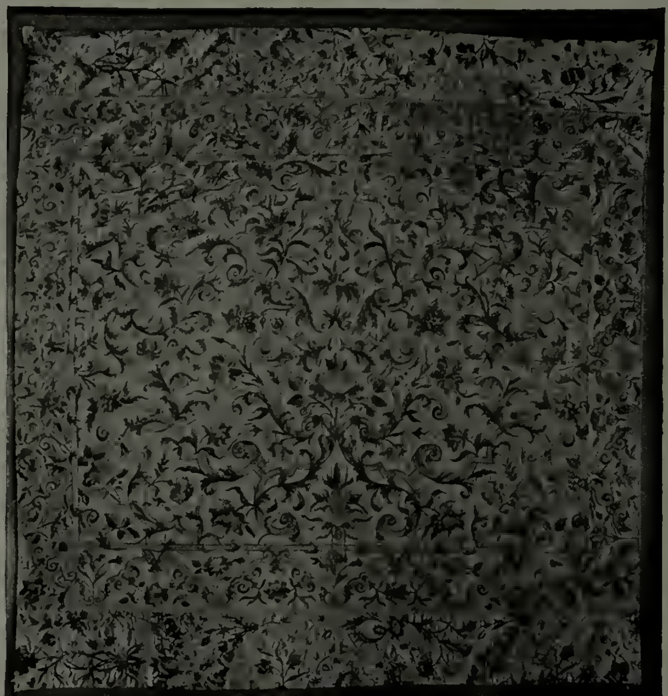
The treasure chests of Italy have yielded nothing better than this splendid embroidery on cream silk, which will prove most satisfactory as an overmantel decoration

One of the finest of these old embroideries that I have seen is the old Italian one pictured here. Of the most intricate pattern, in which natural and conventionalized flowers twine themselves about a perfectly proportioned scroll, the work is very fine and the natural colors mellowed by time are charming in every light. Fascinating as is the intricacy of the needlework of the flowers, the curious solid basket stitching of the scrolls interests me more. This superb hanging whose background is of heavy cream silk measures 55 x 59 inches, a suitable size for the ordinary mantel, and sells at $400. All things being considered this price is downright cheap, for it is very fine.

Fully as interesting and equally fine is the splendid old six-leaf screen of Chinese lacquer on wood. This gem is one of a number of rare old pieces that have just been brought to this country, and which are selling like the proverbial hot cakes. This screen is remarkable in several respects. In size it is notable, being very tall; and it is in perfect condition, though of solid wood; its proportions are unusually fine. The decorations are to be especially commended, for while the various motives exactly balance one another, no two are alike, and their tints beggar description. Multicolored flowers, birds, and people are relieved by an ivory ground that is the despair of modern workers in lacquer. The strong though finely wrought metal hinges are worthy of mention, as well as the graceful border design and the plain pieces of wood, seen between the feet, painted an old blue, which accentuate the beauties of the whole decoration. The screen is priced at $2,500.

Even more to be marveled over is the old William and Mary spinet pictured before the screen, though it is to be regretted that the exquisite decorations are lost in reproduction. This is surely destined for a museum, as it is a perfect specimen of its kind. Its price is $5,000.

Lovely as these old things are, it need not be thought that the new ones are less desirable, for it is doubtful if any modeled porcelain of olden times has ever surpassed the beauty of the Royal Copenhagen figurine, shown here in two positions. This is a study of Nathan the Wise, long famed in prose and poetry.

Opportunity is waiting at some art lover's door in the guise of this Chinese screen of marvelous lacquer work, and this old William and Mary spinet. Both are museum pieces

There are some of us who prefer modern things, tho we can appreciate the beautiful antiqued colors in this hand-painted modern screen of sheepskin that sells for $145

Lovely colors accentuate the beauty of this Nathan the Wise, by Jahn

An original Mahogany Desk by Thomas Chippendale, which is an exceptionally fine example of the famous cabinet-maker's skill. This piece of furniture is a part of one of the most interesting collections of Antique English Furniture in existence, on sale in our Division of Furniture and Decoration.

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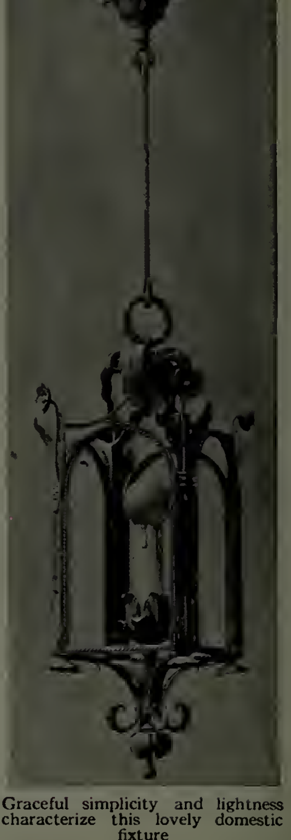
American Designers of Lighting Fixtures Offer Rare Designs

THERE is every reason for congratulation on the part of Americans over the tremendous strides made during the past two years by the designers and manufacturers of lighting fixtures, for in no other branch of the broad field of decorative accessories has there been such marked progress made as in this, both as regards sheer beauty and originality of design and in general excellence of workmanship.

As a matter of fact, the high quality of domestic workmanship in all lines of hardware has never been questioned. Even the most captious critics have allowed that, though they have said, and with some truth, that the designs themselves were slighted; that is, that not sufficient time was allowed either the designer to perfect his pattern or the workman to give the most artistic finish to his work. To this criticism the makers of lighting fixtures early lent a willing ear, to the end that they are now turning out designs that even in the stock patterns compare most favorably with the best imported fixtures.



Graceful simplicity and lightness characterize this lovely domestic fixture

And further, these domestic manufacturers have gone a step beyond mere excellence of design and workmanship, and have brought all their wide business experience to bear on the situation, having sounded the needs of their field, they have evolved patterns suitable to the different types of American houses—an accomplishment of no mean importance. Indeed, this adaptation of design to type is the root of their originality and ultimate success.

One cannot examine the lanterns illustrated here without being immensely impressed by the fact that here is a new idea—a lantern in effect without the pretense of glass. Aside from the commonsense of leaving electric candles unglazed, there is in them a charming feeling of freedom that is never felt in glazed lanterns, however splendid, and this freedom is the quality that makes them better adapted to American settings than are the glazed lamps.

Beyond this, as architectural designs they are very fine. Note in the larger one how the vertical metal bands that form the frame and dome are faced with pilaster-like strips whose crowns are beaten out in leaf designs giving the effect of Corinthian capitals, which, in turn are surmounted by flowers that not only give a suitable finish to the pilaster effect but hide the plainness of the dome bands. Observe also the wisdom of placing the twisted arch below the leaf crowned pilasters, thereby gaining a correctness of proportion not to be obtained otherwise; the severity of these arches is relieved by the leaf and flower motives introduced between their bases, these being a part of the panel design below the arch.

It is impossible to describe the artistry of the colors employed to break the sombre tones of the brass and iron of which the fixture is made. The full-blown flowers are painted red coral, the leaves and husks a dull, antiqued green; the crowns holding the candles and the crest of acanthus leaves are very dull old gold, while the pendant berries are a brighter shade of coral red than the flowers.

Note the rare architectural perfection in this iron and brass fixture of domestic design after the old Italian patterns

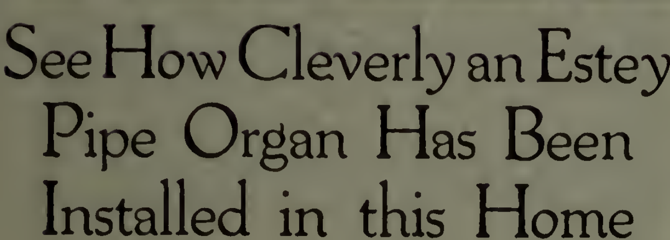
The smaller fixture, while much more simple, is fully as remarkable in every way, though it is more dependent on its charming colorings for its best effects.

These fixtures, though so individual, are after the Italian Renaissance designs and must be employed in the proper setting to be fully appreciated. But the fact that this, the most difficult period of all, has been so cleverly adapted to modern uses leads us to expect greater results in the future.

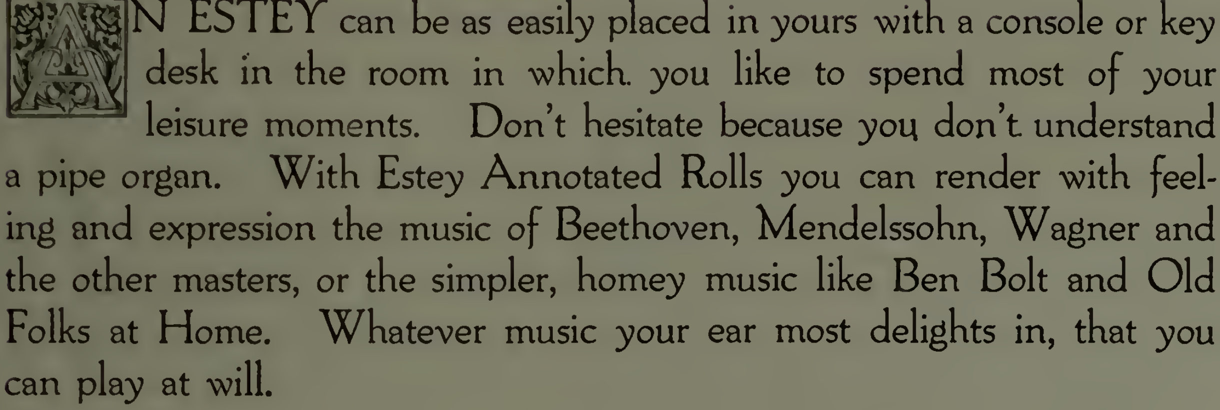
It is to-day no longer a matter of guesswork as to what may be the proper fixture for your home. All one has to do is to have his architect consult with one of these groups of art craftsmen and success is assured.

Estey Pipe Organ in private residence at Roslyn, N. Y.

Console in room at left. Organ shown below.



See How Cleverly an Estey Pipe Organ Has Been Installed in this Home



AN ESTEY can be as easily placed in yours with a console or key desk in the room in which you like to spend most of your leisure moments. Don't hesitate because you don't understand a pipe organ. With Estey Annotated Rolls you can render with feeling and expression the music of Beethoven, Mendelssohn, Wagner and the other masters, or the simpler, homey music like Ben Bolt and Old Folks at Home. Whatever music your ear most delights in, that you can play at will.

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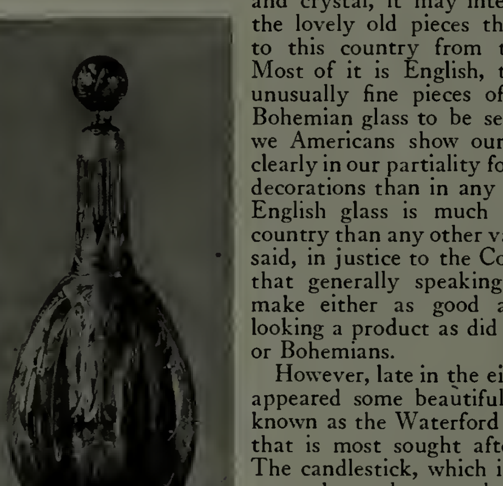
Decorative Old Glass for Everyday Use

FROM the history of glass making it would appear that at various periods the blowing of fine glass has almost become a lost art. Indeed it has been lost and found several times, a condition that seems incredible when one considers that fine glass has always been held in very high regard by the luxurious of the earth, in taking rank in their appreciation with vessels of precious metals. The museum collections of very ancient specimens as well as the lovely blown glasses and crystals of the Renaissance that are still extant testify to this.

Now that we are again in the midst of one of the revivals of glass and crystal, it may interest some to know of the lovely old pieces that have been brought to this country from the countries at war. Most of it is English, though there are some unusually fine pieces of French, Italian, and Bohemian glass to be seen. Curiously enough we Americans show our English lineage more clearly in our partiality for the English accessory decorations than in any other manner, and old English glass is much more popular in this country than any other variety. But it must be said, in justice to the Continental glass makers that generally speaking the English did not make either as good a quality or as good looking a product as did the French, Venetians, or Bohemians.

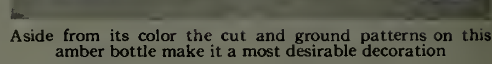


The lovely ruby pink of this decanter is most unusual

However, late in the eighteenth century there appeared some beautiful clear glass in England known as the Waterford flint glass, and it is this that is most sought after by collectors to-day. The candlestick, which is one of a pair, and the covered cup, shown at the bottom of this column, are of this splendid flint glass, and are remarkable in many respects. The cup is particularly fine, being almost identical with the one in the Lennart collection in the South Kensington Museum. Note the beautiful, soft, down-curving gadroons that break just above the square plinth-like base. This 12-inch piece will sell for $175.

The candlesticks are beautifully proportioned and cut, their bases having charming scalloped bevelled edges that reflect the candle light. As will be seen the candle sockets have a diamond cut and are of a size to easily accommodate the ordinary candle, which is an unusual virtue in old sticks. Also the fact that these have no socket lip adds much to their attractiveness and value. They are 8″ tall and will sell at $75 each.

Exquisite in form and cut is the pink decanter of French glass shown at the top. Such beauty needs no explanation, however, its contour is so unusual as to call for especial mention — its bowl having seven deeply indented round scallops that spring like a cluster of lovely pink bubbles from the slender bottle neck from which also descends the feathery cut designs that show white upon the pink bowl, this charming pattern being thrown into relief by the two collarlike designs of white glass at its throat topped with the round pink stopper. Altogether it is most delightful and as a decoration it can hardly be surpassed. Rich pink in color, it is 10½″ tall and is priced $45.



Aside from its color the cut and ground patterns on this amber bottle make it a most desirable decoration

Not less beautiful are the Bohemian amber colored decanter and glasses pictured here. Like the pink bottle these are most decorative. A dainty floral design ornaments the alternate faces of the bottle and climbs to the very crest of the peaked stopper. The pattern is made the more attractive by having its pattern ground as well as cut, a process that adds much to the beauty of the bottle. The glasses are plain except for a group of lines around their bases and, with the decanter, sell at $49.00. J. C. M.

England has sent us nothing better than these candlesticks and covered cup of Waterford flint glass whose splendid cut and contours gives them a museum value

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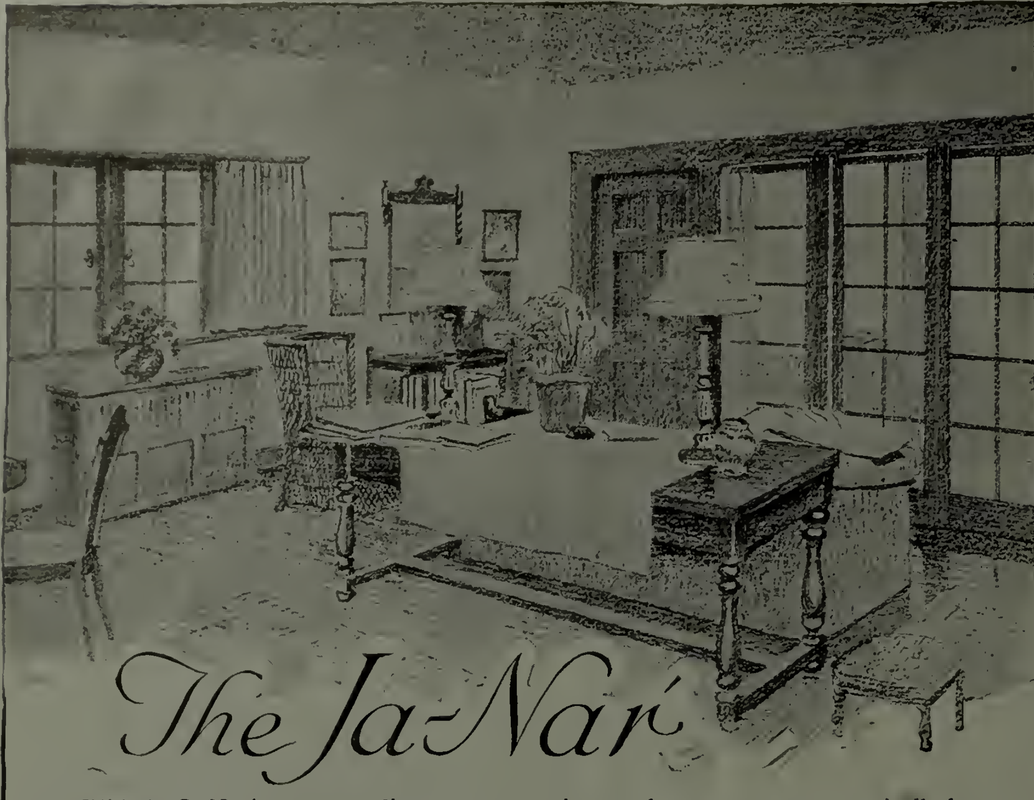

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Phantom view of Jar-Nar' over radiator

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Embroidered Materials for Hangings

IN THEIR efforts to provide satisfactorily dyed domestic cretonnes a resourceful firm of manufacturers has hit upon the delightful idea of having the designs embroidered in color upon the sober toned material. While such materials have long been used in European folk cottages and in Elizabethan great houses as well, this is, so far as I can learn, the first time such designs have been prepared for general

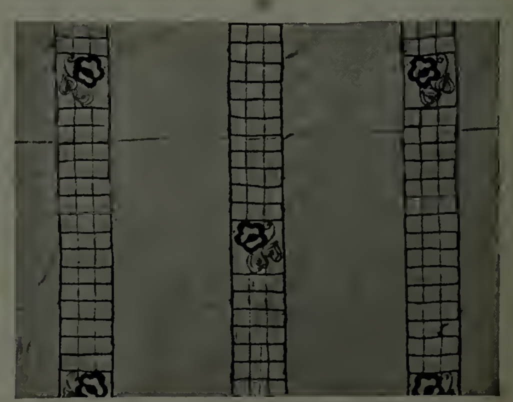
consumption. Besides, where those old time embroideries were made by hand these are done by machine, but the designs are cleverly distributed and the work so carefully done that the tightness common to most machine stitching is not noticeable in these charming designs.

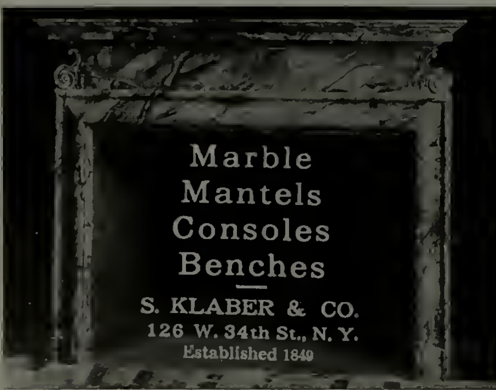
Unquestionably this work will enjoy great favor because of its difference from the cretonnes, whose many colors frequently overpower the furnishings of the room. Also they work up beautifully with old furniture.

The embroidered linen seen in the middle illustration will be a most effective living room hanging. This has several motifs nicely distributed

over pale tan linen. There are two color arrangements, one having bright, warm tints that adapts it to the modern folk furniture, the other being done in soft-toned mauve, blue, gray, and green, more suitable for old-time furnishings. This material, 36 inches wide, sells at $3.40.

Not less interesting are the other patterns pictured here. The bottom one shows an orange and green trellis stitched on pale tan casement cloth, 33 inches wide. Price $1.50. The other, on 36 inch Irish linen, shows yellow or mauve running lines with blue and yellow thistles in a green vase. Another color scheme shows mauve and red. Costs $3.40. J. C. M.





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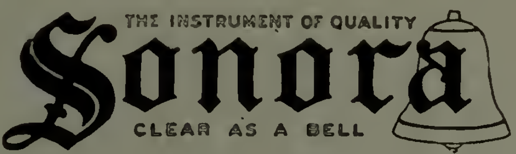

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Nickel Plate Silver Plate Solid Copper

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New Glass Light Distributors

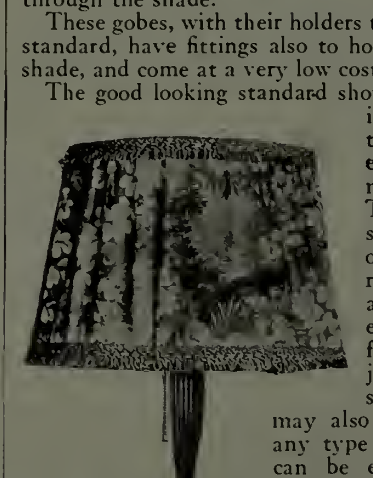
A GOOD deal has been written in the last few years about indirect and semi-indirect lighting, and not always has there been a clear exposition of the merits of these light sources, nor has it been shown just how these methods can be employed with artistic success in the decoration of the house. And comfort-yielding as they are, these methods are not inexpensive, as a really decorative fixture is, of necessity, of costly material. However, a new fixture has made its appearance that will revolutionize the lighting of the home and at a nominal sum.

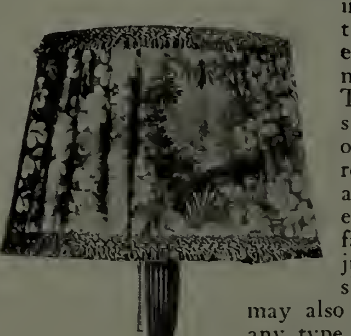
A glance at the simple glass globes shown here will explain the whole thing. These globes, which may be affixed to any electric lamp standard, are so cut as to distribute the light rays upward as well as outward and downward. Furthermore, the globe may be reversed to get different effects. When the flattened concave part is on top the light is thrown upward with such intensity that one seventy-five watt lamp will give seventeen times as much light as three lamps of the same power. While this gives the indirect light so often desired—one lamp being sufficient for the ordinary room—at the same time there is more than the usual amount of light diffused outward through the shade, of whatever material, without spoiling its effectiveness, and the radius of light thrown downward is much greater, thereby making it suitable for the reading table.

On the other hand, when the concave portion forms the lower part, the greatest intensity of light is, of course, turned downward while the wide diffusion of rays is seen through the shade.

These gobes, with their holders to fit any lamp standard, have fittings also to hold any kind of shade, and come at a very low cost.

The good looking standard shown here comes in many oak tints, in white enamel, and mahogany. The Empire shade pictured obtains the best reflected effects, and may be easily and satisfactorily adjusted, but other shaped shades may also be used and any type of lamp base can be employed, the matter of fitting them with globes being trifling both in time and cost. Through its many good points this lamp is assured of success.





J. C. M.

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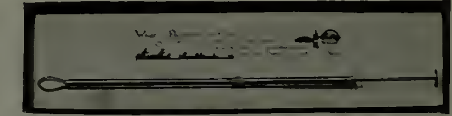
The Readers' Service gives information about home decorating

About Olive Tongs



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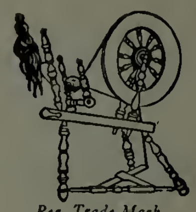

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22 x 38 in. $5.75 6.50 7.75 8.50 9.50 10.50 per dozen
24 x 40 in. $6.75 7.50 12.00 per dozen

We will maintain these prices from September 25th to October 14th unless lots are sold out.

In addition to the above we have thousands of dozens of other *Pure Linen* Towels of all kinds, fancy weave or plain Huckaback with Damask borders, at moderate prices. Our entire stock of the most desired Household Linens is full to overflowing.

Mail Orders receive our prompt attention

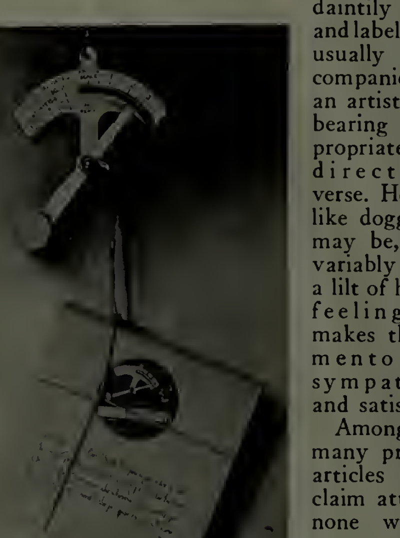
James McCutcheon & Co.

Fifth Ave., 34th and 33d Streets, New York

Suggestions for Early Christmas Shopping

IT MAY be interesting to those who do their Christmas shopping early in the fall to know of some of the new ideas in gifts that are being proposed for this fast approaching holiday, and to be reminded of some of the old things that, packed in new and attractive forms, will prove acceptable and sensible gifts.

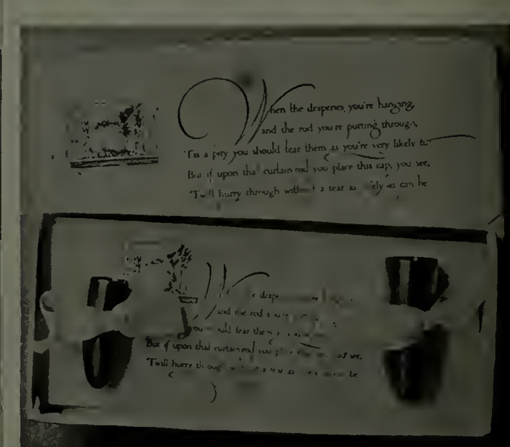
Indeed everything in the gift line to-day comes daintily packed and labeled, and usually is accompanied by an artistic card bearing an appropriate—and directing—verse. However like doggerel it may be, it invariably carries a lilt of holiday feeling that makes the memento more sympathetic and satisfying.



Among the many practical articles that claim attention none will recommend itself to the housekeeper so surely as the caps for curtain rods pictured at the bottom of this column for only the housekeeper knows how nerve racking is the work of running brass rods through fine meshed curtains. This discomfort as well as the destruction of the curtain heading itself will be obviated by the use of these metal rod caps which, mounted on a decorated and inscribed card and packed in a box, come at 20 cents only.

Nor is the indoor clothes line, 36 feet long with metal reel, less interesting because of its homely qualities. This is a veritable boon for those who occupy their cottages but a short season each year. In such houses the long collected dust ruins everything not carefully covered. This clever device will make the family clothes line last many years and keep it clean meanwhile. Packed in a pretty box with a suitable card it costs 40 cts.

Apropos of things for household use, the rubber stopper shown here is one of the best; though this is intended primarily for liquor bottles, since it is really a bottle opener, it may be used in sauce bottles whose corks have been lost. As may be



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to your lawn by giving them plenty of water for bathing and drinking in a

SHARONWARE BIRD BATH

designed upon humane principles. The birds bathe in water from ⅛ to 2 inches deep without risk of drowning. The bath empties itself every twenty-four hours, thereby making it sanitary. 17 in. across, 6 in. high, weight 30 pounds. Made in various colors; decorative, artistic, practical.

Price, $4.00, F. O. B. New York.

Same bowl on pedestal: total height 39 inches, $10.00 F. O. B. N. Y. Send for descriptive price-list of window-boxes, flower-pots, jardinieres, garden benches, etc.

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The return to your City Home always Suggests Changes or Improvements

AN artistic lamp, carefully chosen and rightly placed, will add more beauty and decorative value than any other single article of furnishing. The collection presented now for your inspection contains many most unusual and interesting lamps and shades, in all the lovely color blendings that only the master Chinese colorist has produced. There is an artistic lamp and shade for every room in your home.

A lighted lamp is the most conspicuous object in a room; it should be a thing of beauty in complete harmony with its surroundings

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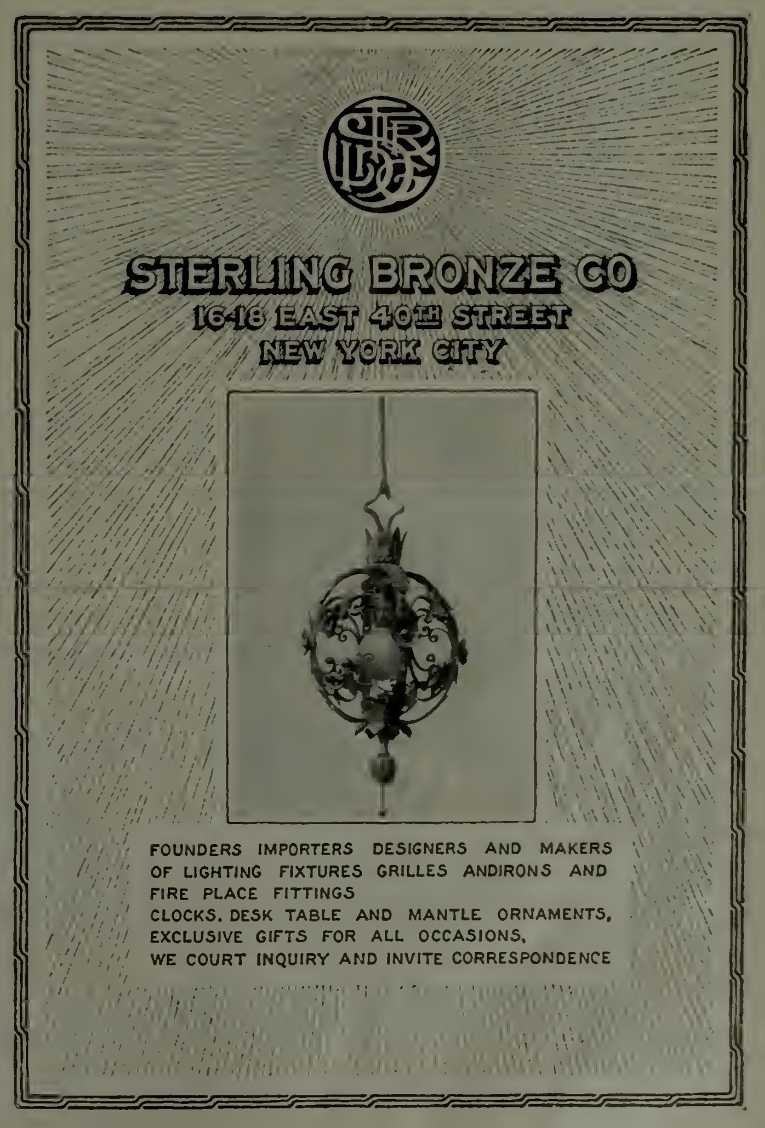

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SILVERWARE

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IT has the charm of the early *hand-hammered* silver, and a touch of individuality is given by the crest. The "HERALDIC" pattern is made not only in spoons, knives and forks, but also in complete table services, tea and coffee sets, bowls, trays, etc., etc. Now on sale at leading dealers.

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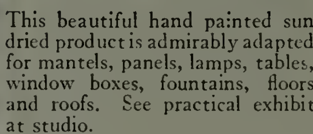

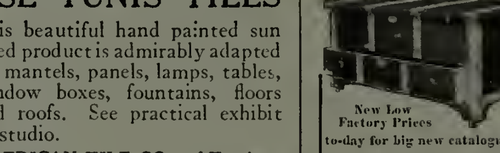

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TRADE MARK

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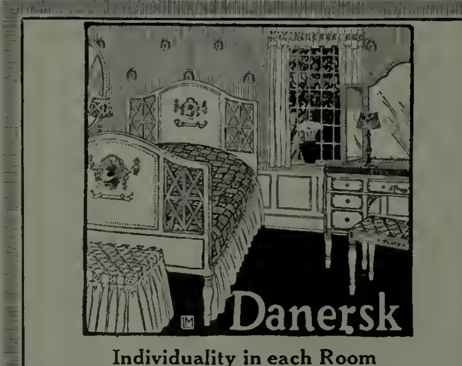

Individuality in each Room
Your choice makes up each set in harmony with any color scheme. The finish proves its unity. We are the makers from log to completed object. (That is why our designs are so distinct). We do not have to sacrifice line to commonality because we make for those who know.
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GIVES *the* ESSENTIAL TOUCH

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DESIGN "DONATELLO" IN STONY GRAY FINISH
One of many artistic pieces in our collection of pottery that will give your garden charm and enhance the beauty of plants in the house.
Galloway Pottery is everlasting hard burned Terra Cotta, made in a variety of forms, including Vases, Pots, Boxes, Bird Fonts, Sun-dials, Gazing Globes and Benches.
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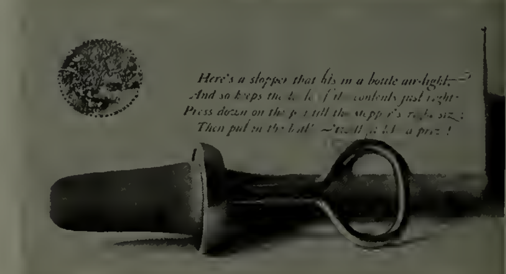
guessed, by pushing down on the handle the rubber is elongated and when the spring is released the rubber contracts and fills the bottle neck compactly; by reversing this operation the cork is as easily removed. Here is a stopper that stops. Packed in a neat box, it comes at the absurd price of 40 cents.

The postage scale shown here is another thing that will find favor with many people, and particularly those who travel and must pack frequently—a proceeding that would soon put a

more delicately constructed scale out of commission. This sensible and correct little judge of weight is strong and well balanced. It will weigh up to four pounds and shows the cost of all kinds of mail matter. This also comes packed in a pretty box with a verse and inscribed card and costs 50 cents.

Pottery bulb dishes are always timely and appreciated gifts. The Fulper glazes are so well known as to need no description, but even these are being put up in attractive gift forms that will win them new friends. Among these new designs the bowl shown here with strap effect to form two compartments is one of the best I have seen. This may be had in either mustard, matte and green flambé or blue wistaria and white flambé packed in a decorated box at $1.50.

Note the pot pourri jar at the bottom of the



column. This in warm mulberry flambé or violet wistaria comes with its delicious contents and box at $2.25. It is 4½ inches tall.

The censer at the top of the column comes in mustard matte and, with a package of incense in the box, costs $1.50. These are a few of the many things that will give delight, and your orders should be sent in early. J. C. M.

Fall Exhibit of Furniture

Now that our FALL EXHIBIT is complete, each department on our twelve spacious floors presents a wealth of practical and artistic suggestions to those contemplating the furnishing or replenishing of one or more rooms.

Whether the furnishings desired are for the mansion or the most unpretentious apartment, the magnitude of our comprehensive stock assures satisfactory selections at moderate prices.

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DREICER & Co MAINTAIN A LARGE STOCK OF PRECIOUS STONES— EMERALDS, DIAMONDS, RUBIES, SAPPHIRES. THE COLLECTION CONTAINS NUMEROUS GEMS OF MARKED INDIVIDUALITY BY REASON OF THEIR RARE QUALITY, SUPERB CUTTING, LARGE SIZE OR UNUSUAL SHAPES. MANY ARE PURCHASED IN THE ROUGH AND CUT UNDER THE SUPERVISION OF THE HOUSE—

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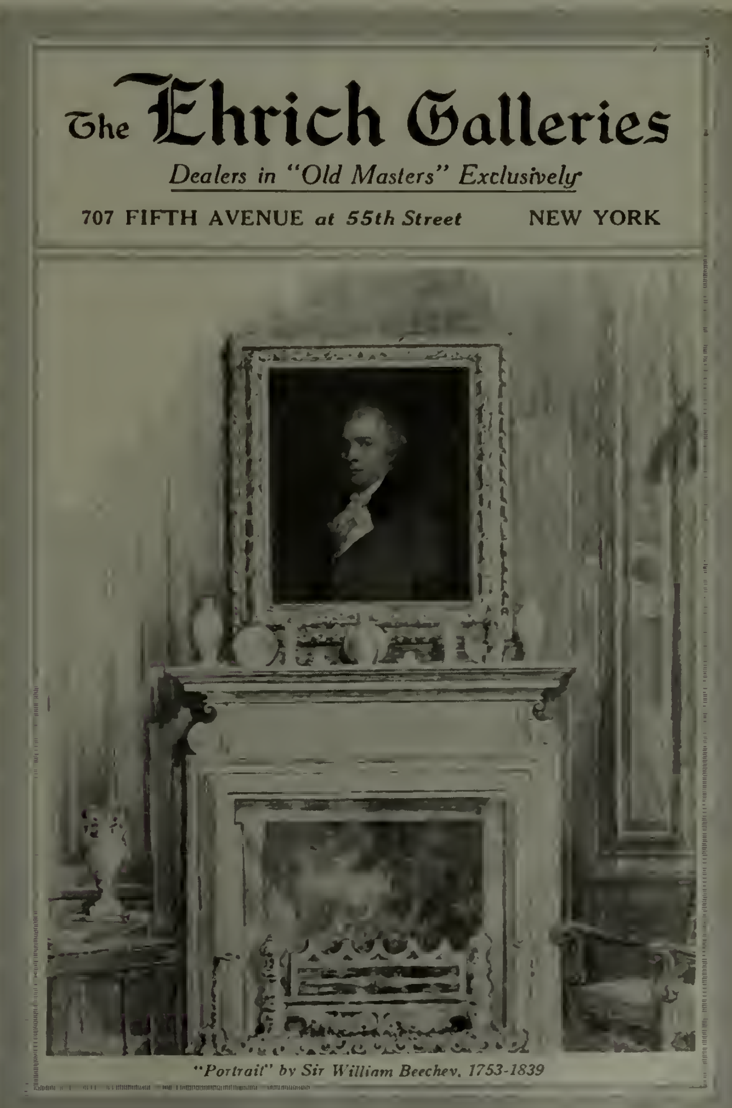
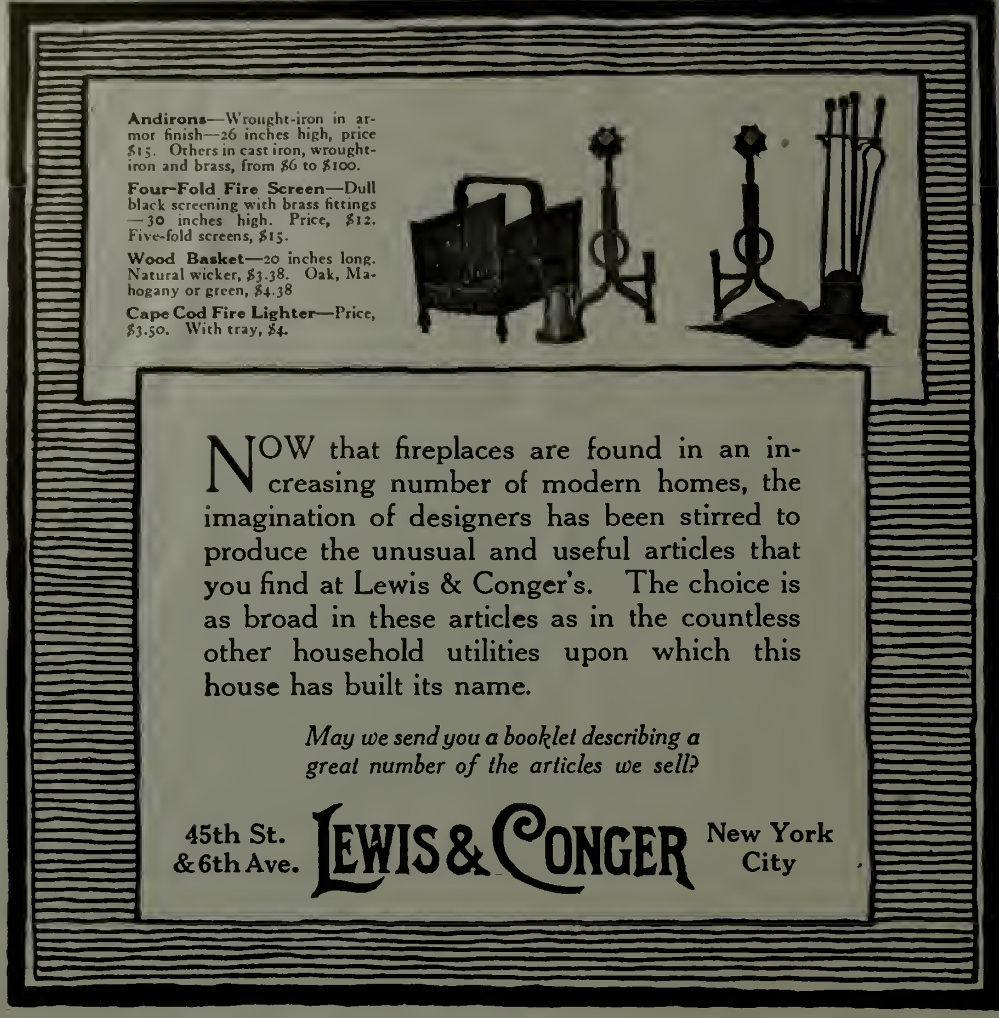
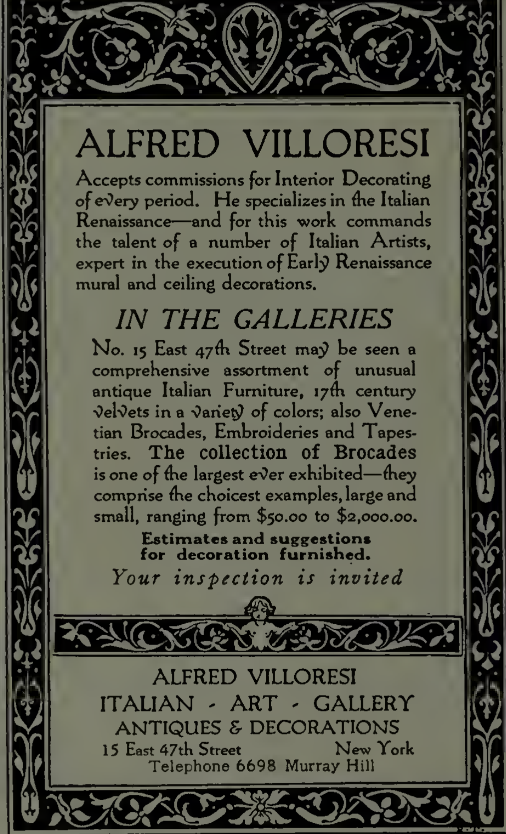


"Portrait" by Sir William Beechey, 1753-1839





If You Want Building Information

Write to the Readers' Service Department. Our wide experience with building problems and the building trades has given us a valuable fund of information. Advice and help in selecting materials and equipment, etc., will be cheerfully given free of cost.

Address The Readers' Service, Doubleday, Page & Company, Garden City, N. Y.

REWINDING AND RE-FINISHING TROUT RODS

IRST of all, if the rod has acquired a "set," or a bend at the tip, the thing to do is to remove it. I would suggest that the rod first be stripped of its windings, after which the old varnish should be scraped off, preferably with some dulled instrument like a knife, being careful not to go so deep, as to injure the outer fibre of the rod, for in bamboo it is the tenacious outer fibre that is its principal feature of supremacy over other materials. Having scraped the rod, rub it down with denatured alcohol to remove all particles, and wash it clean in cold water. Then to remove the set in the tip, attach a flatiron to the handgrasp, tie a cord to the tip and fasten the cord to the ceiling of your shop; let it hang so for three days and the set in the rod should be removed. You will now be ready to get at the windings.

The silk thread to be used for windings, or whippings, is not the common embroidery silk of the drygoods stores, but is a superior grade, far thinner, especially made for this purpose, to be purchased in any large sporting goods establishment at 15 cents the spool. This thread is exceptionally strong and durable, and outlasts all other brands.

There is a chance now to make a very fancy thing out of your rod by using various colored threads for the windings. Green and black harmonize well together; so do green and crimson; or black and orange and green. You have your choice of course. Now you must decide whether you are going to replace the windings as they originally were, or arrange them differently and in greater numbers. Remember, however, that too many whippings on a rod have a tendency to stiffen it. Measure off on your rod how far apart you want them, and how wide each shall be, mark with a soft lead pencil and you are ready to begin.

Windings on a rod are made with what is known as the "invisible ending"—that is, when you finally get through, the end of your thread is, by one method or another, pulled under part of the main windings thus completing the work. There is really nothing difficult about it, but it takes a little care. The end of the thread is laid on the bamboo, and the main thread whipped over it, binding it tight; then you carefully proceed to make your windings. When near the end a needle of small calibre is laid on the bamboo and the windings *are continued over it*. When you have as many windings as you think you need on the place in question, you thread the silk through the eye of the needle, and pull the needle through from under the windings. This done, you clip the thread down close to the main windings, and you will find it perfectly clean and successful as to termination.

Having finished a winding, cover it with a good grade of white shellac, and without allowing it time to dry, wipe it off, pressing the windings tighter with your fingers. The silk will now be protected by the shellac and it will retain its bright shade when the varnish covers it. The mistake most anglers make is that they apply the varnish direct to the silk, turning it dark. But here the shellac which has soaked into the thread guards against this, and the colors remain as bright as ever.

Continue thus over the rod's length with your windings, being exceptionally careful with the tip joint. Here the wood is very slender, and poor work will result if you are not careful. I would especially suggest that the needle be used in this difficult tip work, and the work should be done beside a window in a good light.

When the windings are completed, the rod is ready for a coating of thinned out white shellac. This can be made more fluid by heating it a little. Take a small brush, preferably of camel's hair, and go over each section of the rod carefully. When this is done put the rod away to dry for two days, when it will be ready to varish, after it has been carefully rubbed off with an oiled woolen cloth to remave any particles of dust.

Spar varnish is the best sort for this work. Poor varnish has a tendency to chip, check, and whiten, but spar varnish will not do this. The varnish should be thinned out by heat, and should be applied carefully to the rod, going over each section, using as little as possible, yet covering every inch of surface. When the rod is thus

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Mr. Wilstach has been closely associated with Mr. Dodge, custodian of the mansion for the Ladies' Mount Vernon Association, and with Mr. Lawrence Washington, now connected with the Congressional Library.

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The Rare Charm of Olden-Time Cabinetry

THE most stimulating food for thought quite often may be found in reflections of the past.

¶ Mindful of this, we can well take counsel from the masters of long ago in the selection of the furnishment of our houses of to-day—

¶ We may, for example, delve into Florentine lore and find the great Table with its robust carving of deep-hued Italian Walnut, the low Banquette with its carved stretcher in polychrome, and kindred pieces—each one graciously lending itself to the chosen scheme for our Living Room or Reception Hall.

¶ And, quite comforting to know, the quest for these silent companions of our daily life may be brought to successful conclusion by recourse to our *replicas* of Olden-time Cabinetry for the formal rooms or the Chambers.

¶ The collection includes many specially designed pieces and importations not elsewhere retailed.

¶ Half-tone Plates, giving views of interesting interiors, sent gratis and without obligation, upon request.

New York Galleries
Grand Rapids Furniture Company
INCORPORATED
34~36 West 32nd Street
New York City

completed it is again set away, and three days after, when it should be thoroughly dry, it is ready for the second coat.

Before putting on the second coat it is a good idea to go over the first coat very lightly, with powdered rottenstone, or pumice, and water, being careful not to rub through the varnish. The rod should be carefully dried, and when dry, the second coat is brushed on, after which it is again set away. This is the finishing coat, though some believe in adding a third one. Two coats should be quite sufficient, however.

It is during the winding process, of course, that you replace the guides of the rod, and these have to be carefully whipped in. There is a chance here to substitute agate lined guides for the metal reel guide and the off-set tip guide, which is advisable, as it improves casting ability and saves the line, for the common metal guides have a tendency to eat into the best of enameled lines.

Lastly, give your rods, the split-bamboo sort, either bait-rod or fly-rod, a coat of varnish now and then. During the winter when you have them stored away, two thin coats of varnish will repay you.

Robert Page Lincoln.

A NEW KIND OF NEST

A NEW kind of nest has been installed in the long laying house of Rev. Samuel Knowles, a prominent Massachusetts poultry keeper, and is considered a great improvement over the nests generally used. It is simple in construction and consists of a large, narrow box fastened to the wall. A drop door extends the whole length of the front except for a square opening at each end large enough for a hen to pass through easily. This door is opened

The nest with drop door closed, as it is when in use

The door open, showing hens on the nest

only when the eggs are gathered. The peculiar feature of the whole arrangement is that the box contains no divisions, be it five feet long or fifteen. A hen entering at one end is able to walk through the entire length and emerge at the other end. In practice, it is found that the different hens make their own nests in the straw or hay with which the bottom of the box is covered, and that there is never any quarreling. When nests of the common type are used, there are constant bickerings and several hens often crowd into one small box, with the result that eggs are broken and nests soiled. All this trouble is done away with in the new type of nest box, and while the eggs may be gathered quickly and easily, the nests are dark enough to satisfy the hens and preclude the danger of egg-eating habits being formed. Moreover a nest of this sort is quickly cleaned and protected against vermin, and can be constructed by almost anybody who is at all handy with tools.

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GOLFLEX

——a flexible knit fabric, soft and supple with a fuzzy, moisture-defiant finish—the sort of cloth that's used for men's English golf coats.

Golflex Suits are tailored with a trim hang to the skirt that tops the walking shoe. The belted, patched and buttoned coats are tailored to give the "outdoor silhouette" — essentially smart, essentially easy.

There's a style for every outdoor function—in greens, grays, blues, browns, reds, rose, gold, yellow, purple, navy, black, white and blended heather mixtures.

Golflex Suits range in price from $25.00 to $100.00. At all leading stores and specialty shops. Look for the Golflex label in every Golflex Suit.

FREE—"The Golflex Booklet" illustrates with front and back views the authoritative outdoor styles for the Fall and Winter of 1916-1917. It will save you many a weary shopping trip if you first select your styles from this book and then see the actual style at your favorite shop. Send for your copy to-day—it's free.

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GOLFLEX Suits are sold through Retail Stores only

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fabrics can still be had by insisting upon

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DRAPERIES *and* UPHOLSTERIES

Wonderful weaves and colors in many patterns and grades—every one absolutely color-fast.

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Announce their removal to

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Your Washing Done for 2c a Week

Electric or Water Power Will Do the Work

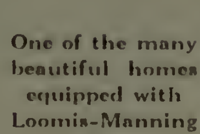
I have built a new "1900" power washing machine. I consider this machine the most wonderful washer ever put on the market. Tub built entirely of high quality sheet copper, it is the strongest and most durable machine made. It is constructed on a brand new principle and I will guarantee that this machine will not tear clothes, break buttons or fray the edges of the most delicate fabric. It will wash everything from heavy blankets to the finest lace without damage to the goods.

This new "1900" washing machine can be connected with any electric socket instantly and is started and stopped by a "little twist of the wrist" and it will do your washing for 2 cents a week.

I also make a lighter power machine which can be run by water or electric power. On most of these machines the motor will run the wringer too. Just feed in the clothes and this power wringer will squeeze the water out so quickly and easily you will be astonished. It will save 50% time, money and labor every week. The outfit consists of washer and wringer and either electric or water motor, as you prefer, and I guarantee the perfect working of each.

I will send my machine on 30 days' free trial. You do not need to pay a penny until you are satisfied this washer will do what I say it will. Write to-day for illustrated catalogue. Address H. L. Barker, 6298 Court St., Binghamton, N. Y., or if you live in Canada, write to the Canadian "1900" Washer Co., 355 Yonge St., Toronto, Canada.

Clean, safe, freshly-filtered Water



One of the many beautiful homes equipped with Loomis-Manning Filters

Loomis-Manning Filters

have become an essential part of every residence.
Why not have beautiful, clean water in your home?
Bathe in sparkling, refreshing water.
Have your dishes washed and your food prepared in water you know to be clean and safe.
Use filtered water in your laundry and the linen will be free from that yellow stain.

Clean, Safe Water an Essential

It is as important as pure food. You are only taking partial precaution if you pay little attention to the water used for household purposes.

Almost all waters can be improved by efficient filtration; and for those "perfect" waters, a filter provides a safeguard against possible accidental pollution—a condition which has so often occurred.

People have told us, "I put in your filter as a precaution but am amazed to see the dirt and other matters it takes from our water supply which we considered practically perfect."

You can have attractive, dependable freshly-filtered water for every purpose in your home because discoloration, odor, taste, iron stain, danger from water-borne disease can all be removed from every drop of water entering your home by a Loomis-Manning Filter.

The Filter Is Easy to Install and Care For

It can be easily installed in any house either built or building. The largest part will go through any ordinary doorway. Attached to the water main, every drop of water passes through the filter with no appreciable loss in flow or pressure. The water system is not disturbed in any way. The filter operates splendidly under city pressure, pressure from elevated or pneumatic tank or any system of water supply.

A Loomis-Manning Filter is free from complications and the simple care can be given by anyone. Does not require expert attention.

The finest construction — most durable and efficient. Several sizes to meet large or small requirements.

Send for Catalogue and Booklet.

The best solution for Water Troubles—Hot or Cold

Loomis-Manning Filter Distributing Co.

Established 1880 **1441 South 37th Street, Philadelphia, Pa.**

TO PARENTS

If you wish your children to have wider opportunities and a more valuable school training than you yourself enjoyed, you will be interested in "THE AMERICAN SCHOOL" by Walter S. Hinchman, a master in Groton School. A lucid and high-minded discussion of the problems that confront parents and teachers.

A line to your bookseller or to the publishers will bring a copy with bill. Net, $1.00.

DOUBLEDAY, PAGE & CO., Garden City, N.Y.

Brass or Bronze Work of a Special Nature

Be it a Nameplate, Sun Dial, a Bronze of your favorite Dog, or anything of a metal nature, we will make it, carrying out your ideas or those of your architect or builder.

We are called upon to execute this sort of work for the most prominent hardware concerns in the country, and have executed work for the Henry C. Frick residence, the Frank A. Vanderlip Estate, and others.

We will be pleased to advise with you and would suggest that you send for our booklet outlining our service and work.

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Artistic, Cozy Shingled Houses

No other outside finish is as artistic, as adaptable or *as warm* as shingles, or is susceptible of such varied and picturesque coloring. Shingles cover the surface with three air-spaced layers that keep out the cold, and when colored with the rich, velvety tints of

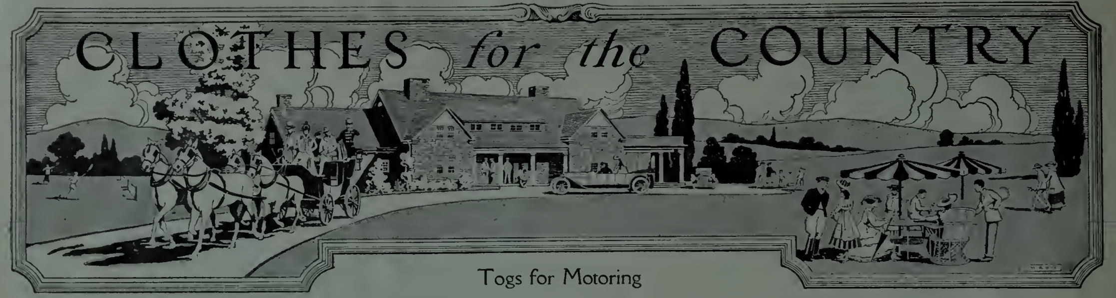
Cabot's Creosote Stains

they have a beauty of tone and texture that no other finish can rival. Thirty years' use has demonstrated their lasting qualities, and the creosote thoroughly preserves the wood.

You can get Cabot's Stains all over the country. Send for stained wood samples and name of nearest agent.

SAMUEL CABOT, Inc., Manfg. Chemists, 147 Milk St., Boston, Mass.
24 W. Kinzie St., Chicago **525 Market St., San Francisco**

Stained with Cabot's Creosote Stains
Charles M. Hart, Architect, Bay Shore, N. Y.



Togs for Motoring

THE inconsistencies of the present day amaze and amuse even the feminine world. No sooner do we read in the daily papers that "dye-stuffs will be dear and scarce; leather will advance two-fold in price," than we are confronted by a blaze of brilliancy in color in woman's apparel—not thought of last season—and a prodigal display in the use of leather.

Despite these predictions, leather is to be used in many of the smartest sports suits, coats, and hats this fall. The winter coats and hats are in a fine flexible kid, most attractive and becoming.

A double-faced material, new and effective, is being used by a well known firm. It is soft kid outside, while the lining is a fine cravanette, which makes the pontine cloth waterproof.

The combination of colors is bewildering in its variety—a startling, deep purple kid facing has a brilliant canary colored cloth lining; a bivouac red has a black lining. There are many other combinations, such as brown and green and blue and black. A stunning gray leather coat is lined with black, with black leather collar and cuffs. With this coat is worn a gray and black plaited skirt, quite full, and as short as the liberal-minded arbiter of fashion can make it, despite the cry from Paris of longer skirts. High gray leather boots and a toque in gray leather, trimmed with a fantasy of brilliant scarlet embroidery on the crown, finished this smart costume.

Another effective coat is in invisible green glazed leather, lined in a golden brown satin, with a high rolling collar and cuffs of the golden brown kid. The coat is cut in smart lines and is loosely fitted.

A skirt in a soft green cloth is worn with this coat; and the hat, of the same green kid, has a band of the brown kid and a smartly made bowknot of the same just in the centre of the crown. The shape of the hat is a modernized Tam o' Shanter, most comfortable for motoring, and snappy in appearance. High laced tan boots complete the costume.

A black kid coat is also alluring. It is more elaborate than the foregoing and is trimmed with bands of the same leather, with double stitched seams. It is lined with white satin and has a white leather collar and cuffs.

With this coat is seen a white serge skirt. A close fitting white velvet toque with black leather trimmings. White leather shoes with low flat heels. Heavy, white, washable kid gloves. This suit may be worn for trap shooting which is a fad of country club life to-day.

LINDSAY GLEN
Of Country Life in America Advertising Department's Service Bureau will be glad to furnish further information or purchase any of the articles mentioned.
Address 11 West 32nd St., New York

Sports coat in green glazed leather—Collar and cuffs in brown kid—smart and effective for motoring or hiking

EVER since the Dark Ages, man has looked upon the use of leather in the construction or adornment of his wearing apparal as a prerogative of his own. Fashion may decree the use of some newer material, or put forth various models to tempt him to change the lines and cut of his sports clothes, but it is a waste of time unless some more appealing point than mere appearance is brought forth.

The manufacturers know this obstinacy and, in producing the motor coat for this season, have followed the edict which pronounces leather the desirable material for sports coats and caps, yet have made a coat which is serviceable and comfortable. This new model may be termed two coats in one, being a leather reversible with gabardine. It can be worn with either side out. The coat is full and comfortable and is double-breasted, with a collar which may be used high or low, as desired. It comes in a soft brown leather, the reverse side in a mixed black and gray gabardine, with ample military pockets, and coat belted in the back. It combines a handsome appearance with comfort and iron wear, as it is dust and rain proof.

Another coat in leather is a short sports coat, made to put on after a game of golf, for the spin home over the country roads in the chill of the fall evenings. The cut is good, the lines being straight, with great width across the shoulders and upper sleeve to give freedom to the arms should the wearer desire to drive the car.

Leather vests too are seen, lined with flannel for warmth. These are worn under the sports coat when an overcoat is not desired. These vests come in brown leather bound with silk braid, and have small fancy buttons.

HATS AND CAPS

A new cap for motoring is in Persian lambskin, finished on the flesh side of the pelt, which gives it a peculiarly fine appearance. The cap has a wide visor and a narrow flap which, when turned down, fits closely over the neck and ears. This cap is in the same shade of brown as the reversible leather coat mentioned above, and is made to be worn with it.

A soft felt hat, in brown, is the most serviceable unless the run be long enough to admit of the hat box, which fits in the extra tire rim and has a compartment for a hat for a man, and one for a woman—the solitude of a motor run a deux permits the use of a cap for comfort and is seldom decorative—this makes a decent hat for "de training" at some wayside inn for a "bite" an absolute necessity.

A glorified Tam o' Shanter in brown leather trimmed in dark green kid—to be worn with coat in illustration

Motor cap in Persian lamb, finished on the flesh side of the pelt—firm and flexible kid in a soft brown color—and sports hat in brown felt, new fall model

B. Altman & Co.

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The illustration shows a section from our Decorative Department, which is replete with ideas for those desiring correct treatments for interiors.

Item	Price
Ritz Day Bed enameled in any desired color with contrasting stripe to harmonize with decorative requirements, price without spring or mattress	$30.00
Upholstered Box Spring to fit	15.00
Hair Mattress, well tufted	25.00
Spring and Mattress made up in any decorative fabric desired at an extra cost dependent upon material selected	
Round, hard filled floss rolls, diameter 7 inches to fit bed, each	2.25
Cretonne covering extra according to material used	
Kidney Table colored to match Day Bed	15.00
Martha Washington Sewing Table covered with imported cretonne, glass knobs	17.50
Ladies Solid Mahogany Writing Desk	48.00
Mahogany Desk or Dressing Table Chair, rush seat	18.00
Natural Willow Side Chair, without cushion	6.75
Natural Willow Arm Chair, without cushion	7.25
Round French Pillows, diameter 17 inches, soft silk coverings, silk floss filling; rose, green, light blue, gold, yellow, tan, brown, pink and cream, each	3.50
Cretonne Waste Paper Basket, strongly made, trimmed with metal galloon	3.50
Glass Flower Vase, cretonne bottom finished with metal galloon, 12 inches high	.75

ILLUSTRATED BOOKLET ON REQUEST

McGibbon & Co.

3 West 37th Street New York

TABLE DELICACIES

A Novel Wedding Gift

ANN REMSEN

CHATTING over the joys of a new country home with a young bride of a few weeks, she enthusiastically spoke of a gift from a charming housekeeper, and one quite in the know of country house needs, in this age when invasion by air, sea, or land cannot be timed as in the day when two trains a day were alone to be counted on. This gift was the stocking of the store room with a complete, well selected, and luxurious list of homely but useful necessities—but after all the only difference between a necessity and a luxury is the getting used to it. This is the "raison d'être for the appealing sauces, pickles, and condiments which give a fillip to the flavor of plain dishes.

The store room itself was done in white, with a hygienic concrete floor. The shelves were covered with glass which made cleanliness a simple matter. In neat little rows stood the jars and tins of strange luxuries and plain necessities, which made the unheralded guest a pleasure and never inopportune.

Among the glass jars the eye caught one of chicken roasted in aspic, one of sweet breads *à la financière*, ox tongue, boned game for cold dishes stuffed with the *foie de gras*, and truffles in jelly, *pâtés de volaille* for luncheon for the aviator or automobile guest and a small row of soups for emergencies, imported in glass. Consomme Julienne and *potage*

A Cook Book for Every Home

Practical Cooking and Serving

By JANET MACKENZIE HILL

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In this book recipes are given for simple, every-day dishes, and for such as are in demand for the most formal occasions.

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FURTHER information about the products mentioned in this article will be sent upon request, address Miss Ann Remsen, care of Country Life in America, 11 W. 32nd St., N. Y.

[illegible] were provided for the dinner [illegible], and I saw a jar of herring filets in oil, many fish in tomato sauce, a jar or two of caviar, one or two tins of French peas, and one or two tins of mushrooms.

Another shelf had a gallant array of jellies, jams, marmalades, and pickles, while a few bottles of sauces were added to the shelf, for just the touch of a sauce often disguises a plain home dish. It gives a foreign flavor as well as a foreign name. A beef roulette for instance sounds more appealing to a difficult appetite than a plain beef roll.

BEEF ROULETTE

Have two pounds of the upper part of the round cut very thin. Mix together one cupful of finely chopped ham, two eggs, one teaspoonful of mixed mustard, a dash of cayenne, and three tablespoonfuls of stock or water. Spread upon the beef, which roll up firmly and tie with soft twine, being careful not to draw too tightly, for that would cut the meat as soon as it began to cook. Cover the roll with flour, and fry brown in four tablespoonfuls of ham or pork fat. Put it in as small a saucepan as will hold it. Into the fat remaining in the pan put two finely chopped onions, and cook until they are a pale yellow; then add two tablespoonfuls of flour, and stir three minutes longer. Pour upon this one and one half pints of boiling water, boil up once, and pour over the roulette; then add two cloves, one fourth of a teaspoonful of pepper, and one heaping teaspoonful of salt. Cover the saucepan and set where it will simmer slowly for three hours. After the first hour and a half, turn the roulette over. Serve hot with the gravy strained over it. It is also nice to serve cold for lunch or supper. Ham force-meat balls and parsley make a pretty garnish.

CHEESE DRESSING

One quarter of a pound of Roquefort cheese and two tablespoonfuls of thick cream mixed to a smooth paste; stir in little by little, enough olive oil to give the consistency of mayonnaise; season with tarragon vinegar, salt, and pepper. This is especially good for vegetable salads.

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The healthy toiler who is properly nourished is not trying to see how little he can do for his wages. He drops his work when the whistle blows with the satisfaction and pride of having put in a full day's work. Health for the toiler with hand or brain comes from an easily digested food that is rich in muscle-building, brain-making material.

Shredded Wheat

is the most perfect ration ever devised for men and women who do things, because it contains the greatest amount of body building nutriment in smallest bulk, with the least tax upon the digestive organs. It contains all the body building material in the whole wheat grain, including the bran-coat which is so useful in keeping the alimentary tract clean and healthy. It is the favorite food of the outdoor man and the indoor man.

Two shredded wheat biscuits with milk or cream for breakfast will supply all the nutriment needed for a half day's work or play. Also deliciously nourishing for any meal when served with sliced bananas, baked apples or other fresh or preserved fruits.

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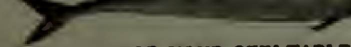
Salt Mackerel

CODFISH, FRESH LOBSTER

FOR YOUR OWN TABLE



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KAFIR AND MILO FOR CHICKENS

THE chicken raiser to-day is face to face with high-priced grains. It is a time when cost is especially considered. Any feed of proved value whose cost is even slightly less, is being eagerly sought. Kafir and milo have been called to the attention of most poultrymen, but even in sections where those grains can be had regularly there is a strong tendency on the part of poultry raisers not to use them. A poultryman who lives near a leading Southwestern poultry market—just on the border of the kingdom of kafir and milo—remarked: "No, I don't use kafir and milo. I stick to standard grains and don't try out any new-fangled ideas of feeding." This man certainly was behind the times when he placed kafir and milo in the list of unproved grains for poultry feeds. They long ago passed the experimental stage. Even corn and wheat have been largely retired in their favor in the Southwest for feeding poultry, by growers who have once tried them.

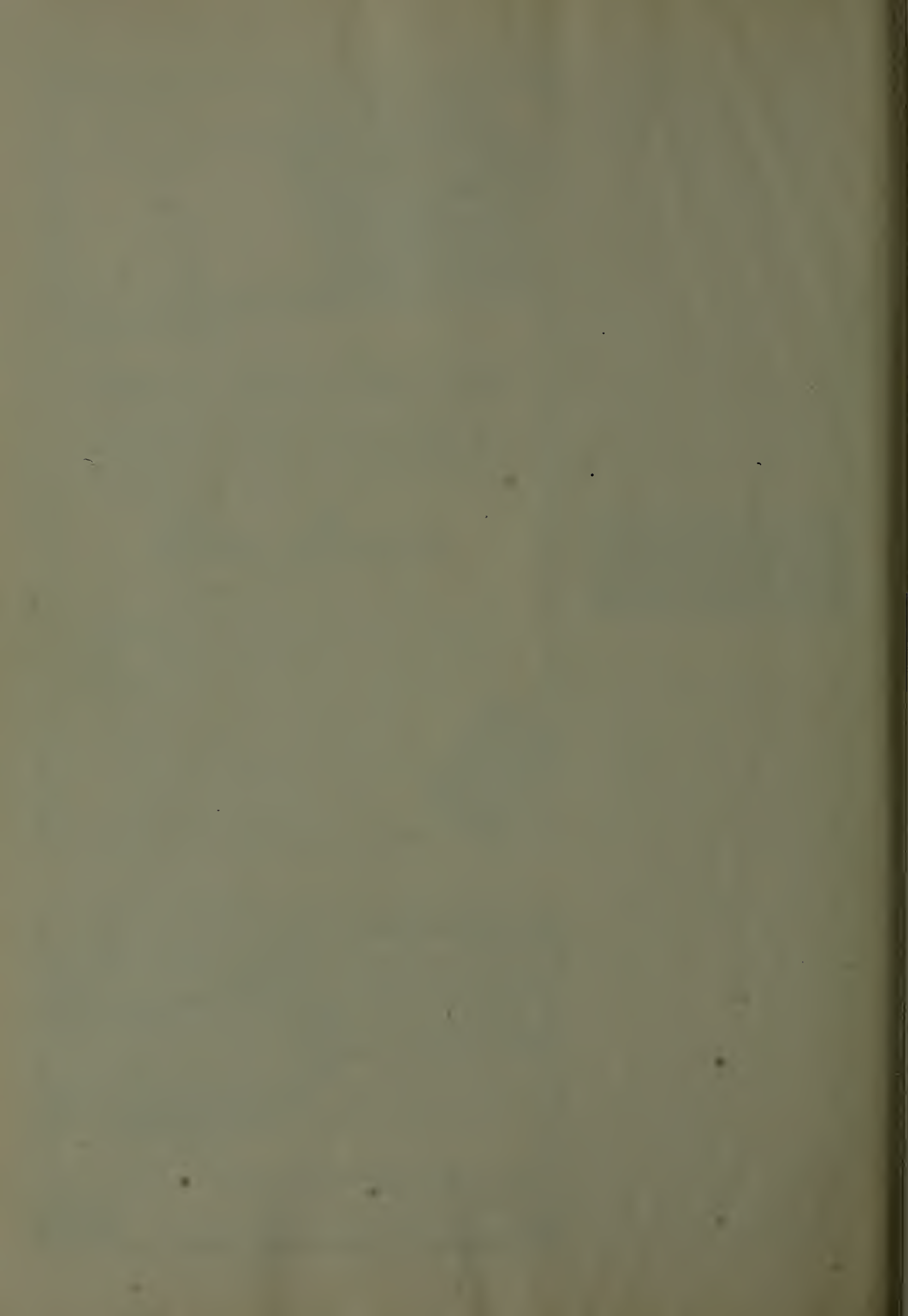
Let us look further into the case of the doubting poultryman. At the time he made his statement, he was paying 16 per cent. more for corn than kafir was selling for in his market. Thus, if he had used kafir and milo he would have saved that amount unless, of course, it should be true that the latter grains have a lower feeding value for chickens than has corn. Kafir and milo are not deficient, as attested by the demand for them. In the leading large markets, in the East as well

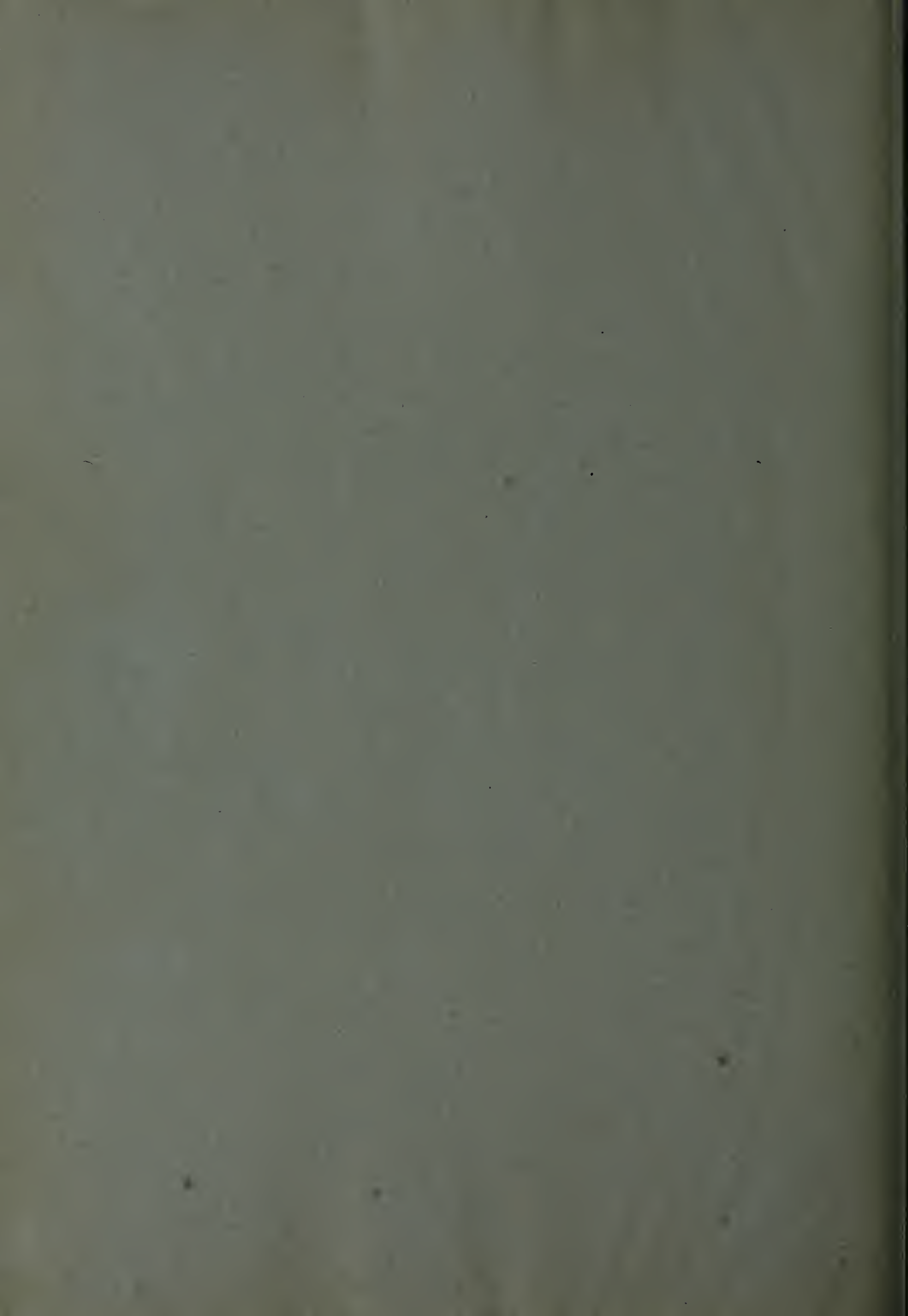
Kafir long ago passed the experimental stage as a chicken feed. The acreage of it in the Southwest has at least doubled during the past five years

as in the Middle West, every ounce of No. 2 and No. 3 kafir and milo offered is scrambled for by the poultry feed manufacturers and others, and even the No. 4 grade and the rejected grain generally finds ready sale. Why such a demand? Because the manufacturers have learned the value of those grains for growing chickens as well as for laying hens. They consider kafir and milo as standard ingredients of poultry feed and often pay higher prices for them than for corn. An excellent illustration of the high repute in which these grains are held was afforded in the years of short kafir and milo crops in 1909 and 1913. Many poultry feed manufacturers imported from China and India similar crops because they had to have them! In chick feeds many manufacturers are displacing corn as fast as kaffr and milo are available for use in its place.

Also, many poultrymen who mix their own feeds for their laying and breeding flocks consider kafir and milo more desirable grains than corn. As an example we may consider those of the Eastern part of the United States, especially New England, where poultry farms are more common than are cotton fields in the South. Many feeders there pay as high as $2.35 per 100 pounds for kafir and milo, even when those grains are selling for much lower prices in the Southwest. But, why do they feed them? Simply because experience has taught them that kafir and milo are excellent egg producers, superior to corn in this respect; and, furthermore, that the birds remain healthier than when fed corn. It is the chicken raiser who has high egg production in his flocks, who insists upon having kafir or milo; he is willing to pay any price within reason for these grains.

It is true that hitherto there has been but a relatively small production of kafir and of milo, and that the supply in the larger markets during most of the year has been unsteady. This supply has generally been greatest in December and January. Purchases made in the former month have generally been much cheaper. By February, kafir and milo have generally been procurable but the prices have extremely high. During other months buyers have found it difficult if not impossible to purchase these grains.





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