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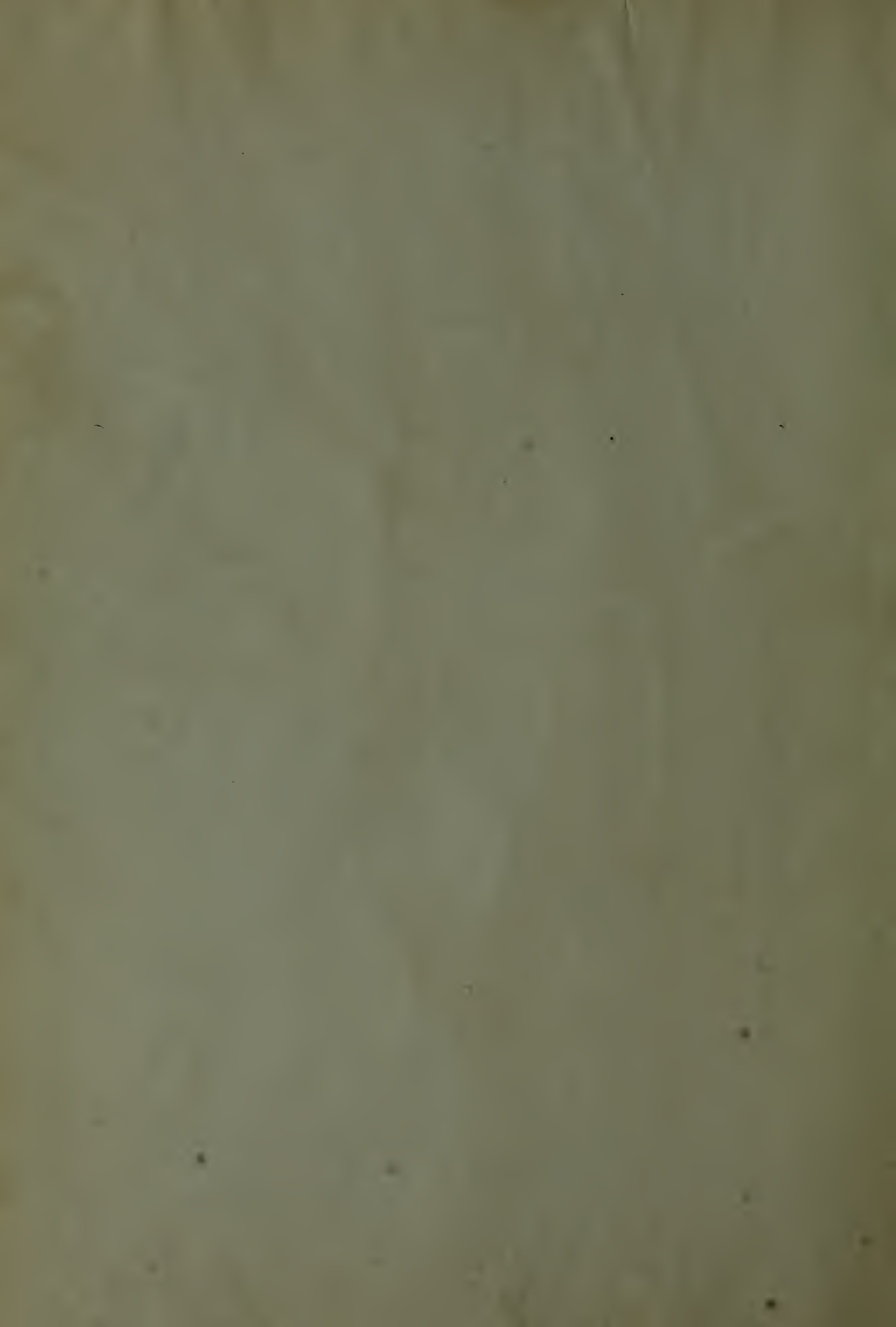

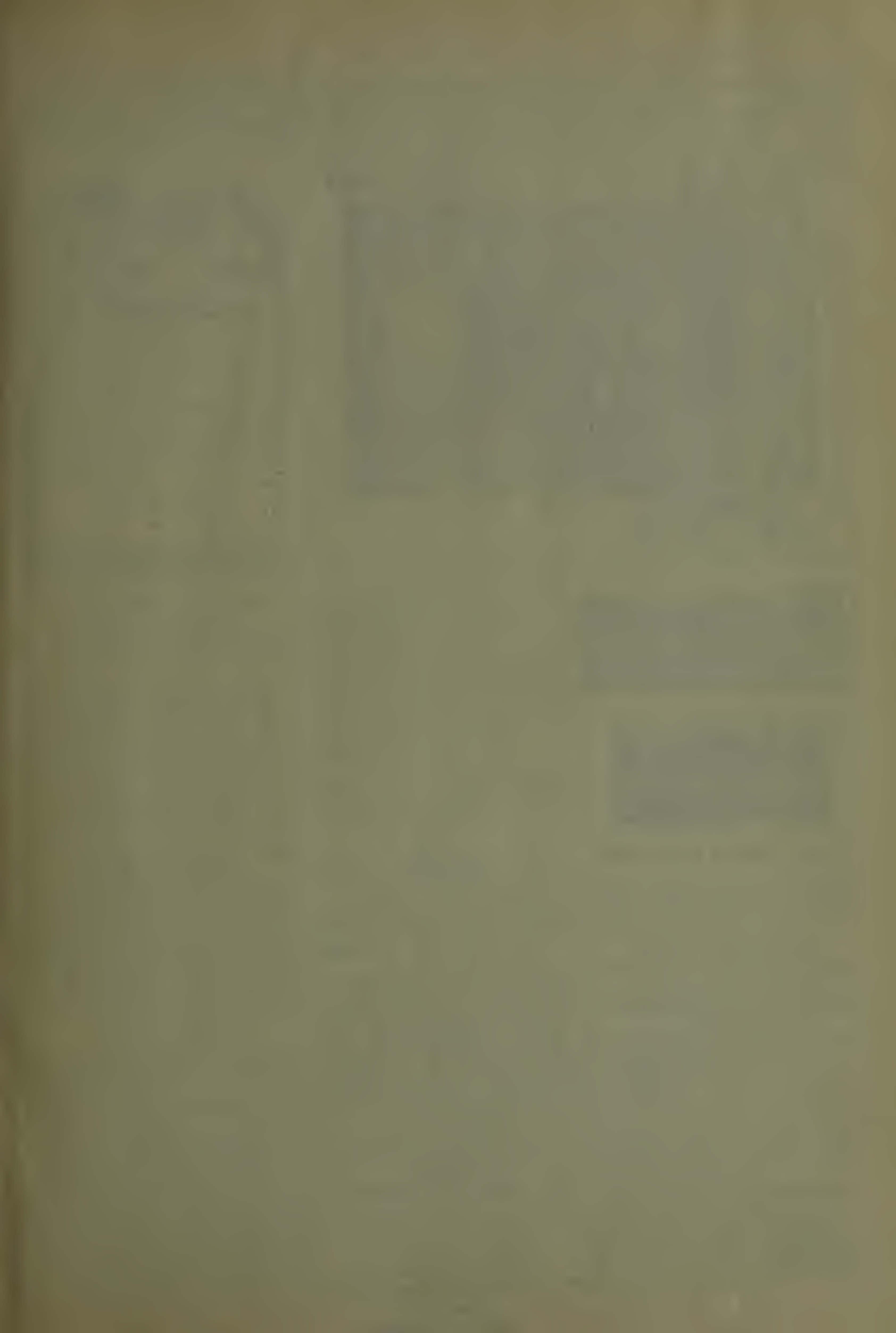

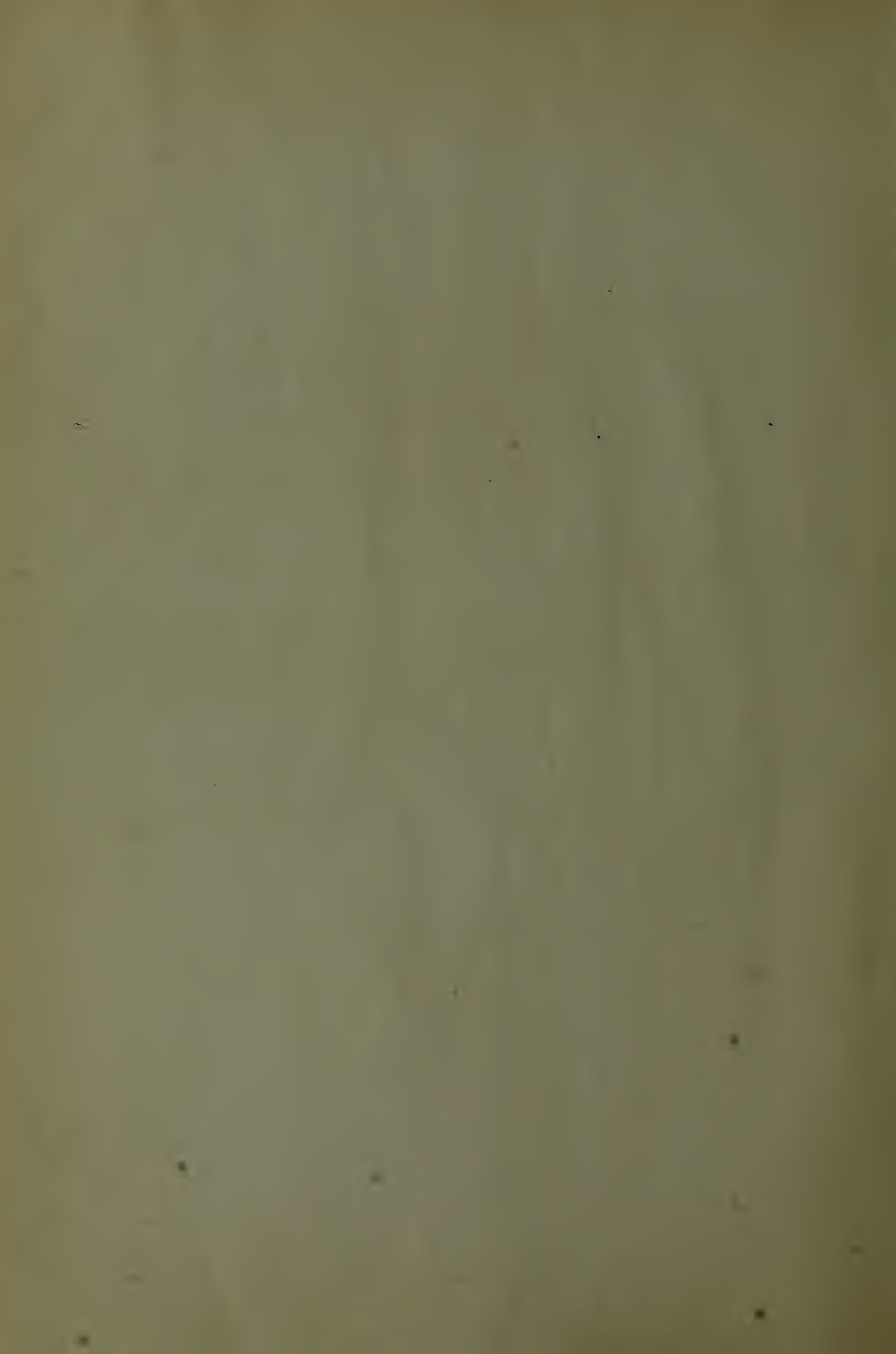

THE ARCHITECTS' DIRECTORY

In this directory are printed announcements of architects, landscape designers, sanitary and construction engineers. For information concerning professional services in these lines, apply to READERS' SERVICE, The New COUNTRY LIFE, Garden City, N. Y.

Dairy Barn Architecture

YOU, who recognize the importance of correct scientific and sanitary construction of the dairy barn, will find a great deal of interesting information in H. G. Lotter's new book

The Modern Dairy Barn

This book pictures many of the country's most modern dairy barns, contains much valuable information and explains how easily you may retain the services of one of America's foremost architects, specializing in sanitary construction for stock and dairy farms.

The book will be sent gratis, on request, to those interested. Address

HENRY G. LOTTER
Architect
Milwaukee Wisconsin

POSITIONS WANTED

By experienced estate superintendents, farm managers, head gardeners, etc.

OPPORTUNITY to enter into active business relations as Vice-president and Treasurer of an established $100,000 orchard corporation. 15,000 trees planted, 6,000 full bearing. Plans for a cold storage and cannery adjunct are being made. Here is a clean, healthful, permanent place with large business booked and an unlimited future. References given and required. $14,000 will purchase half control. $10,000 cash, balance from profits. Salary $3,000 with advancement. Address Staple, Box 832, Care of Country Life, Garden City, N.Y.

POSITION WANTED

as Farm or Estate Manager by an educated middle aged man, 44 years old, married, no family. Life experience with the better class of Farms and Estates, understands thoroughly the care and raising of horses, cattle, calves, hogs, poultry, incubators, raising of all kinds of farm and garden products, flowers, fruits, grapes, etc., on a large scale. Greenhouses, hotbeds, etc.; all kinds of machinery; everything pertaining to a large Estate. Handling of Help to the best advantage; Bookkeeping, etc. Was for 13 years Superintendent of a large institution and am still in the same capacity. Am desirous of making a change and can furnish excellent references. Will not consider any proposition with a salary of less than $1,800 per year to start, with house, etc. Address Box 804, care of Country Life, Garden City, Long Island.

WANTED

A position by an experienced poultryman. 20 years' practical experience. Good references given. A gentleman's place preferred. Address C. James Kelley, Dalton, Mass. P. O. Box 692.

UNIVERSITY student desires position driving a car during vacation, June, July and August. Five years' experience and am strictly temperate. Box No. 826, care of Country Life, Garden City, New York.

The New Country Life Readers are looking for desirable properties

Manager Real Estate Department.

If you intend to build and wish your new home to be expressive of your own individuality and different from the commonplace, you will be interested in my proposition in regard to special sketches and in the two publications described below.

"COLONIAL HOUSES" containing floor plans, perspectives and descriptions and estimates, with new Designs for 1917. Price by express prepaid $2

"STUCCO HOUSES" containing perspectives, ⅛ in. scale floor plans, and showing designs suitable for this imperishable construction. Price by express prepaid $5.

In ordering give brief description of your requirements and they will have earnest consideration. Plans furnished for the alteration of old buildings to the Colonial and Stucco styles. Fireproof dwellings a specialty. Address

E. S. CHILD, Architect, Room 1017, 29 Broadway, New York City

DO YOU WANT TO BUY A YACHT?

Over 200 Yachts are Listed For Sale in the March, 1917, Fitting-Out Number of THE RUDDER—Steam Yachts, Schooners, Yawls, Sloops, Cats, and all types of Power Yachts from Seagoing Cruisers to 15-ft. Power Tenders. It contains a 16-page Art Section, 120 pages on Fitting-Out Plans, Cruises and Stories.

Handsomely illustrated throughout. Price 25 cents.

Order from your Newsdealer, or address THE RUDDER 254 West 34th Street New York City

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FOR HOME, FACTORY AND INSTITUTION

Sewage Disposal Designed by an expert to eliminate the cesspool. Thorough in construction, absolutely odorless, self-operating, permanent and inexpensive. Costs Nothing to Operate.

Our booklet No. 2 tells all about it.

ATEN SEWAGE DISPOSAL CO., 286 Fifth Ave., N. Y.

FOR SPRING BUILDING (OR REPAIRING) USE

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The Complete Development of Country Estates is Our Specialty

Frederick N. Downer, Engineer and Architect
Painesville, Ohio

Located in the heart of the finest residence district of the Western Reserve.

O. PERRY SARLE, *CONSULTING ENGINEER*
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Water Supply, Sewage Disposal, Land Drainage
Piers, Sea Walls, Shore Front Protection
Topographical Surveys; Lawns and Drives

Farm Buildings—Brookville, L. I. *Alfred Hopkins*

"Modern Farm Building" By ALFRED HOPKINS Architect

How to build practical, sanitary and artistic farm buildings is shown in the pages of the above volume, which deals in detail with the construction and arrangement of the garage, farm barn, horse stable, cow stable, sheep fold, ice-house, dairy, chicken houses, piggeries, etc. ***Second edition, just out.***

Illus. 7½ x 10 *in.* $2.50 net, postage 20c.
The book may be purchased direct from the author

ALFRED HOPKINS, Architect, 101 Park Avenue, N. Y.

BUILDING PLANS
At Lower Prices

WE will now make plans and specifications according to *your* ideas for 1¾% of building cost (instead of regular 2½% for same service as by all architects). Includes preliminary sketches, 2 sets blueprints, 2 sets specifications.

Plans including preliminary sketches and 2 sets of blueprints for 1% of building cost.

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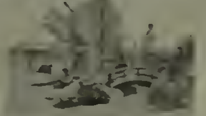

T. R. OTSUKA, 300 South Michigan Ave., Chicago, Ill.

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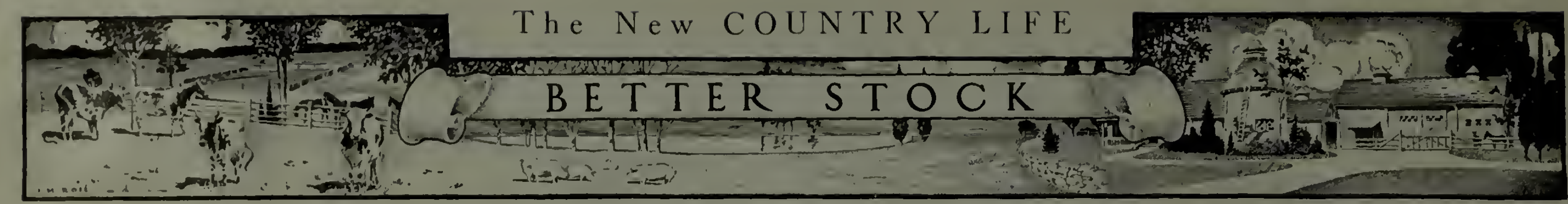


NEWS *of the* BREEDS *and the* BREEDERS

COMING SALES

Guernseys—The entire Elmpines Herd, owned by Mr. J. G. Sherman, Greenwich, N. Y., and headed by Imp. Fanny's Sequel, will be sold May 12th. Imported and home bred females and a son of Landwater Stars and Stripes are included.

Florham Farm, Madison, N. J., announces an auction sale of Guernseys for Thursday, May 17th, to be conducted by Leander F. Herrick. Both home-bred and imported animals will be offered.

The Chestnut Hill Farms Herd, will be sold at Youngstown, O., on May 19th, and the Maplehurst Farm Guernseys owned by the Geo B. Tallman Estate, West Grove, Pa., on May 22nd.

Berkshires—Elmendorf Farm of Lexington, Ky., will dispose of the rest of its herd, consisting of sixty sows, gilts, and a few boars at public sale in June. This is an opportunity to get hold of representative animals that hitherto have been available only at private sales.

Jerseys—On May 3d, the day after the annual meeting of the American Jersey Cattle Club in New York City, Mr. Edmond Butler of Guard Hill Farm, Mt. Kisco, N. Y., will hold his first annual auction sale of imported Jerseys, totalling more than 100 head. Sunray's Son, who won first prize over the Island of Jersey in 1916, is at the head of the string. On May 28th, Mr. W. R. Spann will make his annual offering of choice Island stock. Decoration Day will bring around another noteworthy Cooper Sale at Coopersburg, Pa., also of imported cattle.

On account of the war and its effect upon the Island, where the herds have been seriously depleted because of the scarcity of feed, it is highly probable that it will be some time before any more importations of Jerseys are made to this country.

1917 Holstein-Friesian Prizes The schedule of prizes to be offered in 1917 by the Holstein-Friesian Association of America, designates seventy-nine fairs in forty-two states as recipients of various trophies and premiums. The National Dairy Show at Columbus, Ohio, is to receive $1,500 in cash. Interesting features of the schedule include prizes offered for dairy butter and cheese made from the milk of registered Holstein-Friesian herds, and for exhibits of milk and cream. A recent resolution adopted by the Board of Directors of the Association provides that prize money be paid only if certificates of registry establishing identity, and transfers showing ownership of contesting animals, have been presented and proven at the time of showing the animals. The pamphlet giving this data lists also the forty-five judges for Holstein-Friesian cattle designated for the 1917 show season.

Countrywide Live-stock Activity A correspondent actively interested in live-stock affairs and closely in touch with matters relating especially to cattle breeding, writes us as follows: "I have just completed a very pleasant and interesting three months' trip across the continent. Conditions throughout the country as I observed them reveal a great future for the live-stock industry and the breeder. The slogan of the West is fewer cattle but more weight and better quality. The heavy snowfall in the Northwest has caused a 20 per cent. loss of lambs and old ewes. Farmers have been forced to feed their range stock all winter, which has constituted a very heavy expense. There is a big call all through the West for pure bred cattle, which will mean the shipment of several carloads of registered stock into the far West at an early date.

"The South, I am glad to say, is coming into its own. The banks and railroads are coöperating in a splendid spirit to encourage the Southern farmer to put more and better stock on his farm. The Eastern breeder will be called on to supply the demand for registered cattle in the South as well as the West, and he who prepares now for that trade by raising as much stock as possible on his farm will be laying a solid foundation for future business."

A Promising Guernsey Youngster Pearl Rose of the Glen 47,414, owned by H. W. Howe, Bedford Hills, N. Y., has recently entered the ranks of the junior two-year-old class leaders by completing a first lactation period record of 12,378.8 pounds of milk, 711.43 pounds of fat, which lands her in third place. Her milk averages around 5.75 per cent. fat, and in addition she has gained some 200 pounds while making the record—which suggests that she has not been overtaxed, and is liable to accomplish more worth-while achievements in the future.

A Remarkable Jersey Record Dosoris Park Lily, owned by the Pratt Estate, Glen Cove, N. Y., has recently completed an accomplishment that puts her second in the list of world's record Jerseys, and gives her the distinction of holding both the seven- and thirty-day, and the twenty-five-month records for Jerseys. In two consecutive years she has produced a total of 2,200.3 pounds of butter, or in terms of butter fat, 957.4 and 930 pounds respectively, which effectively prove her persistence as well as her ability. The average yearly individual yield of the Dosoris herd of forty-six head is 8,751 pounds of milk, 563.9 pounds of fat.

Langwater Dairymaid, daughter of Jethro Bass and Imp. Itchen Daisy 3d; for whom Mr. C. L. A. Whitney paid $6,150 at last fall's Langwater sale; and who has recently become one of the eighty-four Guernsey cows with three yearly records to their credit. Her latest performance was 16,949 pounds of milk, 812.66 of fat

Guernsey Club Meetings The Annual Meeting of the American Guernsey Cattle Club will be held in New York City, Wednesday, May 16th. For information address Secretary Caldwell, Peterboro, N. H.

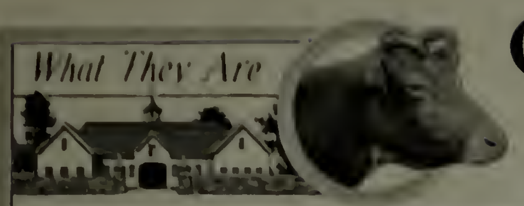
As usual this will be preceded, on the 15th, by the meeting of the New York State Guernsey Breeders' Association. Both will be held at the Hotel Imperial.

The Waukesha County Guernsey Breeders and the Western Guernsey Breeders will meet jointly at the farm of Geo. McKerrow and Sons, Pewaukee, Wis., on June 6th, one day in advance of the first named organization's annual sale of purebreds at Waukesha.

A Notable Contribution To West Virginia Agriculture West Virginia is rejoicing in what is described as "the most important public benefaction in the history of the state," and all who are interested in, and anxious for, the promotion of modern agriculture will rejoice with her. The occasion is the gift to the State Agricultural Experiment Station of part of the Lawrence A. Reymann Estate, comprising 931 acres of improved farm land in Hardy County, complete farm and dairy buildings, machinery and work teams, a fully equipped cheese factory and ninety-two head of pure bred Ayrshire cattle—three mature bulls, thir-

(*Continued on page 24*)

Dosoris Park Lily, of the Pratt Estate herd, holder of three Jersey records, for seven days thirty days, and twenty-five months, respectively



GUERNSEYS

The Guernsey Breeders represented on this page are recommended by Country Life. For information concerning the Guernsey breed, address

Country Life Readers' Service Department
Garden City New York

Langwater Farms
GUERNSEYS

The Kind Langwater Produces

Langwater Dairymaid sold for $6,150.00 at sale on October 10, 1916—the highest price ever paid for a Guernsey Cow. Her blood is being continued at Langwater Farm through her son, Langwater Steadfast

75 head of Langwater Guernseys sold, October 12th at auction made an average of 1075, establishing a record in the dairy world.

Bull calves of this blood for sale.

For particulars apply

William Grant, Supt. North Easton, Mass.

The Oaks Farm Guernseys

Senior Herd Sire
MAY KING OF LINDA VISTA, 17946

Junior Herd Sire
DON IAGO OF LINDA VISTA, 28387

Nuggets Promise, 48835

The Leading Two-year-old Milk Record of the Breed
15,436.10 lbs. Milk 705.56 lbs. Fat

Several Bull Calves and a few Young Heifers of choice breeding for sale

THE OAKS FARM, COHASSET, MASS.
C. W. BARRON, Owner Address W. S. KERR, Manager

The above photograph shows the prize winning Get of Sire Group exhibited at the National Dairy Show of 1916

Upland Farms offers bull calves sired by show winning bulls of distinctive breedings.

We have a few females for sale from time to time

Our herd won more prizes at the National Dairy Show than all the other Guernsey Breeders of New England.

Ribbons won at the 1916 Show Circuit

UPLAND FARMS
IPSWICH MASS.

Benj. F. Barnes, Mgr. F. P. Frazier & Son, Proprietors

Sunnybrook Guernseys

Junior Champion at National Show Bred at Sunnybrook

A distinct family of high producing animals of correct type.

A. R. Records average 579.47 lbs. fat, with increases in progress

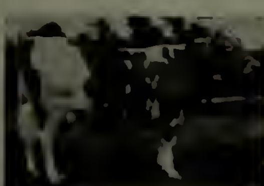
A few choice animals usually for sale

Herd regularly tuberculin tested

CHARLES D. CLEVELAND
Box 21 Eatontown, New Jersey

Harbor Hill Guernseys

Clarence H. Mackay, *Owner*



A Healthy Herd of High Producers

Young Bulls of A. R. Breeding, for sale. For pedigrees and prices address

C. H. HECHLER, Supt., Roslyn, New York

Guernseys

represent in the dairy world a combination of

Productiveness and Prolificacy, Beauty and Vigor, Quality and Ruggedness

and for their owners

Profit and Pleasure

Write for free illustrated descriptive booklets

THE AMERICAN GUERNSEY CATTLE CLUB
BOX C. L. PETERBORO, N. H.

BEAVER RIDGE FARM GUERNSEYS

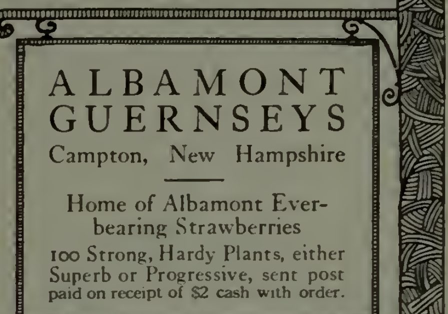
HERD BULL:

Modele's Jolly Lad 20552
Grandson of King of the May and Masher's Sequel. Dam, Imp. Modele 26628—626.66 fat.

Pearl Rose of The Glen 47414
12,378.8 lbs. milk, 711.43 lbs. fat.
The third highest producing two year old in the United States.

HENRY W. HOWE, *Owner* WM. H. SANDERS, *Manager*

Bedford Hills (Westchester County) New York



ALBAMONT GUERNSEYS
Campton, New Hampshire

Home of Albamont Everbearing Strawberries

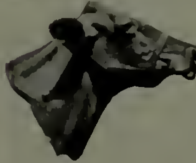
100 Strong, Hardy Plants, either Superb or Progressive, sent post paid on receipt of $2 cash with order.

Gerar Guernseys

Herd founded 1890. *A. R. Work started* 1912

We have in our herd four females with average records of 600 lbs. fat, all now over twelve years old, all safe in calf, three carrying their twelfth calves, and all with two or more A. R. daughters. We are offering bull calves from daughters of two of these cows.

LOUIS McL. MERRYMAN, Cockeysville, Md.



Edgemont Farms

Offers yearling Guernsey herd bull of May Rose breeding—his dam, two granddams, and four great granddams all A. R. and the records of the seven average 729 lbs. fat—also few females. Write for particulars and prices.

T. E. HYDE, Bloomsburg, Pa.

Fresh Family Cows

and small herds for the estate or farm of the Guernsey, Jersey or Brown Swiss breeds, combining beauty and utility. Be prepared for summer by buying your cows now.

WILLIAM S. DUNN Poughkeepsie, New York
New York Office, 90 West Broadway

The Mixter Farm
300 Guernsey Females

Yeoman's King of the May, 17053 Sire Yeoman A. R.

Dam Florham Daisy, A. R. Full Sister to King of the May

Young bulls for sale at reasonable rates. It will pay you to visit our herd.

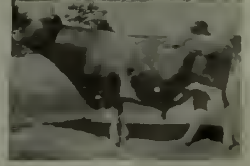
J. S. CLARK, Supt., Hardwick, Massachusetts

Woodland Farms

Herd sires, King Masher 11084, King Masher 8th, 20973. We have for sale bull calves out of A. R. cows. For further particulars inquire of

W. B. JONES, Supt.
Drawer O. White Plains, N. Y.

SARNIA



I have imported over 1,000 Guernseys and 70 of them have made records over 500 lbs. fat. Have made 125 A.R. records in my own herd.

My 14th importation of over 100 head of cows, heifers in calf, and younger heifers will arrive in New York in April.

Write for sale lists and state your wants.

CHARLES L. HILL
Rosendale Wisconsin

Third Annual Sale by Auction of About One Hundred Head of Imported and Home-bred

GUERNSEY CATTLE

At Florham Farms, Madison, New Jersey

THURSDAY, MAY 17, 1917

(The day following the Annual Meeting of The American Guernsey Cattle Club)

The *pick* of the progeny of all the Florham Herd Sires will be represented and one of the latter, Wardem Ultra King, a grandson of May Rose King and Ne Plus Ultra, will be offered. Special mention may be made of 7 daughters of Ne Plus Ultra 15265 whose get have hitherto been keenly contested for: they were especially prominent at last year's National Dairy Show, Florham Princess being first prize three year old, Ultra Lady, first prize four year old and Florham Minuet, 2nd prize in aged class: moreover they were first, second and third in the Advanced Register class under five years, and, with the addition of Florham Monarch, secured for their sire, the most coveted of all—the First Progeny Prize.

The imported contingent comprises the best that could be bought and in Honoria's Sequel II the Island will be represented by one of its best sires. This bull among other prizes, won the King's Cup in 1913: first progeny prize at Guernsey Farmers' Show 1916 and the Peer Challenge Trophy for Bull and Progeny, September 1916. For catalogues address

LEANDER F. HERRICK, Auctioneer — Worcester, Mass. — or — J. L. HOPE, Owner — Madison, N. J.

Purebred Holsteins Beyond Successful Competition

Purebred Holstein cows hold all world's records for milk and butter-fat production, but the great and growing popularity of the big "Black and White" cattle is wholly due to the high average production of Holsteins as a breed, and to their size, health, vigor, and economy of maintenance. During the fiscal year ending April 30, 1916, records of the Holstein Advanced Registry Office show official tests of 11,868 Holstein cows, which produced jointly 4,483,885 pounds of milk containing 170,911 pounds of butterfat. These authentic records, wherein the average seven-day production of milk was 408.1 pounds, or over 27 quarts a day, are far in excess of results attained by any other breed, and deserve the careful consideration of the farmer who seeks the best.

HOLSTEIN-FRIESIAN ASSOCIATION OF AMERICA
F. L. HOUGHTON, *Sec'y.* **60-H AMERICAN BUILDING, BRATTLEBORO, VERMONT**

The Readers' Service gives information about Poultry

Have You Gardening Questions? Experts will answer them free. If a plant fails, tell us about it and ask help from the Readers' Service.

Over a Million Users!

Made by the oldest and largest separator factory in America

SHARPLES
Famous Suction-Feed
"Skims clean at any Speed"
SEPARATOR

Experiment stations and separator manufacturers all admit that all separators (except Sharples) lose considerable cream when turned slow or unevenly. Thousands of investigations have proved that 19 people out of 20 turn their separators too slow. Sharples is the *only* separator that:

—skims clean at widely-varying speeds.
—gives cream of unchanging thickness—all speeds.
—skims your milk quicker when you turn faster.
—has just *one* piece in the bowl—no discs.
—has knee-low supply tank and once-a-month oiling.

Over a million Sharples users in every dairying country of the world.

Write for catalog to Dept. A

The Sharples Separator Company, WEST CHESTER, PA., Branches at Chicago San Francisco Toronto

Sharples Milkers—used on over 300,000 cows daily

teen calves, and the rest milking cows, every animal being registered or eligible for registry.

In making this munificent gift, the trustees of the Estate express the belief that under the ownership and control of the Experiment Station, the farm and herd can be brought to a higher state of development, and can prove of more value in advancing farming interests in the state, than if they were maintained as private enterprises. And as it was those two aims that animated the late owner of the Estate in all his generous and far-sighted work for better farming, so it is the same two purposes for which the property has been and is to be maintained.

It is probably unnecessary to remind Ayrshire breeders and Eastern dairymen generally that the Reymann Estate is the owner of the widely known Hilltop Farm near Wheeling, where the famous bull Nox'emall spent much of his productive life, and where much of the most systematic and efficient farming that is found in the state was first practised. Nothing was needed to perpetuate the name of Reymann in the annals of West Virginia agriculture; but now that this noteworthy transfer has been made, the state, the nation, and especially the exponents of the Ayrshire cow, can extend and receive among themselves expressions of pride and generous satisfaction.

Ayrshire Breeding on A Sound Basis Clover Home Farm of Gouverneur, N. Y., has a well established policy of never using anything but mature bulls in its breeding operations, and never having less than two of these at the head of its herd. At present Jack Macdonald 10,259, Imp. Howie's Ringleader 12,582, Great Combination 13,583, and Nancy Kate's Pilot 16,726 share the responsibility and honor of this important rôle. Each of these has admirable connections in addition to the qualities that can produce offspring worth owning. The average butter fat content of the milk of the entire herd of seventy head, for the past year, was 4.35 per cent.

Jerseys For Venezuela Among recent interesting transfers of cattle to South America may be noted the sale of a foundation Jersey herd by Meridale Farms, Meredith, N. Y., to his Excellency Vicenti Gomez, President of Venezuela. It includes the four-year-old bull Rockwood Interest,

Rockwood Interest, the four-year-old son of Oxford Fern's Lad and Interest's Lass, recently sold by Meridale Farm to the President of Venezuela

bred by Mr. Wm. Rockefeller, and the six-year-old cow Noble's Financial Pansy, who with a year's fat record of 321.1 pounds begun as a two-year-old, has been producing more than fifty pounds of milk a day during a recent test.

The Maximum Milk Makers The accepted answer to the question, "What is the best breed of dairy cow?" is "There is no *best* breed; each has its place, purpose, and appeal to certain individuals." But if we go a little deeper than this and set up the making of milk and butter fat records as a standard, the Holstein-Friesian certainly steps up and walks off with the laurels. The six highest records for one year's milk production are held by the following pure bred black-and-whites:

Lutscke Vale Cornucopia	31,246.9	pounds or	14,533	qts.
Winnie Korndyke Cornucopia DeKol	31,034.2	"	" 14,435	"
Tilly Alcartra	30,451.4	"	" 14,163	"
Queen Piebe Mercedes	30,230.2	"	' 14,061	"
Royalton DeKol Violet	29,949.6	"	" 13,930	"
Lilith Piebe DeKol	29,599.4	"	" 13,767	"

Furthermore, Duchess Skylark Ormsby, whose 27,761 pounds of milk for 365 days doesn't quite

rank her with her six notable companions, excels them and all other cows in the world in butter-fat production for the same period, with a total of [illegible] pounds. Lest we forget, also, the world's butter-fat record for seven days is held by the Holstein, Segis Fayne Johanna, with 48.54 pounds, and that for thirty days by Ormsby Jane Segis Aaggie, with 136.8 pounds. And these are not so very far ahead of a good many more Holsteins, at that!

Shorthorn Sales and Prices In 1916, 270 Shorthorns sold at public auction for $1,000 or more each, the highest price being $6,600, paid by the Miller & Maxwell Cattle Co., Steamboat Springs, Colo., for Maxwelton Pride 2nd, first prize two-year-old at the 1916 International. Five public sales averaged from $1,000 to $1,203 per head; sixteen averaged from $500 to $1,000, and fifty-three from $200 to $500. Yet there has been no inclination to engage in spectacular price making!

Sales in other countries have also shown decided action. In Scotland the Duthie bull calves averaged $3,030; in the 1916 Scottish spring sales two calves exceeded $7,000, one by $500, the other by $750; and four brought an average of $6,000 apiece.

At the fiftieth anniversary of the Argentine Rural Society, forty-three Shorthorn bulls sold for an average of $8,000 (Argentine money). The reserve champion of the show brought the record price for a reserve champion—$50,000 (approximately $23,000 United States gold). An offer of $75,000 (Argentine money) as an opening bid was made to the owner of the grand champion if he would include him in the sale, but was declined. At the recent Palermo Fat Stock Show in Argentina, the champion Shorthorn steer sold for $26,000 ($11,300 United States gold).

The 1917 demand for Shorthorns is already greatly in excess of the 1916 trade, and indications are that 1917 will surpass any year in the history of the Shorthorn breeding business in the matter of trade activity. During the twelve months ending March 1, 1917, the receipts at the office of the American Shorthorn Breeders' Association for pedigree registrations slightly exceeded $130,000, and those for transfers slightly more than $14,500. These figures alone suggest the activity in Shorthorn affairs.

New Jersey's Record Guernsey Mr. Charles D. Cleveland, Sunnybrook Farm, Eatontown, N. J., reports a record of 14,717 pounds of milk, 810.43 pounds fat, made on a re-test by his Alphea of Pinehurst 2d, 29,723. This is the highest year's production ever recorded in New Jersey, and also the best performance made by any daughter of Stranford's Glenwood of Pinehurst, Alphea's sire.

Jersey Calf And Bull Clubs During the past month great activity has been shown in many states in the formation of Jersey farm boys' and girls' calf clubs. There are already eleven in Missouri, four in Utah, two in Pennsylvania, one in Wisconsin, and others under way elsewhere. Their twofold object is, first, to develop and encourage active interest in farm affairs in country youngsters; and, second, to advance the dairy industry by familiarizing farmers with good cattle and inducing them to raise more and better cows.

Bull clubs are helping toward the same end, especially in sections of the South and Southwest where dairying is being newly taken up. Ordinarily about twenty farmers make up a club and contribute toward the purchase of four or five bulls, each of which is kept in one district or block for two years. Each member thus gets the use of good bulls for eight to ten years without danger of inbreeding.

Shorthorn Futurities No more popular classification in the live-stock shows has been made than that of the futurity classes, admitting junior and senior bull and heifer calves, established by the American Shorthorn Breeders' Association. For four of the leading shows, viz., the Iowa and Ohio State Fairs, the American Royal, and the International, the Association has appropriated for the futurity classes alone a total of $7,000. At the Royal and International, the prizes range from $65 for the first winner to $20 for the twentieth. These prizes are in addition to the appropria-

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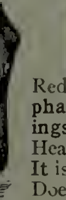

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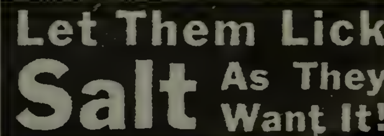

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tions offered in the regular Shorthorn classifications, which aggregate $50,000. The purpose of these futurities, as suggested by the number of prizes offered, is to encourage breeders to exhibit their calves at these important shows and obtain thereby substantial advertising. In order that the small breeder may have an equal chance with the larger breeders and experienced show men, the rules do not permit substitution after the entries have been made.

As recently announced, entries for the senior futurity classes closed March 1st; the junior futurity entries close May 1st. Entry blanks and full instructions may be obtained from the Association office, 13 Dexter Park Ave., Chicago, Ill.

Through College on Five Hogs Five Duroc-Jersey barrows bred and fed by the Texas Experiment Station and shown at the Feeders' and Breeders' Fat Stock Show at Fort Worth in March, have three interesting achievements to their credit. First, they won the championship for a pen of five, over all breeds represented at the show; second, they were then sold on the open market for the record price of $16.10 per hundred; and third, their care, together with that of the rest of the College herd, provided sufficient employment for J. W. Luker, a student in the college, to cover all his expenses during his course. Incidentally, these same animals were used as experimental material in tests with various forage crops, and also as demonstration material for much of the class work in several animal husbandry courses.

From Farm To Table The intimate relation between city and country is often overlooked. The majority of the patrons of the sumptuous Copley Plaza Hotel in Boston may not realize to what an extent at least one phase of their comfort is due to Upland Farm, of Ipswich, Mass. This 200-acre, thoroughly modern establishment with its pure bred Guernseys, Tamworth hogs, Leghorn and Plymouth Rock hens, etc., is maintained solely to provide the hotel with finest and freshest milk, cream, butter, eggs, bacon, ham, and pork in unlimited abundance. Incidentally the farm dairy has been scored 100 per cent. by the State Health Department. It is interesting to note that another farm to which this supreme seal of approval has been affixed is also a Guernsey establishment, namely The Oaks Farm, Cohasset, Mass., owned by Mr. C. W. Barron of Boston.

The Status Of Dexter and Kerry Cattle Bulletin 6 of the American Kerry and Dexter Cattle Club, published in February, contains a brief but interesting statement by Secretary C. S. Plumb as to the history of the organization and the status of the little Irish cattle in America. Organized in 1911, largely through the efforts of the late Joseph E. Wing, the club records thirteen paid up memberships, though at present there are but twelve living members and only six that still own animals of either of the breeds. An excellent and worthy opportunity is offered those who own or are interested in Dexters or Kerrys to assist in increasing the strength and scope of the club.

The bulletin contains also some interesting data concerning representative animals in the herds of Elemendorf Farm, Kentucky, and the Castlegould Estate, New York. In regard to desirable weights of Dexters, excellent individuals in the latter herd weigh 720 pounds for a 2 year old bull, 700 pounds for an eleven-year-old cow, and 680, 590 and 600 pounds for other cows four, four and three years old respectively. Records made by Kerry cows range from 3,885.9 pounds of milk during an uncompleted test of 216 days to 6,261 pounds, testing from 4 to 5.6 per cent. fat, produced at Ohio State University in 1913 by Bognut of Waddington. Dexter records range from 2,791.7 pounds in 263 days to 9,046 pounds for a year. Two cows in the Castlegould herd averaged 7,315 and 5,446 pounds respectively for the years 1911 to 1914 inclusive.

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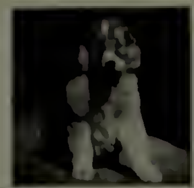

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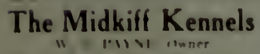

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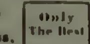

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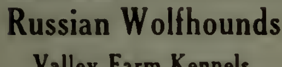

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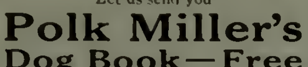

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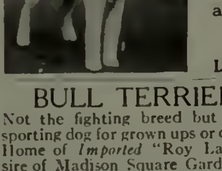

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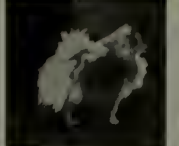

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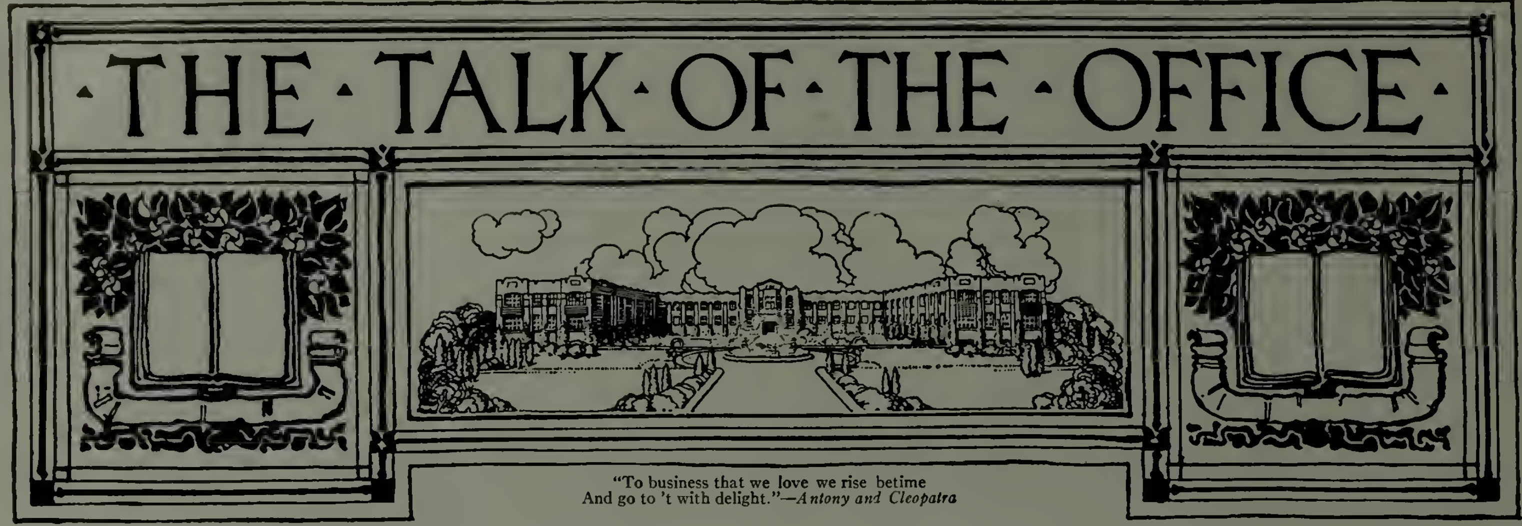

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With the purpose of bringing together distinguished members of the craft, to afford them opportunity to work under conditions which will sustain their highest ideals, Doubleday, Page & Company have invited three French binders, whose families have been famous among the best binders in France, to make their home and continue their work in Garden City, where we plan to build up a department under the charge of these gentlemen. They are MM. Henri Hardy, Leon Maillard and Gaston Pilon, and under their care we hope to add other experts of reputation and distinction from France.

We shall have occasion to speak further of this enterprise, which will use as its imprint

THE FRENCH BINDERS, GARDEN CITY

and we hope to see this imprint upon the binding of books as fine as any done in France or England in any age. Surely this country has reached a position where it will welcome the best that can be accomplished in any art, and in this field we hope to aid in making a contribution of value and artistic interest.

BOOKS ON BIRDS

Among the books in which we are most interested and take great pleasure in publishing, are good books about birds. These and garden books have always been favorites with us here at Garden City, so it is an especial pleasure to announce one this season by Gene Stratton-Porter—"Friends in Feathers," a revised and greatly enlarged edition of "What I Have Done With Birds," which contains some of the author's newest and best photographs.

Of this book Mrs. Porter herself says:

> This is the record of how I made friends with the birds until I could picture them. Many of the birds here shown never have been photographed in their natural positions by any one else.
>
> Here are birds playing, singing, courting, nest-building, showing fear, anger and greed plainly on their faces. These are not coast and sea birds that can be pictured in flocks; they are for the greater part shy, wild song birds, that must be taken *singly* and can be reproduced only after days of patient work and waiting among them, until they become so friendly that it is possible to enter the bird family and cause no disturbance. This volume represents the hardest and most difficult field work I have done.

Another bird book, by one who speaks with authority, is "The Bird Study Book" by T. Gilbert Pearson, Secretary of the National Association of Audubon Societies. Here is a little volume by an expert, for the beginner or the child who can use it as a manual for the rudimentary and fundamental facts of bird study. In this fascinating and valuable book, Mr. Pearson takes up a multitude of subjects, including bird boxes and how to make them. However, we shall be content by quoting just one short passage from his chapter on "First Acquaintance With Birds":

> When one starts out to hunt birds it is well to bear in mind a few simple rules. 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. Do not wear brightly colored clothing, but garments of neutral tones which blend well with the surroundings of field and wood. It is a good idea 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.

Before leaving this interesting subject of nature books we should like to refer back to Mr. James Oliver Curwood's "The Grizzly King." This book was published last season but it is one of those pieces of fictional nature study which go on through the years ever gaining in popularity. "The Grizzly King" has just come out in England and we want to take just a few lines of our precious space to quote from a review of the book.

The *Sunday Times*, of London, compares Mr. Curwood's work to that of Jack London saying:

> Now that, to the universal sorrow of all lovers of fine fiction, Jack London has passed from among us, Mr. James Oliver Curwood is perhaps the one living writer of stories who is entitled to rank as an expert in the fictional handling of animal psychology. "Thor," the giant bear who is the eponymous hero of "The Grizzly" is as real and as interesting a person as Mr. Curwood's former hero, "Kazan, the Wolf-Dog;" which is to say that he stands beside Jack London's "Buck" and "White Fang" as a study of animal life, than which higher praise could hardly be given.

THAT PREACHER

Mr. Ernest Thompson Seton's new novel, "The Preacher of Cedar Mountain," of which we have spoken in these columns several times before, is ready. At last this first novel by an author known the world over for his nature books, is out and is proving highly popular.

WAR POEMS BY "X"

This book of poems voices the cry of England's heart in her death grapple with Germany, and contains perhaps the most stirring verses written in England since Rupert Brooke's death.

The author, who wishes to remain unidentified, has given his own flesh and blood (two sons) to the War. The echo of this sacrifice rings a poignant undertone in many of the poems. "X" is master of the sure and merciless word that bites like a knotted thong: his lines have behind them the leaping force and impact of the mature man roused to furious and supreme expression.

DR. HALL'S GREAT STUDY OF JESUS

Dr. G. Stanley Hall's "Jesus, the Christ, in the Light of Psychology" (two volumes, octavo, 733 pp.) is a book of extraordinary interest. It is the outcome of twenty years' devoted study and research, and is a gold mine of philosophy and inspiration to the thoughtful reader. Dr. Hall reinterprets Christ to the modern world in the light of modern psycho-analysis, and sums up the teaching and speculation of all the centuries as to the personality of Christ. The problem of the divine-human is the most august one known to men: Dr. Hall's treatment, employing the lens of modern psychology, succeeds in revivifying Christ for the modern world in a vital and inspiring presentation.

We look forward with extreme interest to hearing what ministers will say about Dr. Hall's work. The conclusions he reaches after years of thought are of considerable interest:

> I believe I can now repeat almost every clause of the Apostles' Creed with a fervent sentiment of conviction. My intellectual interpretation of the meaning of each item probably differs from that of the average orthodox believer. To me not a clause of it is true in a crass, literal, material sense, but all of it is true in a sense far higher, which is only symbolized on the literal plane. The change from my boyhood belief in it all has been to me all gain and no loss.

ADVENTURES OF AN AUTHOR

William McFee, the author of "Casuals of the Sea," is on a British transport in the Mediterranean. For some time past his letters have been prophesying a collision, on account of all the supply ships moving at night and without lights, to avoid the notice of submarines. Recently the expected happened, and Mr. McFee describes it in a letter:

> During the night, however, one of the blackest I have ever known, being in fact as black as a coal cellar for there was no moon and the thick roof of cloud was built over in a solid arch from island to island, the inevitable happened and we collided with another transport coming up. Each doing 14 or 15 knots, our sister's stem cut deep into the forecastle, ripping it into ribbons and killing two men in their bunks, besides other casualties. Then, our anchor cable, which had got entangled in her flukes brought her up against our starboard bulwark with another crash, destroying a boat, uprooting the davits and making a horrible mess of bulwarks, stanchions, awning deck beams and machine room bulkhead. Naturally I woke up.
>
> The scene on the boat deck, where I was late in arriving owing to getting tangled in the mess outside, was depressing. A cold wind was blowing, the engines were stopped and the safety valves were roaring so that nothing else could be heard. In the faint rays that came from the engine room skylight I observed a stealthy swarm of Asiatics running past me with immense bundles of clothes. These were they piling into the boat of which I was the only officer present. One, I may say, to show the abnormal sense of property exhibited by these gentlemen, was also bringing up a mattress and some musical instruments. I fell over a mandolin in the dark. The uproar went on and I became very forlorn. The boat was so full of clothes and gear there was no room for mere human beings.
>
> Well, of course it came out all right as soon as we got some orders, but you can understand that incidents like this interfere with the revision of novels! So if it should unluckily happen that I am late delivering the goods, be charitable and try to believe, as I do, that the book will be the better for the adventures it is having.

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Photograph by John Wallace Gillies

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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 responsihle 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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Where especially rich coloring is desired in informal hangings and upholsteries, the decorator often makes use of a black-ground chintz, which for summer homes has the added attraction of being cool looking. To come into this sunny hall from the glare of the out-of-doors is to be at once rested and refreshed, the dark mahogany and chintz being sharply but pleasingly contrasted with the light-toned walls. Sometimes, too, the beauty of these English prints is enhanced when hung unlined against the window light, so that the pattern shows up with all the brilliancy of cloisonné on the dark ground, just as, in this case, the bright pattern of the black-painted parchment screens on the side-wall fixtures is thrown into sharp relief when the light is turned on

The New Country Life

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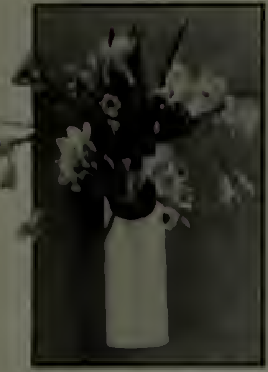
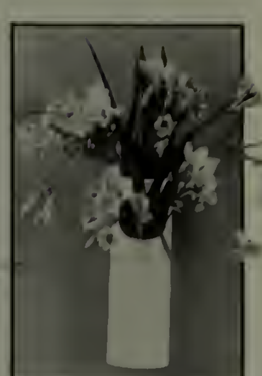


Chamberlain Dodds, decorator

Delightful adaptation of painted Italian furniture to a modern breakfast room where yellows, with blue, dominate the color scheme. Yellow-and-white striped linen, colorful chintz, and blue Spanish jars in iron stands are interesting and decorative details



FURNISHING *and* DECORATING *the* SUMMER HOME

By AGNES ROWE FAIRMAN

Photographs by Jessie Tarbox Beals, The Johnston-Hewitt Studio, Alman & Co., and others

Color drawings by W. Fletcher White

THE summer home is essentially a place where we should rest, relax, and refresh both the body and the spirit. To this end it must possess the three cardinal virtues of comfort, simplicity, and artistic interest, in the last named of which lies its chief distinguishing features. For the charm of the summer home depends largely upon how well we succeed in putting it in tune with the spirit of summer-time itself, and in harmony with the out-of-doors. And the two factors which contribute most conspicuously to this end are, first, a feeling of lightness and gaiety in summer furnishings; and second, a somewhat lavish use of color in our decorations.

But at the outset let us make plain that in speaking of the summer home we do not necessarily refer only to the cottage or the castle by the sea, or to that place equipped with every luxury and convenience of a city residence which goes by the humble name of "mountain camp," nor yet to the country house, large or small, which is occupied as a dwelling exclusively in summer months. We are speaking as well to those whose home is the same house twelve months of the year, or who, reversing the old order of things, fly into town for a brief sojourn in midwinter but live in the country for the greater part of the year. The point of our argument is briefly this: as surely as "there is a time and place for all things," the time is *now* at hand for the summer home, for each and every one of us, regardless of *where* the place may be.

It may happen that we live under the same roof all the year round, but that is no reason why we need live in precisely the same environment, amid exactly the same furnishings, winter and summer alike. Even though we have wisely given our winter bedrooms and living rooms a touch of summer in the decorative use of chintz, let us, in that event, put away or cover up for a while these familiar prints and bring out something distinctly different for summer use, if only for sake of a change. It is not a matter of fashion or sentiment but of common sense; for a change in our daily surroundings, if only a change in the appearance of our rooms with the advent of May or June, is not only as welcome as the fresh green of the grass and trees, but as refreshing as that change of air which we find so necessary once in awhile for our well-being; as beneficial as that change in diet which wise folk make when summer days come 'round.

And not alone yourself and your family, but your home as well, will profit in the end, for when things go back to their accustomed places in the fall, on that day of first impressions you will see your house as others see it; both the good points and the bad: all the little and the big mistakes that you never noticed before, or that you had let slip by, because you had looked at the picture too steadily and too long and had grown accustomed to its faults.

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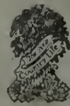
Albert Herter, decorator

Autochromes by the Johnston Hewitt Studio

Two views of an artist's own summer home at Easthampton, L. I., where the color scheme of the interiors has been closely related to the outlook. From the formal gardens, where all the sunshine colors run riot in the orange and salmon pinks of the flower beds, we enter the hall, where lacquer red is the dominant note. Softened with highlights of gold and relieved with clever touches of black and blue, it makes, when the door is opened wide, one sweep of glowing, richly modulated color from the garden straight through to the centre of the house



Albert Herter, decorator

Autochromes by the Johnston-Hewitt Studio

From the other side of the Albert Herter house at Easthampton, one looks out over the furnished terrace, to a sheet of blue water, and thick-wooded shores lying just beyond. Bathed in the afternoon sun, the blue-and-white scheme adopted here, with its green background of plants, not only takes its color directly from the water and sky and woods which frame the picture, but proves delightfully cool and refreshing to those who gather for conversation or for tea; it leads logically into the living and dining rooms where the colors are repeated

So, though your individual problem be not to furnish a summer home, but only to put your home in summer dress, you will go about it very differently from the way your mother did not so many years ago, when taking down formal draperies and putting the heavy furniture in slip covers meant making a room as cheerless and as colorless as a garden nipped by frost. A cousin far, far removed, indeed, is the slip cover of to-day from the prim, respectable linen furniture cover of yesterday! Some in stripes and some in plaids and some in bright array, no wonder that with all the irresistible chintzes and luscious summer silks at our command, it not infrequently happens that a drawing room or living room is made a more liveable, loveable sort of place in summer months than at any other time of the year. And the change in this one respect is indicative of the change which now marks the whole attitude of the home-maker toward her summer home furnishings, for it points, first of all, to a wholesome and steadily increasing yearning for color in our homes, especially at the time when the whole world is full of gladness and color without.

Mrs. A. Van R. Barnwell, decorator

Excellent grouping of painted furniture showing pieces well related to each other and to their background. An effective touch is the green taffeta binding of the chintz curtains which emphasizes the green and gold of the color scheme, the upholstery showing green stripes on an ivory ground

With the very thought of summer comes an instinctive desire for strong, warm, bright color. We must have, of course, our white frocks and our cool lingerie pillow covers; but we yearn also for gay and festive ribbons and furbelows, and for more or less of those bright-colored, whimsical decorations which, in the greater sobriety and formality of the winter home might easily be out of place. Cool grays and blues, restful creams and greens, and all the quiet tones which blend in with the background of the out-of-doors, seem naturally to belong to the color scheme of the summer home. But the fresh, buoyant life which is the very essence of the spirit of summertime cannot be expressed in a monotonous repetition of quiet harmonies and neutral tones. Even nature gives us startling touches of strong color to relieve the serenity of a picture in close harmonies — the gorgeous butterfly poised on a gray-green stalk, sunset clouds trailing their splendor over an amethyst sea, or the flaming bit of orange in the cool, green vista of the summer woods. And just so, without the vitalizing touch of strong color somewhere in its plan of furnishing, our "cool" summer room becomes as insipid as salad without salt; as tiresome as the person who always speaks in the one tone of voice or says the expected thing.

But, of course, as with strong perfume, so with strong color, a little bit goes a long, long way. The wise use of gay-painted furniture and bold-colored fabrics for the sake of achieving something individual or out of the ordinary is by no means the same as the misuse of such things for the sake of being different or merely because they are smart. The faddists and extremists, like the poor, we must ever have with us, but, despite the sad mis-

A living room whose large proportions have made possible the use of a very decorative chintz, with excellent results. Note especially the gathered shades of glazed chintz which, under less favorable circumstances, might appear too conspicuous or bring too much decoration into a room, but which here are hung with good effect

The most abused and misused of all colors by the average home-maker is green. For, as the beauty of the green woods on a summer day is the sunlight filtering through the leaves to the green-carpeted earth beneath, so must we be careful to use our green hangings and floor coverings in a room where sunshine can be depended upon to play its part. And as Nature, when she uses green for summer backgrounds in sunny places, gives us flashing highlights of yellow gold, so do we also do well to put our green upholsteries against a light, cheerful background of cream white or old ivory woodwork, with yellow-tinted walls, and to introduce bright touches of gold or orange in the lesser furnishings, as in this room, where the lamp and candle shades and one sofa pillow (sofa not shown in drawing) are of flame colored taffeta edged with black

Mrs. Boardman Robinson, decorator

The acme of simplicity, yet a dining room of real distinction is this in an unpretentious country home. Scarcely two of its chairs are even alike; yet by painting and oiling and toning down, a promiscuous assortment of furniture has been made to blend harmoniously together until it all falls into the same low key which governed the choice of a dark floor and the black-ground chintz, with its red flowers, blooming again in the plants on the window sills

silly pinks in the flowers which bedeck our summer prints.

And as for the gaily painted furniture, with its contrasting colored lines or stripes on legs and rails and posts, and the black-painted pieces with their quaint nosegays of old-fashioned or new-fashioned flowers, so charming for summer bedrooms and breakfast rooms, or for incidental furnishings—can we help but welcome these things as we welcome the bright-hued crocuses and hyacinths and the saucily striped tulips which Nature knowingly gives us after sombre winter grays? Yet the choice in this matter of colorful furniture is by no means confined to pieces of quaint or simple character, for our modern designs are as much inspired by Classic tradition as by the so-called "peasant styles."

Dipping into historic precedent, we find that painted furniture dates back to the Middle Ages

takes and mad absurdities to be seen on every hand, now that the home has come in for its share of this "brave use of color" which has revolutionized every field of art, there is at least no longer danger that our homes will suffer as they have in the past from too much sameness, or that we shall weary of washed-out blues and

in Europe, when the lavish use of rich scarlet and blue with gilding and bright heraldic devices on cabinets and chests, all attested the passion for gorgeous color. From here on down to the second half of the eighteenth century—when in England the Brothers Adam, Hepplewhite, and Sheraton gave fresh impetus to the vogue for painted furniture (only that the Classic influence of the day was evidenced in a taste for paler and more subdued and refined coloring)—there has scarcely been any time, excepting the sterile years of the nineteenth century, when the aid of the pigment has not been employed to supplement the craft of the cabinetmaker. Back to the days of Queen Anne—who gives name to so much good art and good furniture that she was personally not in the least responsible for—and to the first half of the eighteenth century we turn for our lovely lacquered pieces of brilliant hue — vermilion, scarlet, apple green, bright blues, and yellows, all contributing to the colorful resources of the period. It is the reproduction of such pieces that the modern decorator uses so effectively for the spot of vivid color to lend distinction in a handsomely furnished room, to give emphasis to the color scheme.

Ascherman Studio, decorators

A bachelor's living room furnished after a man's own heart—comfortable furniture, uncrowded tables, sensible lamps in the right places, ample provision for magazines as well as for books, and no ornaments to break if not handled with care. Note especially how almost every detail of decoration has been made either a structural part of the room, as the painted medallions in orange and black on the gray-paneled walls, or a vital part of its furnishing. Orange-colored casement curtains bound with black, an orange table runner with centre of turquoise blue rimmed with black, and the broad orange-painted bands faintly outlined with turquoise blue which mark the wall panels, give pleasing touches of color against the gray of the woodwork, furniture, rug, and walls

A dining room where extreme simplicity has been the fundamental idea, but carried out on a more costly scale than in the one shown on page 45. Against the soft gray background of furniture and walls the chintz is particularly decorative, and the rich coloring of its flowers seems in effect to bring into the room the splendors of the garden which lies just outside. In this way the fact that the outlook of the room is its principal attraction in summer time has been emphasized in the choice of its chief decoration

G. Bovard McBride, decorator
There is something particularly summery in the bamboo pattern and bright yellow color of this charming breakfast room furniture, to which a few pieces of deep blue Venetian glass lend added interest. Note especially the blue glass candlesticks on the sideboard, with yellow candles simulating ears of corn

G. Bovard McBride, decorator
Suggesting delightful possibilities for a summer bedroom. The painted day-bed, which savors of the popular peasant styles, is all the more attractive when used together with an upholsterer's dressing-table instead of the conventional piece of furniture. In this instance, taffeta, which is at once cool looking and distinctive, has been chosen as the upholstery fabric

But it is rather to the painted furniture of humbler origin that we look for the antecedents of present-day styles so popular for summer homes; to the quaint and gaily decorated furniture rediscovered, as it were, by the modern decorator comparatively a few years ago in the peasant homes of the art-loving countries of Europe, when their peoples found time to create and to produce, rather than to despoil, beautiful things. Among the French, Italian, Dutch, and Bavarian peasantry the tradition of furniture painting has been kept alive from early times, though this kind of painted furniture—which, incidentally, inspired the so-called Colonial painted pieces of other American days—is not, of course, to be classed with that of the English, French, and Italian periods to which we have just referred, and of which characteristic pieces appear on pages 35 and 46. It is nevertheless highly decorative in character and, in its various modifications and adaptations has a charm quite its own, many such pieces possessing an artistic value far in excess of their commercial worth.

Indeed it has taken but the space of a few seasons to overcome the prejudices of conservative American home-makers who looked upon those first examples of peasant styles exhibited in our shops and studios, with amazement, or amusement, according to the individual sense of humor, but never with serious intent. Yet to-day the demand for reproductions and adaptations of the picturesque foreign pieces is such that it is quite fashionable to be peasant-like in almost anything pertaining to the summer home. In fact there are decorators who make a specialty of performing operations upon and bringing to new life all sorts and conditions of odd and old and ugly pieces of furniture, rescued from attics and top story spare rooms, and the charming things which leave their shops under the friendly guise of "Colonial" or "peasant" styles put to shame the average inexpensive bedroom suite.

And since even Marie Antoinette liked to play at being a shepherdess or a milkmaid when it suited her fancy to lay aside the dignities of royalty, why should not we, who flee to the country for relaxation from the strain of city life, furnish at least one bedroom in the quaint manner of the simple peasant styles?

Canary yellow, usually lined and decorated in black, and a warmer orange tone, with generally a bright complementary blue somewhere in the scheme of things (as in the breakfast room set on page 42), or deep, bright blues with yellow bands, and again a fresh

The decorative use of chintzand growing plants can make of almost any room a delightfully summery place. In this dining room, note the absence of thin curtains, which would detract from the decorative value of the diamond-paned windows; also how the shape and size, as well as the number, of the flower-pots and boxes on the window sill have been carefully studied for composition

Interior showing how the location and outlook of a room may govern its color scheme. The sunny bay-window overlooks a garden blooming with red and yellow flowers, to connect the room with its outlook by bringing these colors into its decoration. [illegible] not make it seem warmer than it naturally is, a chintz showing mulberry and deep wistaria coloring on a taupe-gray ground has been chosen for hangings and upholstery, and used together with thin sash curtains of rose woven over white—to tone down a warm color. Light gray willow furniture is upholstered in the darkest color note, with decorative touches of yellow here and there

spring green — these are the colors most in vogue at the moment, with black, of course, always a favorite since people have come to understand that rightly used, with colorful accessories or against a colorful background, it has exactly the opposite of a sombre or funereal effect. Every woman knows what the telling touch of black means to almost any costume, and with decorating as with dressmaking, there is much in knowing when and where to introduce the note of black which will bind together some part of a composition or give snap to your color scheme. Moreover, the stunning black-ground chintzes used with such wonderful effect by the decorator to-day may be made to give a particularly cool appearance to a summer room, as the hall, for example, on page 34.

Finally is this new attitude toward color and what we might almost call "spirited furnishings" in the summer home, evidenced in a hundred and one different ways when we come to consider the minor decorations and small accessories which often play so important a part in its success. It is not that the things to which we refer are all designed exclusively for country homes, but, because the artist has taken the common utilities of the home and made them so attractive that they may serve as its chief ornaments in any simple scheme of decoration, that they seem especially well suited for summer use. For illustration, take the lamp shades of painted parchment which hold such a conspicuous place in any up-to-date exhibition of summery things, and, with their prim or fantastic flowers and bright-plumaged birds, are not to be gainsaid. Or take the endless novelties in painted tôle—which in its plebeian state is nothing more or less than an alloy of iron and tin; by a process of enameling, and with hand-painted decorations it is transformed into truly charming pieces, running the gamut from garden baskets and scrap-baskets to desk sets and bread dishes, book ends, fruit compotes, and what not, suggesting another revival of an old, old art which beautified the plain and simple fitments of the home.

Nicholas & Hughes, decorators
This corner of a very attractive—and incidentally a very up-to-date—bedroom shows the effective combination of chintz hangings and upholstery with taffeta used elsewhere in the decorations. The distinct decorative value which both furniture and draperies possess in this instance is enhanced by the restful simplicity of the plain walls and floor, and the commendable restraint in the matter of minor ornaments

Again, witness the omnipresent bird cages and gold-fish bowls which a few years ago we had supposed belonged to the nursery and the sun parlor, but which nowadays we must have on a decorative stand or a painted table right in the summer home living or dining room, if we would be up to date. We may go to certain extremes in such matters in the furnishing of our summer homes without overstepping the bounds of good taste, just as we may leave behind us certain conventions of the city when we take up country life. The woman who has not an inborn sense of the fitness of things can never be taught where to draw the line, but the others know without being told.

Finally forget not the painted flower baskets which the woman who wisely makes plants and flowers a conspicuous decoration of her summer home is careful to provide in all manner of shapes and sizes, and not only in wood-browns and grays but in odd and brilliant colorings, since flowers in baskets lend themselves to so many charming arrangements—as do also decorated boxes and painted flower pots on casement window sills. What, for example, could be a more effective and appropriate midsummer decoration in a dining room in old ivory and mahogany, or one furnished in English oak, if the dominant color note is blue, than two wide-brimmed orange-colored baskets, one on each end of the sideboard or console table, filled with nasturtiums or other flowers of orange or brilliant blue? The exquisite charm and rich or delicate coloring of Venetian glass is also especially prized for summer dining rooms and, while fragile compotes or bowls filled with colored porcelain fruits is a fad of the hour, a few choice flowers in a vase of Venetian glass, with their cool green stems in the water showing through, make as beautiful a table decoration as one could wish on a hot summer day.

So much, then, for the things with which we furnish or decorate;

Nicholas & Hughes, decorators
While all of the furniture here is heavy in character, an informal summery atmosphere is given by the use of chintz coverings. Again the decorative value of chintz against a severely plain background, with careful restraint in the lesser ornaments of the room, is well illustrated, suggesting how easily one might change the entire appearance of even a winter living room by putting it in a summer dress and eliminating all superfluous things from its decoration

Side elevation of a summer dining room showing how the spirit of gaiety indicative of the season may be expressed in simple but colorful decorations. The bird-and-branch pattern of the linen print, the bright flowers in the window boxes repeating the red in the chintz, the bowl which ornaments the console table, and the bird cage are all details which contribute to the desired effect by their character and coloring

In this living room where heavy foliage outside shades the windows, and a suggestion of sunshine seemed the more essential in its furnishings on that account, a violet and yellow color scheme has been used as in the room shown on page 43, but with the plan exactly reversed, making yellow the dominant color and violet the complimentary note. An effective touch is also introduced by the black lacquer chair with fine decorations in color

and now as to the choice of a color scheme for the various rooms of the summer home. This could so often be more happily accomplished if we would think to make the interior of a house related to its environs by bringing into our rooms some of the outdoor coloring as seen from its windows. Often the outlook from a room is an open book to the decorator, telling just what the color scheme should be in order to give the best possible effect, as illustrated in the case of the Herter house at Easthampton, views of which appear on pages 36 and 37.

Miss Swift, decorator
In making its minor accessories distinctly decorative yet essentially simple lies much of the art of furnishing the country home; and in the decorated parchment shade shown here, the painted kidney-table, and the hand-wrought metal bowl upon it, both of these qualities are obvious. Even the painting on the wall, a flower study, is especially suitable for the summer home

It is true, of course, that the sunshine colors—orange and yellow in bright hues—and all the warm rose tones belong by right of reason to those rooms which the sun does not cheer to any great extent—in rooms with a northwest exposure or heavily shaded by foliage; and that the field of blues and grays and violets and greens belongs to the bright, light rooms of a house. And while this is obvious, and so generally understood as to need no comment here, it is also true that the quality of a color has as much importance in practical decoration as its given name; or perhaps we might put it that the way in which one uses a color is as important as the color used. Once this is understood, we can bring almost any desired color into the scheme of a room without disastrous effects, so that some relation may be established between an interior and its outlook even though the coloring of the latter might not at first seem suitable for the furnishing of that particular room. For example, on pages 43 and 45 a combination of violet and yellow is worked out in two different ways for a bright and a shaded room, as explained in the captions.

Miss Swift, decorator
It happens that here the candlestick is of hand-wrought metal, the work of a famous artist, that the rose lies in a golden bowl, and that the budding branches are held in an antique jar—striking examples of costly simplicity. Yet had these things but a fraction of their commercial worth they would still command attention by sheer beauty of line and form

Orange, again, is at the other extreme from the category of cool colors, yet orange is a favorite color for summer decorations. Many a room, deliciously cool in effect because of the use of soft grays and blues or summery greens, would be utterly uninteresting were it not for a redeeming touch of strong orange in its composition, as in the bedroom done in old ivory and soft yellow greens on page 39, where the finishing touch, without which all would be lost, is the bit of flame colored taffeta in candle and lamp shades and sofa pillow, all edged with black. Or again take the very unusual living room on page 40, where the warm contrast of orange casement curtains and vivid orange notes in minor decorations, with just a suggestion of light turquoise blue to give distinction, and a binding note of black, appears against a background of soft, luscious gray and makes, withal, a delightfully cool-looking room.

This cabinet serves as an excellent example of that other kind of painted furniture, as suitable for country as for city homes, which owes its Classic inspiration to the masters of the eighteenth century

So, whether in the greater or lesser furnishings, let us not be afraid of bright color in our summer homes. Let us merely handle them with care, remembering that to-day, as of old, discretion is the better part of valor. The successful decorator is one who dares much, but, with the wisdom born of experience, or by the saving grace of intuition, knows where to call a halt.

And not alone in the choice of a color scheme, but in that all-important matter of curtaining the windows, we should be governed largely by the outlook. In other words the location as well as the style of the individual window, and its height and size in relation to the rest of the room, should be determining factors in deciding the question of suitable summer draperies. For where the view from its windows is a desirable asset, and the use of the room does not demand the protection of close-hanging curtains, we may either dispense altogether with those which go next to the glass, or keep them looped back in the simplest possible manner. Or, if the unbroken line of a full gathered curtain is more in keeping with the style of the room, we may use those sheerest of nets,

Autochrome by Mattie E. Hewitt

This sun parlor, another view of which is shown below, has been made, as it were, a connecting link between the dining room, from which it opens, and the garden, to which it leads, both by the coloring and by the character of its decorations. Without, bloom flowers in every shade from purple to pink; within, they find their reflection in the colorful chintz, the lamp shades, wall pockets, and other decorative details

Carrying still farther this idea of closely relating the room to its outlook, the green of the foliage, the shadowy grays and browns of shrubbery, and the glimpses of blue in water and sky, determined the choice of the gray-green sun curtains, if necessary antique ivory furniture faintly lined with green, with a few pieces of silvery willow, and occasional blue-and-gold pillows

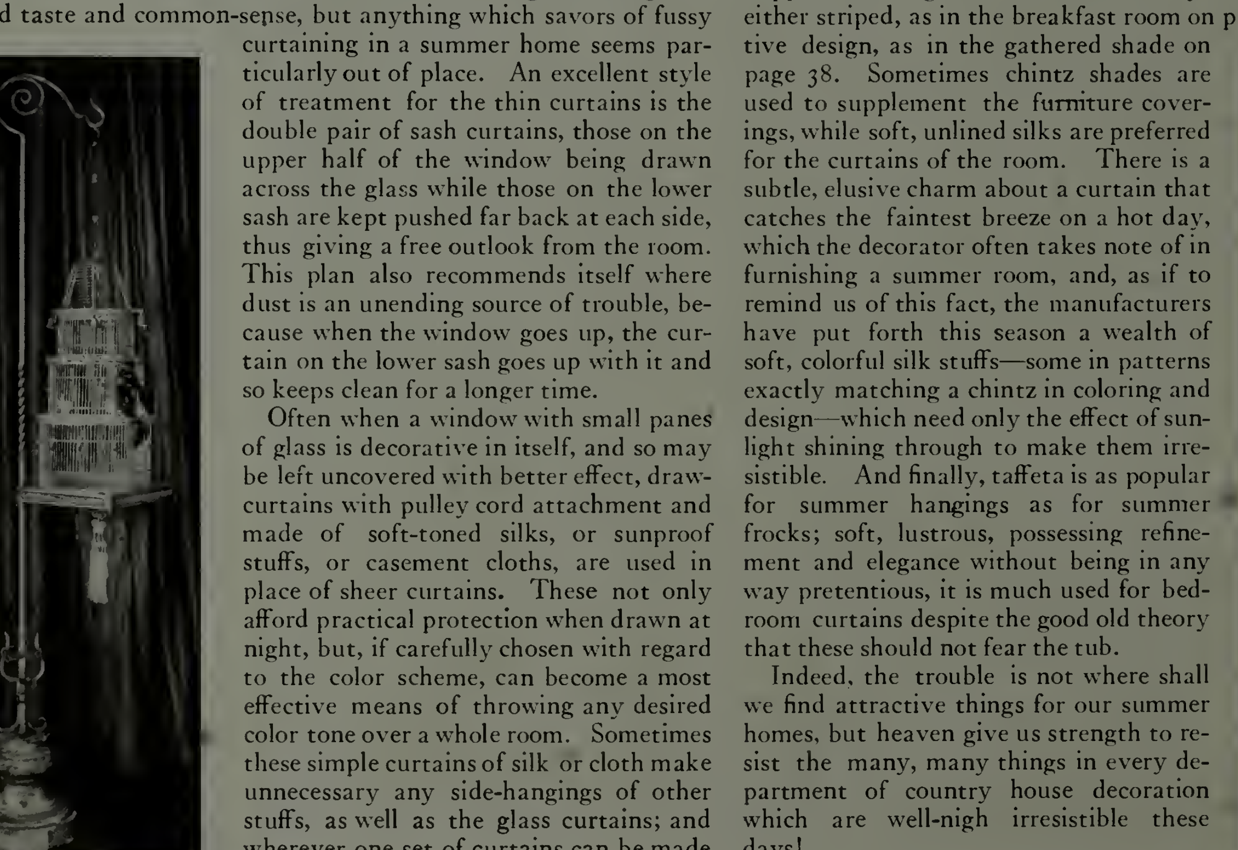
Lucy Abbot Throop, decorator

Trowbridge & Livingston, architects

The furnishing of this room affords an unusually striking example of the dignity as well as beauty oftentimes to be found in an exquisitely simple scheme. Of sufficient character to give distinction to any year-round country house, this dining room is still so delightfully informal, restful, and gay as to be among the most inviting summer rooms in one of Long Island's many beautiful homes

striped or plain, which hang as little more than a transparent film before the glass, or a coarse filet net which, from a practical viewpoint, as a curtain is little more than a farce, but from a decorative viewpoint, is often an agreeable finishing touch.

There is always the temptation to overdrape our windows, and, winter or summer, there is no excuse for committing this sin against good taste and common-sense, but anything which savors of fussy curtaining in a summer home seems particularly out of place. An excellent style of treatment for the thin curtains is the double pair of sash curtains, those on the upper half of the window being drawn across the glass while those on the lower sash are kept pushed far back at each side, thus giving a free outlook from the room. This plan also recommends itself where dust is an unending source of trouble, because when the window goes up, the curtain on the lower sash goes up with it and so keeps clean for a longer time.

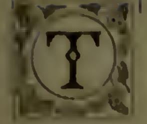


Often when a window with small panes of glass is decorative in itself, and so may be left uncovered with better effect, draw-curtains with pulley cord attachment and made of soft-toned silks, or sunproof stuffs, or casement cloths, are used in place of sheer curtains. These not only afford practical protection when drawn at night, but, if carefully chosen with regard to the color scheme, can become a most effective means of throwing any desired color tone over a whole room. Sometimes these simple curtains of silk or cloth make unnecessary any side-hangings of other stuffs, as well as the glass curtains; and wherever one set of curtains can be made to answer the practical and decorative purpose of two in a summer home, let that suffice.

There is one ugly feature of home-furnishing which in the summer home can often be happily made an attractive instead of an objectionable detail, and that is the window shade. For it often happens that a glazed chintz shade may be used with good effect, either striped, as in the breakfast room on page 35, or with decorative design, as in the gathered shade on page 38. Sometimes chintz shades are used to supplement the furniture coverings, while soft, unlined silks are preferred for the curtains of the room. There is a subtle, elusive charm about a curtain that catches the faintest breeze on a hot day, which the decorator often takes note of in furnishing a summer room, and, as if to remind us of this fact, the manufacturers have put forth this season a wealth of soft, colorful silk stuffs—some in patterns exactly matching a chintz in coloring and design—which need only the effect of sunlight shining through to make them irresistible. And finally, taffeta is as popular for summer hangings as for summer frocks; soft, lustrous, possessing refinement and elegance without being in any way pretentious, it is much used for bedroom curtains despite the good old theory that these should not fear the tub.

Indeed, the trouble is not where shall we find attractive things for our summer homes, but heaven give us strength to resist the many, many things in every department of country house decoration which are well-nigh irresistible these days!

MOBILIZING *the* ESTATE *in* FOOD PRODUCTION



THE readers of this magazine, we are proud to say, include very many citizens of large affairs. For the most part COUNTRY LIFE has concerned itself with the joys of country living rather than with its duties.

We are bound to believe that our readers will be active in a large minded, public-spirited way in their desire to help our country, and COUNTRY LIFE wishes to call their serious attention to ways in which they can do it.

The world is rapidly approaching the starvation point in many lands. Foodstuffs cost double what they did a year ago, and people of the Old World are often unable to buy at any price.

Let every reader use unemployed land to grow any of the following crops. They are not difficult to plant and cultivate, the elemental rules set down here will suffice, with a few suggestions from local authorities. Note also the prices before the war, and the present prices:

Potatoes—Plant in rows 3 feet apart, 12 to 14 inches apart in rows, and 3 inches deep. Cut seed to two eyes. Cultivate five times, first when 2 inches high and then every two weeks. Ideal soil is a rich, loose loam, sandy or gravelly. Plant as early as possible for early crop; for late crop plant up to first of June; harvest in August and later. Seed per acre, 12 bushels. Yield per acre varies greatly; it averages 100 bushels, but should be twice that. Average price April 1, 1915, 48 cents a bushel; April 16, 1917, $2.34. The world's potato crop for 1916 was 66 per cent. below average.

Wheat—Does not require deep plowing, but needs a light, fertile clay, well drained. Sow broadcast or in drills 6 inches apart, 6 to 8 bushels of seed per acre. Yield, 30 bushels, average. Price, April 1, 1915, $1.51; April 16, 1917, $2.23 per bushel. Sow spring wheat as early as possible; winter wheat can follow potatoes or may be interplanted among corn.

Rye—Grows in very poor soils. Sow in well drained, light land. Only the winter crop is of importance, but it can also be sown early. Excellent as manure crop, and follows corn or potatoes. Can sow in corn at last cultivation at rate of 1½ bushels per acre, or sow on fresh land at rate of 3 bushels. More easily raised than wheat, especially in cold climates. Average yield 25 bushels per acre. Price, April 1, 1915, $1.004; April 16, 1917, $1.35.

Corn—Generally adapted to the widest area of the country. Average production 40 bushels to the acre, but is easily doubled or even trebled under care. Some growers average 75 bushels. Plant generally 1 inch deep, or up to 3 and 4 inches on very light soil. Sow in rows 3 feet apart, 1 foot in rows. Seed required per acre, 8 to 10 quarts. Price, April 1, 1915, 75 cents; April 16, 1917, $1.30.

Buckwheat—Favors a cool, moist climate. Suited to wide range of soils, preferably rather light and well drained. Will give a fair crop on land too poor or too badly tilled to produce other crops. Do not plant on very rich land. Plant after spring work is over, till first of July. Matures in three months. Seed per acre, 4 pecks, drilled or broadcast. Average yield 25 bushels. Price, per bushel, April, 1915, 85 cents; April 16, 1917, $1.28.

. . . . .

There is not enough skilled or unskilled labor to supply the need for agricultural work. There are several things you can do to help:

Defer building of ornamental fences, walls, roads, etc., until this planting season is over.

Gather labor to cultivate intelligently, using the young and old to help, including members of your own family. Induce them by example, extra pay, persuasion, or forceful pressure to work longer hours to get seed planted.

Help to develop in those about you an attitude of mind calling for earnest self-sacrificing participation in this great patriotic movement—even to going to the extreme of working with your own hands.

Grow crops not to make money or to "make the place pay," but to supply the starving or the half nourished.

High authorities are advising preparation by doing setting-up exercises night and morning. Do *your* setting-up exercises in the field; it will be better for you and better for crops.

Don't get too much wrought up. There is no need to plow up lawns, as some enthusiasts are talking of doing, no need to touch the fair green of the golf links. There is plenty of good land, but a terrible scarcity of willing workers.

Be a sensible patriot and spread the Sensible Patriot gospel in your neighborhood.

Grow things!

We are taking our own medicine here in Garden City. We have plowed up land, and editors, clerks, bookkeepers, and printers are growing things. If you want any more information, write to our Readers' Service Department, Garden City, L. I., N. Y.

FROM THE PRESIDENT'S PROCLAMATION

THESE, then, are the things we must do, and do well, besides fighting—the things without which mere fighting would be fruitless:

We must supply abundant food for ourselves and for our armies and our seamen not only, but also for a large part of the nations with whom we have now made common cause, in whose support and by whose side we shall be fighting.

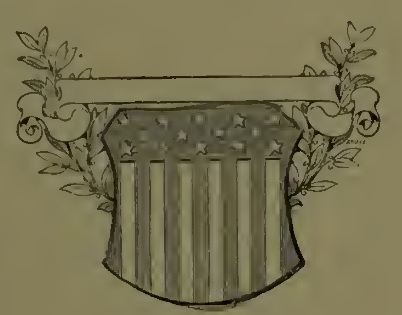
We must supply . . . . mules, horses, cattle for labor and for military service. . .

Without abundant food, alike for the armies and the peoples now at war, the whole great enterprise upon which we have embarked will break down and fail. The world's food reserves are low. Not only during the present emergency but for some time after peace shall have come both our own people and a large proportion of the people of Europe must rely upon the harvests in America.

Upon the farmers of this country, therefore, in large measure, rests the fate of the war and the fate of the nations. May the nation not count upon them to omit no step that will increase the production of their land or that will bring about the most effectual coöperation in the sale and distribution of their products? The time is short. It is of the most imperative importance that everything possible be done and done immediately to make sure of large harvests. I call upon young men and old alike and upon the able-bodied boys of the land to accept and act upon this duty—to turn in hosts to the farms and make certain that no pains and no labor is lacking in this great matter.

Let me suggest, also, that every one who creates or cultivates a garden helps, and helps greatly, to solve the problem of the feeding of the nations; and that every housewife who practises strict economy puts herself in the ranks of those who serve the nation. This is the time for America to correct her unpardonable fault of wastefulness and extravagance. Let every man and every woman assume the duty of careful, provident use and expenditure as a public duty, as a dictate of patriotism which no one can now expect ever to be excused or forgiven for ignoring.

WOODROW WILSON



WHAT *is the* ESTATE OWNER'S BIT?

By EDGAR L. SMITH

EVEN if we had not decided to take part in the World War, we would have been threatened, as we are to-day, with an alarming shortage of food, due among other things to the enormous exports of staples to the Entente Allies, and in some measure to the shortage of farm hands, which existed last year. Added to this, came crop failures in several sections, culminating in the expected shortage of 51,000,000 bushels of winter wheat.

Since we have entered the War, our responsibility to produce food has increased, for while as a neutral we would have no direct obligation to provide food for more than our own citizens, yet now that we are allied with other nations struggling for existence, it is our duty not only to feed our own citizens, but to provide a great surplus of staple food available for export whether the war continues or comes to an end. This food must be produced so that starving millions may be saved. Our country is at last aroused to the situation and is taking steps to meet it by mobilizing its agricultural resources—in particular its man power.

At first the cry of those who realized that more crops must be grown was for greater acreage. Every piece of vacant land in the country was to be plowed. Some recommended that a fine of $5 an acre be placed on every idle acre of farm land. Aside from the difficulty of determining whether an idle acre was farm land or not, the imposition of a fine might bring in revenue, but would not necessarily increase the number of men, skilled in agriculture, who were farming. And surprising as it may seem, the volume of crops fluctuates more in proportion to labor applied to them than to the

acreage available for planting. Indeed such a plan of penalizing idle land might very well have drawn away from the farmer, hands that he required to till his fertile soil, and have placed them on infertile lands under inexperienced management, with the ultimate result of reducing rather than of increasing the total crops produced.

Soon those who gave study to the situation were able to focus their attention on the most important item, namely, that the experienced farmer with fertile land must be provided with all the hands needed properly to farm this land. Then if there is any surplus of labor, it can be used to advantage on land that has been out of cultivation for some time.

In approaching the question of what he can best do, the country estate owner must fully appreciate the vital factor in the problem suggested above. He must first curtail all effort on his place that calls for labor that is unproductive, such as grading, decorative planting, the planting of orchards which will not bear for several years, the reshingling of a building which can be patched to do for another year, the conversion of a gravel path into a concrete walk, the erection of a fountain, and all improvement work of this sort, unless these undertakings can be so timed that they merely use the unproductive labor of men whose prime efforts are devoted to the production of crops.

On the other hand, the erection of silos, the acquisition of labor-saving machinery, and all other factors which tend to reduce the number of men necessary to grow crops on the estate are to be encouraged. It is well known that a silo is the least wasteful way of preserving the full feed value of a corn crop.

If in ordinary times there may be doubt as to whether it is better to use tractors than horses, in the present crisis there is none, because the fuel to run tractors does not reduce the fodder supply of the country, leaving it available to feed the army horses, cows, and other live stock that will indirectly increase the supply of food. Hence the use of the tractor not only tends to reduce the number of men needed for farming, but leaves a larger proportion of the farm produce in a form that contributes to human nourishment.

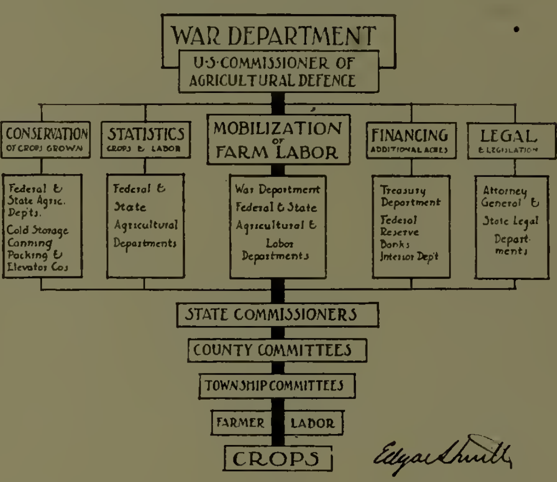
The State of New Jersey has issued an appeal to all owners of private estates with extensive lawns to allow these lawns to grow. It should be a badge of merit this year, rather than a source of shame, for an estate owner to have a lawn which has not been cut. Think of the acres and acres of lawns which are given as much attention and require as much man and horse labor to keep in condition as an equal number of acres planted in corn.

You will see at once that it is well worth while to release the man power consumed in this unproductive labor of trimming lawns, to other more productive agricultural pursuits. Besides, in many instances, a short, low-grade hay will result, which will have sufficient value to pay for the cost of mowing it when it has attained its full growth, even though it can not be regarded as a successful hay crop. Of course the lawn may have be to reseeded, but that can wait till the present food crisis is forgotten. Or, if areas devoted to extensive lawns are fenced against the intrusion of dogs and the escape of the flock, nothing could be better than to secure a number of sheep. They would help preserve the appearance of the estate and turn the growing grass into mutton.

There are numerous land owners who are not farming their land nor are they able to supervise its operation to advantage. Many of these have asked what is best for them to do. If they have really fertile land they should first seek a neighboring farmer and offer him the use of this land without rental, if thereby his expert knowledge in the art of growing crops can be made effective over a larger area than he owns, or if he can use this land as a pasture for live stock, which will reduce the amount of feed that he has to purchase. This is the simplest procedure, and if the owner of such land make reasonable stipulations with the farmer as to its use, he can be sure that his contribution is effective in increasing the food supply of the nation.

If no adjoining farmer exists to whom this proposition can be made, let the owner secure a share tenant from a distance, on a basis more favorable to the tenant than would appear to be according to sound business principles in ordinary times.

NATIONAL
ORGANIZATION FOR AGRICULTURAL DEFENCE



It is hoped that by the time this article appears, many of the forces—local, country, state, and national—will have been so organized that such land may be offered to properly constituted authorities who, if need be, will organize a farming unit to go on to the land and farm it. Such procedure is worth while only in the case of the larger areas. If no one is at hand to cultivate a small plot, it is best to leave it idle.

It was to deal with such problems and the wider problems of mobilizing all farm labor throughout the country, that the Senate on April 11th adopted a resolution calling upon the Council of National Defence to consider a plan for bringing into one great national organization the men now employed by the Federal and State Agricultural Departments, to the end that every man able to perform effective work on farm land could be directed through this organization to a point where such work was needed.

The plan contemplates the mobilization not only of men, but of farm supplies and equipment, materials, and even money, and the diagram on this page shows in brief the functions of the organization as then proposed, and the means by which it would carry out its policies.

The whole is put under the War Department, because in times of strife military ideals have more power than the purely civic to move men to action; and in addition, certain factors of the plan could be carried out only with the authority now vested in the War Department.

Other plans have emanated from almost every corner of the agricultural world. But all of them lay emphasis on the necessity for bringing man power to bear on acres that are in proper tilth to yield maximum crops, rather than on bringing additional acres under the plow. The estate owner must keep this thought foremost in his mind. See to it that you do not over-man your property. If you hire a man to tend your plot of five acres, who in a farming section could care for twenty acres, you are not helping the situation. If, on the other hand, you have to keep a certain number of men, see to it that they are handling a proportional acreage, by renting neighboring land if the owners will not offer it to you rent free.

One estate owner in New Jersey has met this condition by offering to plant and cultivate one or two adjoining farms with his teams and equipment, on the understanding that he will keep track of the time of his men and horses and the cost of seed. If, when the crop is sold, there is a surplus over the actual cost of growing it, he will divide with the owner of the land.

As to crops, everybody seems to have planted potatoes this spring—at least everybody that could get seed. But at this season the main reliance must be on corn. Corn grows well on land that has been in sod, and is comparatively easy to grow, requiring less labor than many other crops. Besides it stores well. Let us then plant every available acre to corn, and put in winter wheat or rye with the last cultivation of the corn. Grow crops best adapted to your neighborhood and to the degree of skill and experience of the man who will have charge of the work.

After the crops are grown, see to it that they are harvested and not wasted.

Very soon now, the first green vegetables will be maturing, and whether they are the product of your own garden, or whether you have to go to market and buy them, see that your cellars are well stocked with rows upon rows of well filled glass jars. Let your daughters get from the Department of Agriculture the bulletins issued in the interest of inspiring farmers' daughters to form Girls' Canning Clubs. These bulletins will tell them how to preserve for winter use a surprising variety of succulent vegetables and fruits. Not only will you increase the nation's store of foodstuffs, but you will add to the pleasure of many a January meal of your own.

All of these are measures that will help the immediate situation and can be put into effect by owners of country estates. But in all probability the nation, no matter how it strives, will not produce enough food in 1917 to meet the world's deficit, and those estate owners who have additional funds at their disposal after paying the heavy costs of what, at best, must be considered fancy farming, are urged to investigate the question of forming corporations which under expert guidance may acquire large tracts of low-priced land in more favorable climates, with a view to organizing and equipping them for the commercial production of crops on a large scale. This form of corporate activity is new to the East, but has long been well regarded in the West. Only recently, numerous large tracts of Southern land have been taken over for operation rather than for land speculation by New York investors, and present economic conditions render them particularly attractive. The value of the dollar has shrunk, other industries are subject to legislative attack, but land and agriculture must always remain the foundation of the nation's prosperity.

ON *the* TWO HORNS *of the* GAMBREL

By AYMAR EMBURY, II

The gambrel-roof houses of early American builders showed a beautifully proportioned gable end but a fine disregard for bedroom comfort. The modern house of this type, with steeper pitch and plentiful dormers, too often secures head room at the expense of beauty

IT IS a remarkable fact that the oldest existing house in America has a gambrel roof, and this is especially remarkable in a house which we should expect to find closest to English precedent, because the gambrel roof is commonly regarded as an American invention. Of course this was not the case; we find in England, in France, and especially in the more northern European countries of Germany and Scandinavia, occasional buildings roofed in this peculiar fashion, but in no part of Europe was its use sufficiently common to mark it as characteristic of any style. In this country, however, apparently the earliest settlers saw at once its availability for American conditions, and it came into early and continuous favor.

Just why this should have been is one of the mysteries for which no satisfactory explanation can be found. It has been plausibly suggested that, as one of the earliest taxes of the Colonies was the hut tax—a tax imposed upon the owner of every house—and as this tax was considerably greater in the case of a house of two stories than for one of a single story, the Colonists (exhibiting Yankee shrewdness at an early date) evaded the tax by making a one-story house with two floors—hence the use of the gambrel roof. And indeed, the greatest value of the gambrel roof has always been that it gives a spacious second story with the appearance of a one story building, a thing very desirable in small houses where the long, low effect is so earnestly sought for by our designers. As the apparent height of a house is from the ground to the cornice, and not from the ground to the ridge of the roof, the lower the cornice the lower will be the effect of the house; and by comparison with the height, the apparent length will be increased. The lines of the gambrel roof, except when the house is seen directly from the front or rear, appear to flow down to the ground, thus tying the house into the landscape, and there is no question but that an apparent intimate connection between the house and its surroundings is of distinct artistic importance. This can never be more beautifully illustrated than in the case of the Fairbanks house, which we have quoted as the oldest house in America, and which is supposed to have been built in 1636.

The gambrel roof early became common in all parts of the United States, although only in the Dutch settlements around New York was it used in a majority of cases; indeed its great prevalence in these settlements has led to the adoption of another and perhaps more common name for it—the Dutch roof—which is a misnomer, since the type was neither originated in Holland nor confined to the Dutch colonies. In New England the gambrel roof was extremely common; in the district around Philadelphia it was rare but not unknown, and farther south it was not so unusual as to be especially remarkable. There are in Annapolis several houses with gambrel roofs; in Maryland and Virginia they are not infrequently found, and I have even seen examples in Louisiana, among a crowd of other buildings of types distinctly Spanish in origin.

With the other features of architecture developed in Colonial times, the gambrel roof disappeared in the early part of the nineteenth century, and its first revival was in the 80's of the last century, when architects began dimly to perceive the appropriateness of the roof shape to houses set among the sand dunes of our coasts. In consequence, many of the earlier of our seaside cottages were made with gambrel roofs, although of rude and clumsy shapes and much broken up with dormers, balconies, railings, and the like.

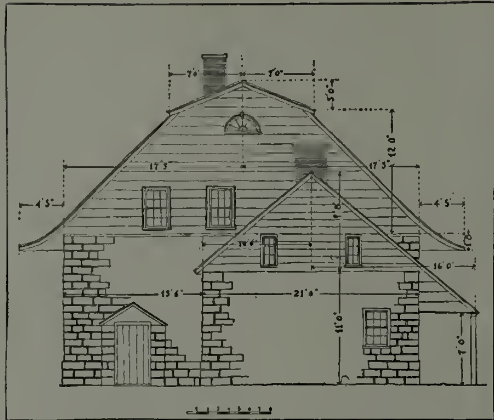
Of late years there has been a very genuine and intelligent revival of interest in the study of Colonial precedent, and architects now endeavor to find out the causes which produced the lovely quality of all Colonial work, rather than content themselves with copying the effects, and one of the things which has been most carefully studied by a number of modern designers has been the gambrel roof. We have begun our study by realizing two things: first, that we must devise gambrel roofs of forms which give considerable space on the second floor without cutting off too much of

the ceiling diagonally; second, that we must light and ventilate the second story more fully than was the custom in Colonial times, since most of the old houses had no windows except in the gable ends. We have also realized that we were setting a good deal of a problem for ourselves in thus introducing two new factors into the treatment of the gambrel, if we were to secure the quiet and simple dignity of the old work, and it cannot be said that thus far we have completely succeeded.

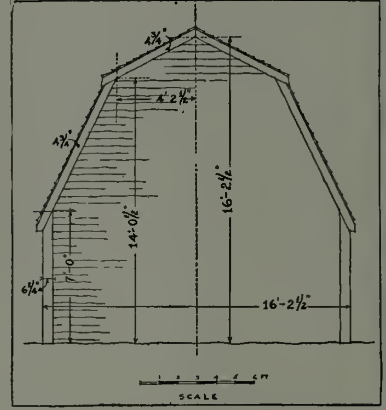
We have found that the shapes of the roofs in the old work vary considerably in the several localities; also that various shapes were used in the same localities at different times. We are accustomed to regard the oldest roofs as being the flattest, but the oldest roof of which we know anything is that of the Fairbanks house at Dedham, which is as steep as any of the modern work. If the drawing of the wing of the Fairbanks house be compared with the photograph, we can realize how much steeper it is actually than in appearance. Since the roof is not pierced by dormer windows, there are no vertical lines to indicate the true slope, and the mental picture which we form of the house is of a long, sloping roof, without any very exact realization of the pitch; if the roof were broken up by dormers as are modern roofs of the same type, we would at once realize the truth of the matter and the house would lose a considerable portion of its charm. This steep-pitched roof was in general characteristic of New England work, as opposed to the work in the Dutch colonies, although in later New England work the pitches of the upper and lower portions of the roof were somewhat modified, as well as the relations between the lengths of the two portions. In the Fairbanks house the lower slope is slightly steeper than 60 degrees and the upper slope is slightly flatter than 30 degrees; comparing the lengths, the lower slope bears to the upper the relation of three to two. In later New England work of the same type, the roof pitches were laid out so near to 60 degrees for the lower and 30 degrees for the upper slope, that it is probable that they were intended to be of these degrees; indeed, we find in all old work that slopes were laid out in accordance with the natural divisions of the circle—30, 45, and 60 degrees, with the halves of these numbers. Thus in the old house on the Larz Anderson estate, the lower slope is approximately 60 degrees, while the slope of the upper roof is approximately 15 degrees, and the slope of the long portion in the rear, 22½ degrees (a half of 45 degrees). The use of different pitches in the roofs of the front and rear of a house was not uncommon in New England houses, but the front was invariably the steeper. This was often done in single-pitch roofs, but very rarely in gambrel roofed houses, so that the old house on the Larz Anderson estate is interesting as a curiosity as well as a precedent.

In later New England work the tendency was to make the upper and lower portions of the roof more nearly equal, and the result is by no means as pleasant as in the older houses, where the upper slope was flatter and the relation between the two was not so regular. On the other hand, it should be remembered that a roof which pitches at an angle of less than 30 degrees will probably leak, and one at less than 22½ degrees is certain to leak. So having learned these things by experience, we nowadays confine ourselves to roofs the upper pitch of which is not much less than 30 degrees.

In the Dutch work near New York, we find houses with single



A representative old Dutch house at Tenafly, N. J. The lower slope was usually 45 degrees and the upper one 22½ degrees. A flare at the eaves helps to increase the impression of flatness



In the famous old Fairbanks house at Dedham, Mass., the lower slope is approximately 60 degrees and the upper 30—a precedent followed in the New England gambrels of later date

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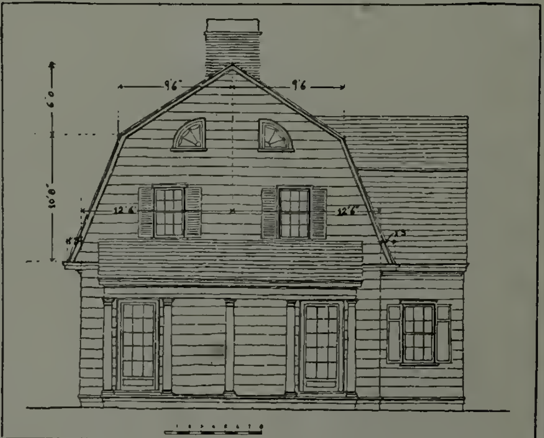
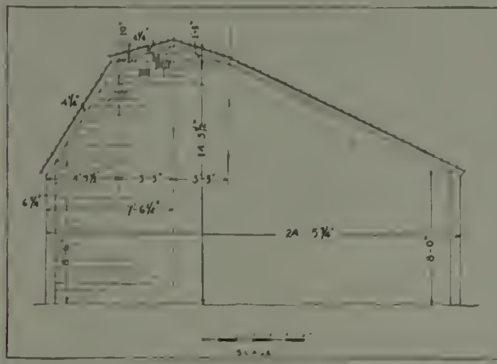


The Nye house, Kew, N. Y., is representative of modern work, where the steeper New England pitch and the addition of dormer windows are responses to the demand for greater room and comfort above stairs

The famous old Dyckman house at Broadway and 205th St., New York. The flare of the lower slope is projected as a porch roof—a common device among the Dutch builders



Interesting as a curiosity as well as a precedent. An old house on the Larz Anderson estate in Brookline, Mass., showing a difference in pitches between front and rear. This practice was not uncommon in single-pitch roofs, and the front was invariably the steeper, but it was a rare occurrence in gambrel-roofed houses

three cases; it is about two to one.

Around Philadelphia and in Maryland and Virginia, the roof slopes more nearly resembled those of New England than those of New York, probably because the Colonists were of similar blood to the New Englanders and their artistic appreciation was likewise similar. The few old examples along the Gulf of Mexico are much flatter, and are similar to the Dutch work rather than to the New England; it is not so surprising to find that work in the far South, where there is no snow to shed, should be flat, as it is that around New York such flat roofs should have been common.

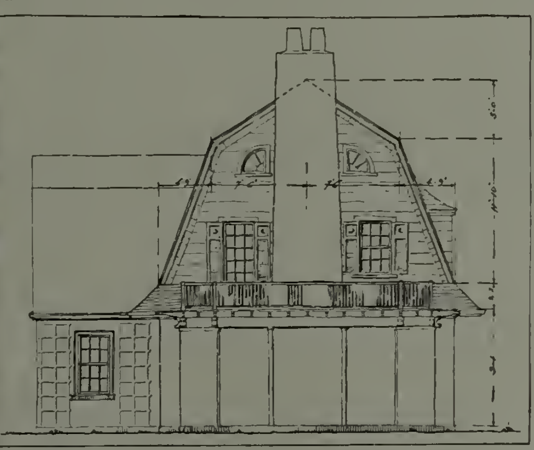
For modern work the New England type is preferable, although it has not the quaintness and

pitched roofs, and gambrel roofs which share an interesting characteristic that appears to have been practically confined to these settlements—that is, the curve or flare of the bottom of the lower slope. Sometimes this was a real curve and sometimes it was a break with a third pitch introduced, but it was eminently characteristic of all the Dutch houses. The old house at Tenafly, illustrated here, is about as true to type as anything to be found; there does not seem to have been any rule to govern the lay-out of this curve, although the lower slope was almost invariably at an angle of 45 degrees and the upper $22\frac{1}{2}$ degrees, as may be seen from the drawings of the elevations of all three of the Dutch houses. The relation between the lengths of the lower and upper rafters, counting the lower rafters from the point where they intersect the exterior wall, is substantially the same in all

charm of the Dutch, because it gives more room in the second story, permits dormer windows to be inserted without so much lost space, and because the roof over the second story being more nearly vertical, the temperature of the rooms below the roof is not so much affected by radiation of heat through it. Therefore it will be observed in most of the modern houses that the New England roof shape has been followed, and of this type the Nye house is a very fair example, in which an additional problem has been solved—that is, the raising of the roof sufficiently to permit of servants' bedrooms in the third story. Material changes in angle and proportion can be accomplished only by very careful and thorough study of the roof slopes. I, for one, approach each new gambrel roofed house with fear and trembling, and until the work is actually constructed, with some doubt as to the ultimate result.

Another modern gambrel in which the lower slope is steep and rather higher than usual. The dormers have been subordinated by recessing, excepting the central one which serves to emphasize the axial entrance

We not infrequently introduce a third pitch at the lower end of the roof, taking to some extent the place of the flare on the Dutch work, although no succession of straight lines can be quite so easy and graceful as the curve. But the curved roofs are difficult and expensive to construct and can be covered only with shingles which are susceptible of bending to the curve.

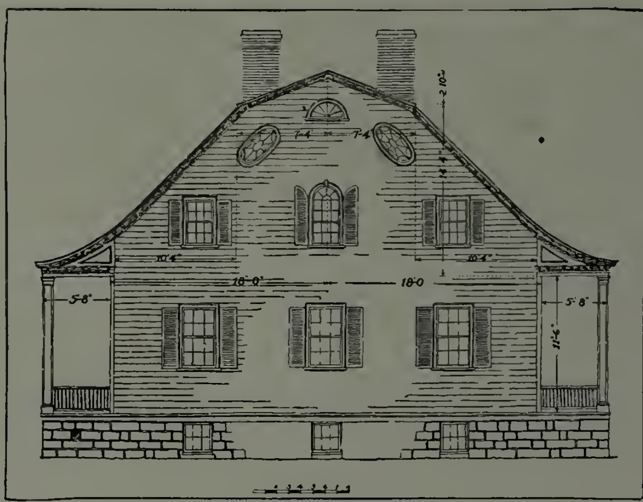


Still another difficult element in the modern work is the treatment of the piazza. The old houses had, as a rule, no piazzas, or at most a narrow porch across the front or rear of the house below the extended overhang of the roof. In modern houses we find it necessary to build piazzas of substantially the same shapes as rooms.

We do not find in modern examples of the gambrel

roof that any fixed rule of proportion has been observed; the relations between the upper and lower roofs are sometimes those of New England work, sometimes of Dutch work, and frequently neither; the lower slope is always as steep as the architect dares to make it, so as to secure the greatest possible room inside. The wonder is not that they sometimes fail of the quaint and lovely effect of the old ones, but that we are ever able to secure roofs which approach the old work in charm, especially when we remember how the clients of to-day demand large window openings and straight walls. In the endeavor to please clients in this respect, many architects have combined the dormers into one single long dormer running across the whole front of the house, with but two or three feet (and at times even less) of what is supposed to be the roof slope left on either end. This treatment cannot be sufficiently deplored. It is theatrical in the extreme, bad construction, and not even successful in giving the desired effect. One does not feel on looking at a house of this character that it is a gambrel-roof house with a long dormer, but rather that it is a square, two-story house, trimmed with a gambrel. While there is one house in this country where such a dormer was introduced without ruining the effect of the building, the happy result is due rather to the brilliant design of other portions than to this feature. Unfortunately, perhaps, the house has achieved a great public success, and client after client will come to the architects with illustrations of this house, clipped from magazines, demanding a similar roof treatment, without the will to pay for the other elements which make the house successful, or the ability to realize that the success of the house was not due to the roof, but to the other features of the design.

The gambrel roof is still of utility to us, especially in the small house; and from the many experiments as to proportion which have been made in recent years, some are to be found which are artistically correct and which possess practicality in plan; but no one should forget that the exact forms of the old Dutch roofs cannot be used without an immense sacrifice of space and air in the second story, and that the pleasing effects of the steeper roofs in New England were due generally to their unbroken surfaces. Modern work of which a gambrel roof is a feature can be made quaint, charming, picturesque, anything you please, but it cannot be made to resemble Colonial work and still be comfortable, as our modern standards define comfort.



The Vreeland house, Nordhoff, N. J., is particularly interesting because of its perfect symmetry and because of the unusually graceful curve of the lower pitch. Unfortunately the porch requirements of the modern country house demand something much wider than 5 ft. 8 in.

An excellent example of the gambrel roof starting above the second story instead of above the first. The dormers and roof balustrade are such as were used more often on the straight gable roof of the New England Colonial house

An INTERVIEW *with a* SUCCESSFUL TROUT

By ROBERT T. MORRIS,
Author of "Microbes and Men"

BALMY spring day in town. The light south wind wafted my thoughts far away over hill and valley to a place where yellow willow twigs were becoming golden yellow, and red dogwood twigs were lighting up the thicket along a stream with a cheery glow like the touch that Sir Edwin Landseer loved to give to his paintings. The jingling music of peepfrogs in the marsh. A loosely strewn patch of crowfoot violets among the hellebores. Song sparrows singing, singing, singing to Auster all day long. A pretty spotted turtle in the spring brook. The odor of damp green moss and of maple blossoms. In the midst of a medley of memories belonging to the delightful distress of an attack of spring fever, my head fell across my folded arms on the desk and in a moment I was in dreamland.

The editor had given me an assignment to interview an old acquaintance in the brook. This particular trout lived under a boulder where a scraggy hemlock leaned over the bank, right where the brook, emerging from a swamp full of the red-winged blackbird's favorite bogs, paused a bit in order to make deep flow in a dark, foamy pool. You know the place!

I submerged, and in the dim light beneath the boulder came face to face with my acquaintance gracefully poised over the bottom sand, waving his tail a very little in order to help the pectoral fins maintain balance in the gentle side currents of his quiet room.

Said I to the trout, "We have known about each other for several years but we have never happened to get together leisurely. You don't appear to be particularly busy right now. Would you object to giving an account of some of your experiences in life?"

Said the trout to me, "Why no! Events in life have been rather full of action, and you might as well have some sort of an account of a trout's ups and downs. This rock is mine. At least I found the pleasant place beneath it about six years ago, and I have not cared to allow other trout who might be foolish or nervous to share it with me. There is plenty of room elsewhere in the brook.

"The Water Fairy, Rulee, who presides over our stream, tells me a great many things. If you listen when in the right mood you will hear her at almost any time calling in a softly modulated voice, 'Rulee here! Here Rulee!' Most of the men who come along the brook never hear her at all. They go stumbling past, talking about business and all sorts of affairs, very much as the diving beetle takes his own bubble of air with him when he goes anywhere below the surface. There is one man, a poet, who comes here at times, and he knows how to listen. Rulee says that he is mostly spirit like herself, and she does not fear to talk with him by the hour and to show him all of her treasures in the beauties and forms and colors of the brook. Rulee, who is a daughter of the Great Spirit and who was understood to be such by the old pagan Greeks, knows everything.

"She tells me that my granite rock was brought down from the north by a glacier several centuries ago. That same glacier carried along some relatives of mine who were frozen in the ice but still living. When the ice melted it left our cousin, the saibling, in Sunapee Lake and another cousin, the grayling, in the Ausable River in Michigan. Men do not seem to understand just why one of our cousins should be found in a single water and no others of that sort in the neighboring regions, but Rulee has told me about the way in which cousins from the north were occasionally brought down by force of ice and left among strange surroundings. She says that we brook trout are the only rightful rulers of the streams hereabout, and that we have been here ever since the sea waters were quite fresh and extended over a greater area than at the present time. That explains why those of us who go to the sea under the influence of wanderlust always return to the brook in our season of brides.

"My friend Gorumpp, the bullfrog, keeps me pretty well informed about current events out of water. He sits on a log and makes observations all day long, but at times he comes down here below for a visit. I love him as a companion although I would devour him were he conveniently smaller. You think it strange that I would like to dispose of a friend? As a matter of fact, I wonder how long I could be powerful and handsome unless I were to catch something a good many times a day. The minnows—a principal part of my diet—are engaged all day long in capturing ephemerids and cyclops, and various other kinds of things which in turn are catching something else.

"I suppose that right is might, and if it were not right for me to be here I might be lost altogether. I asked Rulee about it, and she says that one thing catches another, clear on down to the microbes, and that microbes capture each other. Your Molière

or Shaw might have written about the sentimental features of the subject.

"We big trout even destroy little trout when they look very tempting, but I am told that some men are not above doing the same thing with people whom they get at a disadvantage. We are pretty decent about it on the whole, but the European brown trout that were put into the stream some time ago are rascals. They eat our trout by preference, and Rulee tells me that the menu is reversed when we are taken over to Europe. Fishermen don't like us over there because we dine upon their brown trout. Rulee says that this is a sort of law of nature and that a dominant species of any kind has a natural impulse to dispose of exotic competitors.

We brook trout understand each other pretty well and can explain things belonging to our ancestry which men don't seem to know about. I have overheard them discussing the question why some of us have pink flesh and others have white flesh, although trout of both color sorts live in the same stream. Sometimes men who sat on the rock said that this color difference was due to the kinds of food which we ate, but we white ones and pink ones are all eating the same food, and all doing the same sorts of things which men imagine might give pink color to one and not to another.

"When fishermen wade in the stream wearing big rubber hip-boots, we do not seem to be so much afraid as when they are upon the bank"

"I spoke to Gorumpp about it. He sat on his log and pondered for a long while, and then said that he had observed parallel facts, but nothing which led to an explanation. He said he knew that the red and gray screech owls were exactly alike excepting for a difference in color, and sometimes the broods of young owls in the buttonball tree down at the bend in the brook would consist partly of red ones and partly of gray ones; that the ruffed grouse which quietly step along the mossy bank of the brook, and which spring into the air with such a roar when disturbed, were sometimes gray and sometimes red, and that any brood of their young might contain birds of both colors. The same thing was true of the gray and black squirrels. When I asked Rulee about it she said, 'Oh! that is no mystery at all to a Water Sprite. Away, way back in olden times when Nature was not quite sure whether it would be best to let the screech owl or the trout have one color or another color, the cell nuclei in the egg carried variables of chromatin. On account of Nature's indecision, these variables carried hereditary influence toward one color form or toward another color form indifferently in various individuals. Every living animal comes from an egg. The egg contains cell nuclei and the chromatin of the cell nucleus carries hereditary influence.' Men do not seem to understand. They always appear to stop just short of knowing anything thoroughly.

"Oh, yes indeed, I have had many escapes from danger! When I was little it was necessary to keep a good sharp eye on the herons and kingfishers, and upon the eels and big trout.

"One day I saw a worm coming down stream attached to something long and thin. When I jumped at the worm and snatched it, I suddenly found myself splashing about on top of the water for a minute, and then fluttering among the ferns on the bank. Next minute I was in the hands of a fisherman. He looked me over, measured me, and said that I was agin the law, and threw me back into the stream again.

"That was no fault of mine, for I would not willingly have broken any law. After such an experience, whenever I saw a worm coming down stream with a long string behind him I listened for unusual sounds at the same time, and knew that it meant danger.

"The small boy with his worm catches a whole lot of us before we become experienced, and he is not so particular about what they call legal length. It appears to me that a boy feels that he has more need for trout than he has for law.

"Another day, when I was bigger, three flies went skipping along near the top of the water. Something appeared to be wrong about them, but they were in motion and that always excites a certain group of cells in the brain of a trout. Our great cousin, the salmon, cannot get over the impression which flies made upon a motor part of his brain when he was a little parr. This permanent imprint leads him to leap for flies when he has grown far past the need for bothering with small things. These flies which I saw were fastened to a transparent string which I could barely perceive, and I did not realize that a fisherman might possess flies that were trained to mind him. I jumped at one fly which looked prettiest and found a hook caught in the right side of my jaw, right where you see this little scar. I pulled and pulled like a good fellow, and would have surely gotten into trouble had one of the hooks not hung on a root of the hemlock under water. That gave me a chance to get a good purchase and I tore away from the hook. The fisherman tugged pretty hard for a minute until the hook in the root suddenly gave way, and then all three hooks flew up into the branches of the hemlock overhead and snarled there, while the fisherman said several things that a well-bred trout would hesitate about saying. After that I was very careful about accepting any sort of gift that had a string attached to it.

"One day, however, a fly which came up from somewhere down stream alighted quietly upon the water and made almost no movement. This was such a natural thing for a fly to do that I sprang at it before taking second thought or looking for a string. Then came trouble indeed. I dived under a rock and ran up stream and down stream and tried to rub this fly out of my jaw, but it held fast and wherever I went there was a steady pull, a pull which tired me until at last I could resist no longer. The fisherman slipped a net under me and took me out in his hands. I had saved up one good flop for emergency purposes, and while the fisherman and his friend were talking about my beautiful spots and markings, I gave a first-rate jump and dived head first, by luck, into a muskrat hole where I splashed about and made such muddy water that the fisherman could not see me clearly until I had made my way out into the stream again, and his claim was not valuable after that.

"During the next two years I was amused very often by the attempts of fishermen to get my attention. It was easy enough to detect a worm with its liberties restricted, moving up stream or crosswise in the most unnatural sort of way. Some of the fishermen would present odd styles in flies that they probably had chosen because of some personal fancy, with the idea that what looked good to them would look good to a trout also.

"Tandem teams of flies were sent across the pool jerkily and in odd combinations. One fisherman would have a Grizzly King

that was being chased by a Silver Doctor, and that in turn by a Yellow Drake. Another fisherman would have a tandem combination of a Professor, a Brown Hackle, and a Coachman.

"Circus performances of this sort do not occur in nature. I am really afraid of the dry-fly fisherman, however, because he steals up from behind and as likely as not will drop a fly quietly on top of the water where I cannot see any attachment to the fly; and the worst of it is that the men who develop this kind of skill have the sense to put on a fly that looks very much indeed like the ones upon which we happen to be feeding at just that time. There are times when no amount of experience will altogether protect one against a skillfully placed dry fly unless one becomes an absolute fly prohibitionist.

"One day last May there had been a thunderstorm at night and the water was somewhat raised and roily. A low, warm mist hung over the pool, and the wind was in the southwest. At such times my appetite is something tremendous and I dash out after everything that promises to satisfy the lust of the chase, and to complete its dinner triumphs.

"The dry-fly fisherman was out that morning without my knowledge and he dropped an absolutely perfect stone fly on the water right where a number of stone flies had alighted that morning. In a moment I had his fly and found out the mistake. As good luck would have it, a very small hook had simply hung on one of my crooked teeth, where I knew it could be thrown out whenever I pleased, and the spirit of sport came over me. I wanted to tantalize that fisherman and to see if it would not be possible to break his rod or the line. The buzzing of the reel could be clearly felt when I ran quickly through the deep water, and it was easy to imagine the fisherman's anxiety when I looped the loop and left him with a slack line for a moment. Then I ran down near to him and made a mighty splash on the surface of the water and heard him say that my weight was at least two pounds, although the other fisherman who actually had me in his hands said that my weight was one half that. Two or three times I pretended to be getting pretty tired and allowed the fisherman to reel me almost within reach of his net, but whenever the net was sunk down in the water about where I was expected to give up, I laughed and raced off in quite another direction. After this sort of thing had gone on for a long enough time I dropped the fly against a branch of alderbrush under water, so that the fisherman would imagine that I was still on and weighing at least three pounds when he pulled against that bending submerged branch. Then I ran back to this quiet place for a good rest.

"The fisherman . . . dropped an absolutely perfect stone fly on the water right where a number of stone flies had alighted that morning. In a moment I had his fly and found out the mistake"

"How do I get rid of a trout that wishes to occupy this place beneath the rock with me? Oh! that is easy. It is almost always a younger and less experienced trout, because we older ones have our places of residence pretty well fixed.

"When I see a baited hook or an artificial fly in the pool I make a rush toward it, pretending that I want to get it first. The younger trout depends upon me for knowledge and experience, and being a little more alert, thinks that he will get the best of me and capture what I have apparently set out to get for myself. Whenever one trout depends upon the experience of another before he has obtained it for himself in his own way, it makes him a lot of trouble.

"A good many trout that do not belong in our brook are easily captured by fishermen. They are put in here in order to stock the stream, but somehow they never seem quite to understand the shadows and noises and the dangers of a brook that was not theirs originally. Even when they marry with members of the old patrician family of this brook, they do not seem to get quite into the spirit of its institutions. It is probable that true harmony with one's environment comes from long hereditary impression. There is something going on under water all day long, and I never tire of watching the helgramites and dragon fly larvæ and the little fish of different kinds that are so busy from morning until night. There are plenty of dangers in the brook at all times.

"One day a clumsy, lumbering snapping turtle crawled under my rock when I was away. Upon my return he looked so quiet and disinterested that I moved up almost within reach of his jaws before remembering how they could dart out like lightning. Snapping turtles are increasing in numbers because the trappers catch so many foxes, skunks, and raccoons. Gorumpp says that when snapping turtles crawl up to a sandy place on the bank in June to lay their eggs, these animals follow their tracks and are so impatient to eat the eggs that they can hardy wait until all are laid.

"The minks are mean enemies because they watch for an opportunity when I am resting near the surface at night in the moonlight. They slide up quietly and try to catch me from below. They are most dangerous at the time of the year when I am in love, because then I am away from familiar hiding places, and worse than that, anybody in love is in what they call a psychic condition—off guard and likely to get into no end of trouble.

"There are some annoyances that Rulee says are dangerous in other streams. The young of the fresh-water mussels, for example, swim about and attach themselves to our fins and gills so firmly that we cannot get them off until they are ready to leave on their own account, in order to drop to the bottom and grow shells. In this particular brook they do not make very much trouble.

"We bigger trout fear the fisherman least of all perhaps among our enemies. Fishermen are apt to be noisy and in such a hurry to get to the next trout that they go past a hundred of us during the day.' When we feel a little trembling of the bottom sand or notice a shadow that is different from the shadow of waving branches, we know that in all probability an enemy is approaching upon the bank.

"When fishermen wade in the stream wearing big rubber hip-boots, we do not seem to be so much afraid as when they are upon the bank, and I have seen a number of trout get into trouble because they were not afraid of just a pair of legs under water. It may be that the angle of refraction has something to do with it. It is either that or else we have less hereditary fear of large brook enemies than we have of large bank enemies.

"I asked Rulee why fishermen wore these big hip-boots. She replied that it was for the purpose of keeping their clothes dry when wading the stream, but very often the hip-boot fishermen put one toe under the hemlock root which sticks up from the bottom at the upper end of the pool, and then they sit down in the cold water, getting both boots full. Rulee says that men are always doing things like that in all of their affairs."

In the Cooper house at Fieldston, N.Y., the garage arrangement on a level with the street is a particularly happy one, the house proper being a half story lower. Albro & Lindeberg, architects

THE GARAGE *in the* HOUSE

By JOHN TAYLOR BOYD, Jr.

OW has the automobile influenced the design of country houses? That it has caused a few changes is evident, but that these changes are fundamental and will probably be extended until they modify considerably our whole conception of a country estate, is a fact that is not yet generally perceived.

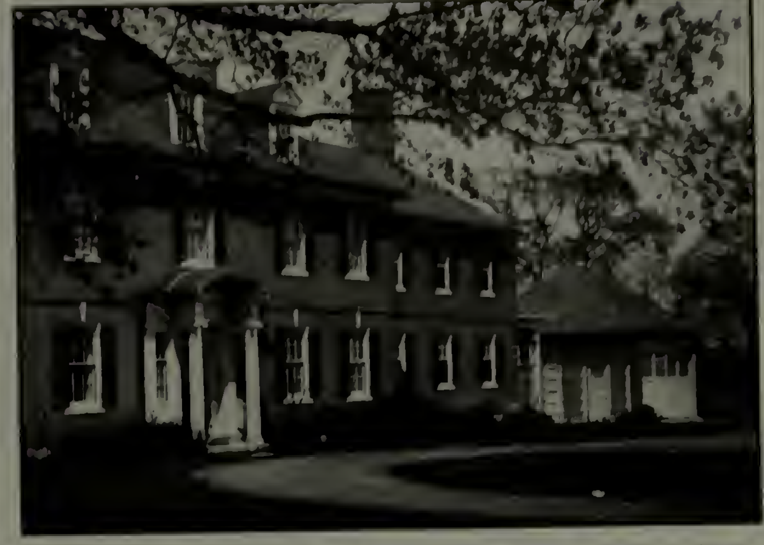
After all, there is nothing unreasonable in the idea. No new feature such as this typical twentieth century device can come into our lives without making a place for itself, causing readjustments in our scheme of things. And such changes in ways of living are bound to be reflected in architecture and landscape architecture though it takes time for people to discover what they are and then to develop them to their fullest possibility. Since the development is not yet complete, one cannot predict absolutely what the final results will be, but certain features of it are clear enough to be set forth with some certainty.

Where the main readjustment occurs is in the tendency to substitute a group plan for the scattered arrangement of isolated buildings hitherto in favor. Curiously enough, architecturally the advance is really backward, retracing our footsteps back to the fine old Tudor and Stuart mansions of England, to the châteaux and *hôtels* of old France. A strange paradox of history it is when architects study ancient castles and farmhouses to find new ideas for the proper housing of modern business men! Let me say at once that the return to old precedents is not with the aim of blindly copying archaic features or of reviving dead things that cannot be revived, for we have long since passed the stage when millionaires insisted that architects cram their households into exact reproductions of Florentine palaces or Touraine châteaux. The need is to study old plans for elements of picturesque groupings, odd motives of gables and salients and terraces, or interesting schemes of farm ells and sheds.

To be more specific, the tendency is to make the garage a part of the house itself, usually attached somewhere near the service wing. Stables, with their noise and dirt and odors, their complement of men and animals, with the desirability of placing them adjacent to the farm or garden part of an estate, are correctly kept away from the house, and people were entirely right in abandoning ancient arrangements in which stables were made a part of the dwelling. In fact, medieval necessities of defense were the cause of such concentrations, though, too, sanitary ideas were extremely rudimentary in those times. The garage, on the contrary, has few of the drawbacks of the stable, it is usually smaller, and reasons of economy in construction and heating impel its attachment to the house. Chauffeurs, as we all know, rank infinitely higher than grooms in the social classification of the household, and they may naturally expect quarters near the other servants. Besides, the members of the family may want the cars conveniently near where they make take them out for a spin without calling for the services of the chauffeur. I know of a large country house where one car is kept in the basement ready for the owner's personal use, and the main garage is located some distance away.

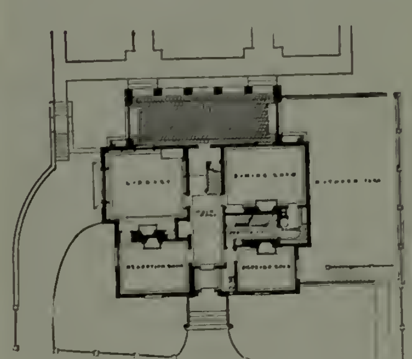
The automobile has forced upon owners the more careful laying out of their roadways, a feature which has been too often neglected. The larger turn required for a car at once rendered obsolete many a house entrance that had been carefully planned for horses and carriages. It takes a space of fifty feet, at the minimum, to turn an automobile, though more is desirable. Consequently an entrance in an angle is out of the question. This great bare space required for the turn is unsightly near the garden side of the house, and the turn naturally becomes an entrance court enclosed by a wall or hedge or planting of some sort, affording room for a bed of flowers or a pool or fountain in the centre. Naturally, the best location for this entrance court is at the rear of the house or at the end, preferably on the north where also the service elements such as coat rooms, baths, pantries, stairs, etc., may preferably be located, since such rooms do not need much sun. The garage itself is better placed at the end of an outlying wing or projection of the house, and a court behind it may form the opposite side of another court for stables, sheds, or other farm buildings. Where a family possesses automobiles seldom more than two or three horses are kept, usually saddle horses. Consequently the stable, being so small, may be nearer the house than if it were a large establishment. Thus in the most obvious and reasonable manner we see how the automobile has changed the whole character of the house, its entrance and garden, and both main and service portions of the dwelling. Artistically, the different features are welded into a most interesting whole, of picturesque groupings in roof slopes and gables, projections and bays, contrasts of high buildings with low ones, tied together with walls, gateways, and communication loggias. Perhaps in time our liking for strict symmetry or formal Classic effects will grow less and our ideas of decoration and design take a different direction. For precedents, if we prefer

In this case the garage is an integral part of the house Allen W. Jackson, architect

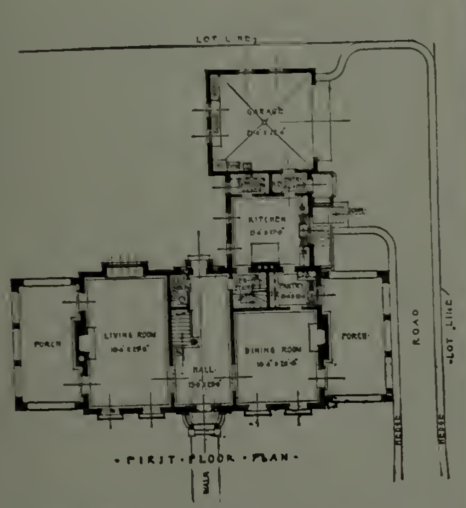


A connecting passageway could easily be added here. Palmer, Hooper, & Farley architects

Basement plan of house at the left



First floor plan of same. A very good small house design to include garage, where the ground slopes at the back so that the car can be housed in the basement. Charles A. Platt, architect



Illustrating the growing tendency to make the garage a part of the house itself, by attaching it to the service wing. First floor plan of the Swartly house (shown at right), Great Neck, Long Island. Bates & How, architects

Perspective, with sketch block plan, of a country establishment near Philadelphia which embodies most of the ideal features advocated in the text. Note the shed for guests' cars, the outdoor wash, covered access to garage from the house, and the isolated workshop. Mellor & Meigs, architects

Colonial types we may go to those fine old groupings of the New England farmhouses where house wings, stables, and sheds ramble along in the most fascinating way.

Nor should we think that these modifications apply only to large mansions of the type indicated above. They concern even more the small houses of the simplest suburban type, on a 100-foot front. In dwellings where there is no chauffeur it is most desirable that the car be located where the owner, or the women of the family, may reach it easily without going outdoors in bad weather. Artistically also, small houses often appear top-heavy because they are too high for their length. They gain immensely in appearance if they can be stretched out by adding a low garage building.

As for the various details of garages, they vary greatly with different owners, according to the number of cars, chauffeurs, and chauffeurs' families. If the owner fancies that a kind providence has endowed him above other men with what is called "mechanical genius" there is no limit to the equipment of shops, plumbing, pits, and mechanical devices that he may require. One man conceived the happy idea of having his shop in a three-car garage separate from the other cars, and large enough so that, if the chauffeur was engaged in repairing one car and was called away, he could drop his work without putting anything away, lock up the room, and leave it secure from disturbance by outsiders or by visiting chauffeurs who might enter the garage.

Insurance regulations are to be considered. They are, roughly speaking, four. The usual policy allows only three cars to be kept unless a permit for more be obtained. The gasolene tank should be kept at least ten feet away from the building, or more than two feet below the lowest basement level. Also the piping from tank to pump must drain toward the tank. The most important one is that if a garage be located in a building, the whole building takes the same—consequently higher—rate as the garage. The way to overcome this last restriction is to make the wall between the garage and house—or the walls and ceiling of the garage if the garage is in a basement—fire resisting; or of brick or terra cotta block with a fire resisting door. If this is done, a special rate on the whole building is made, varying with each case, but likely to be slightly higher than the minimum rate where there is no garage. This added cost of insurance may easily be offset by the economy in heating and construction. Another scheme is to separate the garage from the house by a few feet and connect the two with a covered passageway.

It is further forbidden to allow a fire of any heater or forge in the same room as the cars. The best location for a heating plant is in a small separate room with a single door outside. This arrangement obliges the person who tends the fire to go outdoors to reach the heater, and prevents any hot ashes, coals, etc., from being brought near the cars.

Heating a garage is a troublesome problem. Where the garage is separate, a separate plant is usually necessary, for it is difficult and expensive to force steam or hot water through a long underground main from the ordinary house heater. A hot-water plant is apt to freeze if the fire goes out, with great resulting damage. A steam system will hardly freeze except possibly for a pipe or two at the bottom of the risers from the heater. A hot air plant run by gas is probably most convenient, though perhaps not so economical as other methods. The plumbing should be carefully insulated to prevent freezing and should run deep enough under the floor for this purpose. One homely detail is that if there is a separate cesspool for the garage, one should watch the wily plumber lest he find it convenient to drain the water from the wash into the cesspool, which will then be constantly overflowing. The foundations should extend below frost line everywhere. Low frame buildings may be carried on twelve-inch brick piers about six feet apart, with the frame anchored into the piers by bolts through the sill to prevent the wind overturning it. In wet ground the foundations and floors should be drained. The floors must be carefully laid, for they carry heavy loads. In England and on the New Jersey coast it is the custom to have outdoor washes under a shed roof or a porch. Here the floor should be carefully laid in squares, sometimes with steel reinforcements and expansion joints, if the wash is very large. A twelve-inch bed of cinders is necessary

An unusually good illustration of informal picturesque arrangement. The entrance is on the front opposite from the garden front. Mott B. Schmidt, architect

A fine informal design, where the roof has been kept simple. House at White Plains, N. Y., designed by Caretto & Forster

Showing medieval precedent—English type in the house and French in the garage. The gable and outside stairs are reminiscent of old Norman farmhouses. Allen W. Jackson, architect

House at Kew, Long Island, designed by Electus D. Litchfield. Different levels in the lot allow of picturesque terracing and making the garage a part of the terrace and basement

under the floor, or a thicker bed if gravel is used. The edges of the cinders should be faced with a plank and grouted with cement to harden them and to prevent moisture from getting under the floor.

There are various ways of making garage doors. Where a garage is located near a stable and the doors get heavy usage they are better hung on rollers to slide past the opening. The usual type is a double hinged door, though in small garages it is better to split each of these doors again and fold them back against each other.

It may be well to remember that the standard space for a car is 10 x 20 ft., inside measurement dimensions, which are often increased; eight feet headroom is sufficient; this is high enough for the door opening, which should be at least eight feet wide. It is better to have an opening for each car.

It will be interesting to see how far the tendencies of the automobile to change house design are carried. One never knows what other innovations may affect our ways of living, but it will be a gay trick of fate indeed if the automobile should be the means of guiding us back to Compton Winyates, to Haddon Hall, to the days of Elizabeth and Lord Leicester, or to Blois, Chenonceaux, or Fontainebleau.

Perspective and sketch plan of house and garage at Locust Valley, L. I., designed by Dennison & Hirons. The main garage is a quarter mile from the house, the one incorporated therewith being for housing the car used personally by members of the family

Sketch block plan of house and garage at St. Davids, Pa. (shown at right), where the garage forms one side of the service court. Note location of garage, connected to the house by a small passage, and forming part of the group. Mellor & Meigs, architects

It would be difficult to imagine a more favored situation for the Japanese type of garden than is presented in this little rocky cañon near Hollywood, Cal.

The little shrine at the upper end of the garden which furnishes a logical object for the devious path

A JAPANESE GARDEN *in* CALIFORNIA

Elmer Grey
Architect

Once at the upper end, either at the shrine or the teahouse, one turns to look back down the cañon upon the wide valley far below

Reminiscent, though upon a far smaller scale, of the tori and long flight of stone steps leading to the temple at Shiogama

The last turn of the descending path, as one crosses the red bridge on the way to the garden's main gate

The thatched gateway into the garden. In the design of fences and gates, bridges and steps there is reflected the Japanese craftsman's interesting methods

On the ESTATE *of* *Mr.* G. W. WATTLES HOLLYWOOD

Photographs by Frederick W. Martin

We do not remember having seen a well in a garden of Japan, but this one is equipped as a Japanese would probably equip it

Far up on the hillside, overlooking the garden and its dominating element—the brook—stands the teahouse with its typical wistaria-covered balcony

The old Taylor house at Williamsburg

VIRGINIA *the* NO-MAN'S LAND *of* TOURING

IN TWO PARTS—PART TWO

By LOUISE CLOSSER HALE

Illustrations by WALTER HALE

T SEEMED that the assumption that our troubles were over was right for awhile, we were so comfortably conducted to Norfolk, so pleasantly led to Old Point Comfort and back over the route as far as Newport News, with famous Williamsburg for our journey's end. The road was dirt a large part of the way after Newport News, but such pacific, amiable dirt that no rock of Julius Cæsar could sneer at it. But the disposition of the dirt changed as we neared Williamsburg, growing loutish and humping up its back. It was unfortunate, and I wished that the Government would break its spirit and mend its ways, for surely these roads leading to Williamsburg, Yorktown, and Jamestown should be a national parkway. Every one who runs down by boat to Fortress Monroe could then continue the even tenor of his way and motor over to the very beginning of our national life.

Even with one's mind on the ruts, something clutches at the heart of the American as he gets into this locality. The air vibrates with age, as does the atmosphere of Tuscan Italy. There is a rich formality about it that induces one to get out his best manners and make low bows. Williamsburg is so attractive that one could well make it headquarters for excursions to the great estates along the James River; but I sigh as I put this down, for there is poor motoring to these famous houses. Then, too, I wonder if my diatribe is worth while. A few years more, perhaps, and we will consult the timetable hanging on the porch of the Colonial Inn at Williamsburg to see when we can get the airship to run over to Brandon or to let us glimpse Westover. We need take into no account the sandy paths over which we have to travel. And the Virginian, ever courtly, ever kind, will look at me mischievously and tell me of the splendid, currentless air that God has given Virginia—air free from taxation and needing no improvements.

Tidewater Virginia did not fail us on the latter part of the run up to Richmond. We needed neither tires nor springs, so well equipped was the accommodation for our motor. The sand stopped quite suddenly and the good way began near a town called Sistersville. Indeed it is like leaving the ugly sister of a family to talk to a pretty one—these sudden transitions from bad to good roads. After a tour of some length I find myself entering into the family life of these people about us who are the real controllers of the roads. I see the elders of the township putting on their boots to go to a meeting over the mending of a bit of bad road. I can hear the member who doesn't own a car arguing against the expense when the meeting has convened; the committee gladly adopting his idea, and then going on to talk of the money for the soldiers' monument.

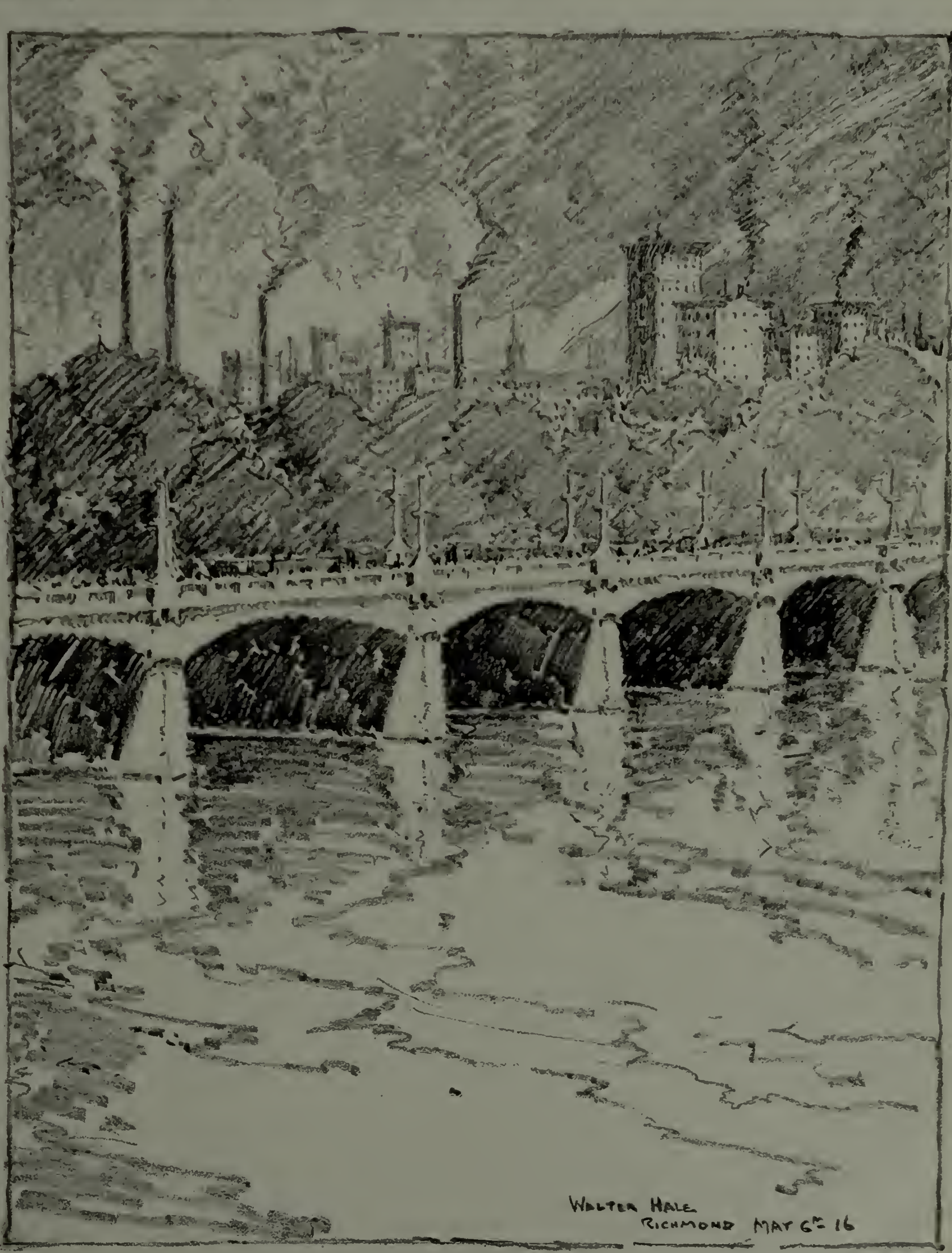
Yet it seems to me that no monument could be more fitting to the memory of the soldiers of the Civil War than a good road. It was the soldiers who pulled their bodies through the mire of these highways, who lashed their horses, dragging the cannon in and out of the mudholes—their own horses in many cases, for the Southern artilleryman gave his services and his mount as well. How even more lovely would be that fine run from Richmond to Fredericksburg were one to read upon a shaft by the wayside, "This road is dedicated to J. E. B. Stuart, cavalryman," and farther on, perhaps, "To the men who fell at Bloody Angle," or near Fredericksburg on a lofty arch connecting the great cemeteries, "In memory of the eighteen thousand dead of Marye's Heights." The soldier knows the heartbreak of the heavy road.

We had intended to reach Charlottesville from Richmond, but we were told there that it would have been better had we turned off of the Shenandoah Pike after all, so in this way we missed the University of Virginia, and included Monticello only by a side excursion that had nothing to do with automobiles. Yet in this trip from Richmond to Fredericksburg we had, with the day of the Shenandoah Valley, our two flawless runs. In neither instance were they long, and had we passed through delightful Fredericksburg without breaking the run, we would have experienced beyond Dumfries a stretch of swamp so dire that we could only have looked back upon the Shenandoah as unalloyed happiness. Again we were magnificently conducted from out the town as though the home of Mary Washington wished to do the best it could for us, but again the *pretty* sister road suddenly turned us over to her ugly kin—the ugliest kin that ever lay in the dirt and kicked.

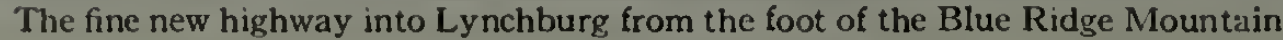
We are positively assured that this eight miles of Vesuvian crater has by this time been bridged over, thanks to private subscriptions of citizens and hotel men, so I feel a disinclination to nag the men of the township who for 200 years have put on their boots, gone to the meetings, and come away with no solution of the evil. But it is astounding that the great artery leading to the South could have gone so long without proper engineering.

We did not stick in this slough for the reason that a more insidious punishment was reserved for us. Hundreds of other cars had been mired, some to remain till the mud dried out a little, some to resort to chains and mules; but we chose our way very carefully and by the time we had swung into the superb thoroughfare which starts near Occoquan and leads to Washington, we had again assumed that sensation of invulnerability which a motorist enjoys when things are going well. Nothing could touch us—*nothing!*

We were so sure of this that we turned off the highway for a two-mile run up a side road—up the only road at the time which led to Mount Vernon. Yet we did not run the two miles—we ran about a mile and there we stayed firmly in a mud hole from which there was no escape without assistance. It was surely pride having its accustomed, if slightly delayed, fall. Of course help came—and this is the first thing to grasp when one starts on a tour of our own or any country: no matter what the predicament, there is always a way out. As long as men have chains and beasts and motors and hearts, one can be pulled out of any hole, and I think that this can be taken figuratively as well as literally. While a half-dozen amiable motors buzzed about us (a little four giving directions, a big twelve doing the work), the farmer who had contributed the chains imparted to us with a good deal of pride that George Washington himself knew that this road was bad. It was part of the estate of Mount Vernon then, dubbed by the owner "Muddy Hole Farm."



An imposing approach to Richmond


The fine new highway into Lynchburg from the foot of the Blue Ridge Mountains

Seven Pines, the historic battlefield near Richmond—not to mention the mail boxes

"Yes'm, knew it right along, George Washington did," said the farmer boastfully.

I crept up to him. "And has everybody remembered it since his time?" I asked.

"Yes'm. Muddy Hole Farm on account of the mudholes."

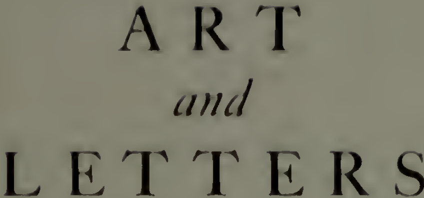
I stared at him bravely. "Why don't they fill them up?"

He stared back. "Fill up George Washington's mudholes? *George Washington's!*"

So here I am describing my circle again. It is a George Washington mudhole to a Virginian, and without descendants wishing to motor small sons to the ancestral estate, who is there to fill up the gully on George Washington's farm? Unless—are we not all children of our first president? And do we not all draw our breath from those settlers of Jamestown? Let us, with the Virginians, fill up all the mud holes which bar us from our earliest home. This might be done by national subscription if the local authorities remain inactive. In making the effort we must not listen to the Virginian who has motored abroad. He will tell us that the roads just outside Paris are the worst in France. But, while Paris is a capital, it is also a great commercial centre. Washington is a thing apart—the one city in which smoky chimneys, grimy factories, and other evidences of industrial activity have never taken root. If the nation's capital has been kept inviolate, so, for the benefit of that vast army of pilgrims who would visit Mount Vernon, the approach to the shrine should be an evidence of our good taste in road construction.

Like an avenue the splendid new road leads north from Richmond to Fredericksburg

A by-way on Muddy Hole Farm, on the edge of George Washington's estate, which connects Mount Vernon with the new concrete road to the south. This bad spring-hole is only two miles from Mount Vernon, and thirteen from the capital of the richest country in the world!



ART *and* LETTERS

Under the Stimulus of Country Life

This is in part the way that Samuel Merwin strives to forget the literary fate thrust upon him by an appreciative public and by being born in Indiana and living almost in the shadow of Bunker Hill

Henry Reuterdahl, whose one great trial is that his name and occupation of painting battle ships constantly arouse the suspicion that he may be a German spy, likes his work because it keeps him out in the open air

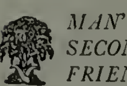
Boardman Robinson practising the goose step (unconsciously perhaps) on the tennis courts at Forest Hills, prior to leaving for the Russian front and possible capture

Gene Stratton Porter's favorite outdoor sport would seem like work to most people. In the past two seasons she has personally located in the woods about Limberlost Cabin some 10,000 trees, shrubs, flowers, and ferns, moved them to her own home, and reset them

In spite of his exaltation of urban joys, Jesse Lynch Williams seems to be enjoying himself away from them—but perhaps it is only in retrospect or anticipation

FROM A COUNTRY WINDOW

WHEN THE WILD HORSE left the Wet Wild Wood to go to the cave of the first man, he became his servant, and time has not since changed the relationship. The small boy, himself an animal, accepts him as his friend, and with short legs astride the horse's back and the wind whistling through his ears, enjoys the happiest moments in the lives of both; but with maturity, the man becomes the master and the horse remains the servant. There is, of course, an interchange of affection, evinced by the master in various ways and by the horse in his eager whinny of recognition, but the latter refuses the bit through instinct, and the former applies the whip on impulse.



MAN'S SECOND FRIEND

In the eyes of man's first friend there is a world of sadness—because the dog can understand so much and express so little—but it is not the sorrow of the servant's eye. That warm pathos, deeper than the eye itself, which greets you in the horse's look is the sadness of centuries of plodding servitude, bordering on drudgery.

Yet it is not too much to hope that the horse will one day be free; because a thing of steel, driven by an essence of the earth, has come to do his work, panting and struggling in summer heat and winter frost over the city streets, along the hard highway, and in the farmers' fields. With his work done for him, will he not become, with the dog, the comrade of man; the sharer, not of his working hours, but of his leisure, learning to recognize the bridle as the sign and symbol of an hilarious chase after baying hounds, or the covenant of an aimless peregrination through wooded lanes, when his tranquil mood becomes one with his rider's?

Show a gun to your favorite pointer or a leash to the companion of your twilight strolls, and you will find no suggestion of sorrow in his eye. Perhaps, with the emancipation of the horse, his look of luminous sadness will vanish at the sound of a huntsman's horn or the sight of a polo mallet, and give place to that frequent sparkle of delighted anticipation which is a token of the dog's inalienable fraternalism.

KIPLING HAS SAID somewhere that there were many cities—London, Madrid, Calcutta, Hong Kong, and I forget what others—that he could distinguish by their peculiar odor, their "spicy, garlic smells." If he were brought to one of them blindfolded he would be able to recognize his whereabouts by his sense of smell.

ON CHARACTER IN PLACES

But odor is only one, and perhaps the least obvious, of the methods by which cities proclaim their individuality. There is the Philadelphia atmosphere, the New York atmosphere, the Boston, Chicago, Washington, San Francisco, Pittsburgh, Savannah atmosphere which every traveler recognizes though he would be hard put to it to describe it.

And yet I am inclined to think that cities possess less of this individual character than do smaller places. Big cities have more the character of a crowd, small villages that of an individual.

I do not believe that there is any such thing as a typical New England village or Western village or Southern village, often as the expression is used, any more than there is a typical American girl or typical college boy. We are very superficial when we lump things that way. Every town and village and farming community has a certain individual character, in some cases more sharply defined than in others.

If you have never known a village of character and personal temperament, known it intimately as a countryman knows his neighbor, you have missed something. They may exhibit striking idiosyncrasies, as highly individualized people do; you may not like them; but your store of human wisdom is greater for having known them.

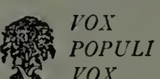
I recall a meeting in an old Long Island village in which an imported lecturer urged the laying out of an up-to-date park system, and cited as an instance what Pasadena had accomplished in two or three years.

Up rose a bearded ex-postmaster, and quoth he: "That's all right for Heaven or Pasadena, but in —— it couldn't be done."

There spake the very soul of that conservative old village. It is an irritating conservatism, but somehow solid and likable, after all.

Along the Connecticut Valley in Massachusetts there lie elm-shaded villages which to the tourist look much alike, but in reality they are as different as Jones the insurance agent and Brown the blacksmith. It is all very well to go motoring through them, admiring their ancient houses and more ancient trees, and observing with amusement the shirt-sleeved Solons discussing politics on the porch of the general store. If you set out to "see America first," you have a big job cut out for you, without much chance for loitering. But if you want to know the heart and soul of America, skip a few middle-sized cities and large manufacturing towns, even a few mountains and lakes if necessary, and get acquainted with half a dozen villages. You will be repaid by that feeling of friendship which surpasses the most desirable casual acquaintance.

UNDOUBTEDLY the most powerful moral force in human life is public opinion. Instinctively we shape our actions, not by our desires, but by our fear of what people may say about us. The reprobation of the community has more to do with the repression of unworthy desires than any innate virtue in the ordinary frail human atom, in its present stage of evolution. This may sound cynical, but it is unhappily true. What the processes of evolution may be able to make of this rather uninspiring moral material is another matter; the present fact remains.

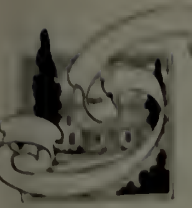


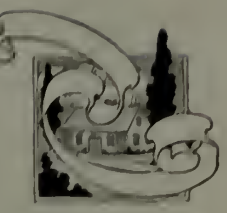
VOX POPULI VOX . . . ?

For all its power, it is an uncertain affair, this public opinion, this communal sentiment. It often fails when we expect it most certainly to wield a potent influence. It tolerates wrongs and condones evil at times, and again may frown on humble virtue. Yet in the end its influence is salutary, for in the final analysis it is the protective instinct of the community struggling for self-preservation.

It is one of the anomalies of public opinion that it does not gain strength with numbers. The voice of the city is infinitely less potent than that of the village in its effect on the individuals of the community. Evil is not only actually, but relatively, greater in the city than in rural communities. Great masses of human beings blunt the edge and diffuse the strength of the communal sentiment. The individual is submerged, so to speak, in a vast sea of his fellows, and the moral bonds tending to restrain each are inevitably loosened. This often leads to a tolerance of evil that is more than the mere act of minding one's own business. It sometimes borders on a dangerous indifference.

For us who live in the open spaces, the danger lies in the other direction. Our public opinion is concentrated instead of being diffused. Each of us knows the other, his virtues and vices, his strength and his weakness, under conditions of intimate observation. If we can but hold within bounds that debased handmaiden of public opinion that we call gossip, all will be well with us.

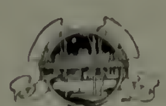




THREE DRAWINGS OF COUNTRY HOUSES

By

Birch Burdette Long

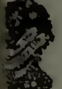


In days gone by, when a home builder had nearly but not quite satisfied himself that his architect's plans would give him the home he saw in his mind's eye, he would have made for him a perspective. The perspective drawing of our national Dark Ages was a fearsome product — a drawing whose lines were wire-drawn and hard as nails, a diagrammatic product in which no softening touch of tree or shrub was permitted to detract from the alleged architecture itself. In pleasing contrast is the architectural drawing of to-day. A picture always, dealing with the existing environment as it is, or will be with the caressing touch of time, its danger now is not that it will fall short of the reality in attractiveness, but rather that it portrays an ideal unattainable by a mere builder.

A SUMMER COTTAGE AT BELLE TERRE, LONG ISLAND

SUNNYSIDE
HEWLETT, L. I.

Aymar Embury, II, architect



AN ENGLISH MANOR HOUSE

Drawn from a photograph

ACCOUNTING *the* COST *of* FARMING

By F. F. ROCKWELL

THERE had just been a rather stormy scene between the owner and the manager.

"What you say about rising wages, and all that, may be true enough," declared the owner, bringing the interview to a close, "but the farm is costing too much! We've got to find the trouble! For as I said before, I tell you frankly that I think you know *farming*, but you don't know business methods! Now I don't want to expect the impossible; but I'll tell you what I am going to do. I am going to send our efficiency expert out to the place, and let him study it and work out a system that will keep track of every cent! No more haphazard, half-kept records! I am going to put the farm on a business basis from A to Z. If I've got to lose money on it, I am at least going to have the satisfaction of knowing where every last cent of it goes! Every bushel of feed, every pound of fertilizer, every hour of time has got to be accounted for! That is not the slightest reflection upon your honesty. If I didn't think you were honest, I wouldn't keep you twenty-four hours. But we've got to have a business system of bookkeeping."

"That is all very well, Mr. Blank, but——" the manager, who was getting somewhat fidgety, attempted to interrupt.

"No—I know you aren't an expert bookkeeper—you needn't worry about that. We'll keep the books here in the office. What I do want, though, is your thorough coöperation. That, of course, we must have; I expect it—in fact, shall require it. I shall be out Friday with Mr. Sharp, who is our accounting efficiency expert."

The manager started to say something, caught the expression in the owner's eye, and concluded that it was better to keep still. He and his employer regarded each other highly, but there were times when he knew that silence was the better part of discretion. With a mental reservation to do all that he could, but with his heart heavy in his boots, he took his departure.

Mr. Sharp was a shark at bookkeeping, no question about that! As a corporation expert he had practised single, double, front, side, and back entry bookkeeping for twenty years. He had made a careful study of all the latest systems of speeding up unit operations, time checks, and every other modern device for increasing revenues and decreasing expenses. He had also read with avidity numerous articles in popular magazines on "The Business Side of Farming," "The Use of Radium and Electricity in Agriculture," "Dry Farming in Windy Sections," "Windy Farming in Dry Sections," and Government bulletins on "How Worn-out Farms Can Be Recuperated," "How Worn-out Farmers Can Recoup Themselves," etc., etc. His special hobby was fruit. He considered himself, like a thousand out of every ten hundred professional men, rather hard to beat when it came to real, cold-blooded, business-edged, scientific farming. He attacked with the greatest personal interest the problem set him, and while it was much more complicated than he had anticipated, he succeeded in evolving a system of accounting for that farm which left nothing lacking. There were time cards for every laborer, stock accounts for grain and hay, machine oil, wagon grease, and everything else used; everything was accounted for down to the last cent and the last quarter of an hour so far as it was humanly possible to do so.

The manager was nearly a nervous wreck; he had lost fifteen pounds and his conscience was so tender that it hurt him to lie down at night because of the wild guesswork he had to use in order to fill up every blank space on every record designated, which were his orders; but he carried it through to the end of the year. The E. A. made up a report and recapitulation of the year's farm expenses which was one of the proud achievements of his life. For two or three days the owner studied it every time he thought that there was no one looking at him, and then he sent for his manager. Net expenses were $3,000 more than they had been the year before, but that was not what bothered him.

"I had you come here," said the owner, when they were again together, "so that we could be far enough away from the farm to see things in their true light. You have looked over your copy of this report? So has the efficiency expert who got it out. He points out to me several things. Among others, that we've been losing money on our cows. And the orchards have paid better than anything else. His advice is to sell all the cows—or all but two or three for our own use—and to go in for fruit. What do you think about it?"

The manager hesitated a moment, vainly trying to read the unreadable face of his employer. Then——

"Well, if you want to know, I'd buy more cows; and not plant another apple tree for five years; and I would cut down two acres of the trees you already have—those old ones of mixed varieties on the slope south of the old hay barn! There's no fortune in cows; but I *know* you haven't got as many as you should have in proportion to your buildings and the size of your place; and as to fruit, that accounting system figures out a profit of more than $100 an acre this year on the young orchard that hasn't yet produced one box of apples—money that was made on early potatoes, beans, and strawberries grown *between* the apple trees! And because early potatoes brought a good price this year, you want to plant more apples! Besides, the bearing orchard has been credited with all the apples you kept for yourself, or have given away, at the price that fancy Western apples were bringing in the New York market. Ben Davises put down at the price of Oregon Delicious, when we couldn't have gotten a third of that for them at the farm, and which, if you had more of them, you couldn't sell even to yourself, because you couldn't use them. And what have you got out of this elaborate accounting system? I don't know what it cost you all together—having those detailed forms printed and the like—but I do know that it has taken a good deal more time than it was worth on the farm. I've spent nights and Sundays on it to try to keep it up; every little expense has been kept track of—but what does it show you about the business?"

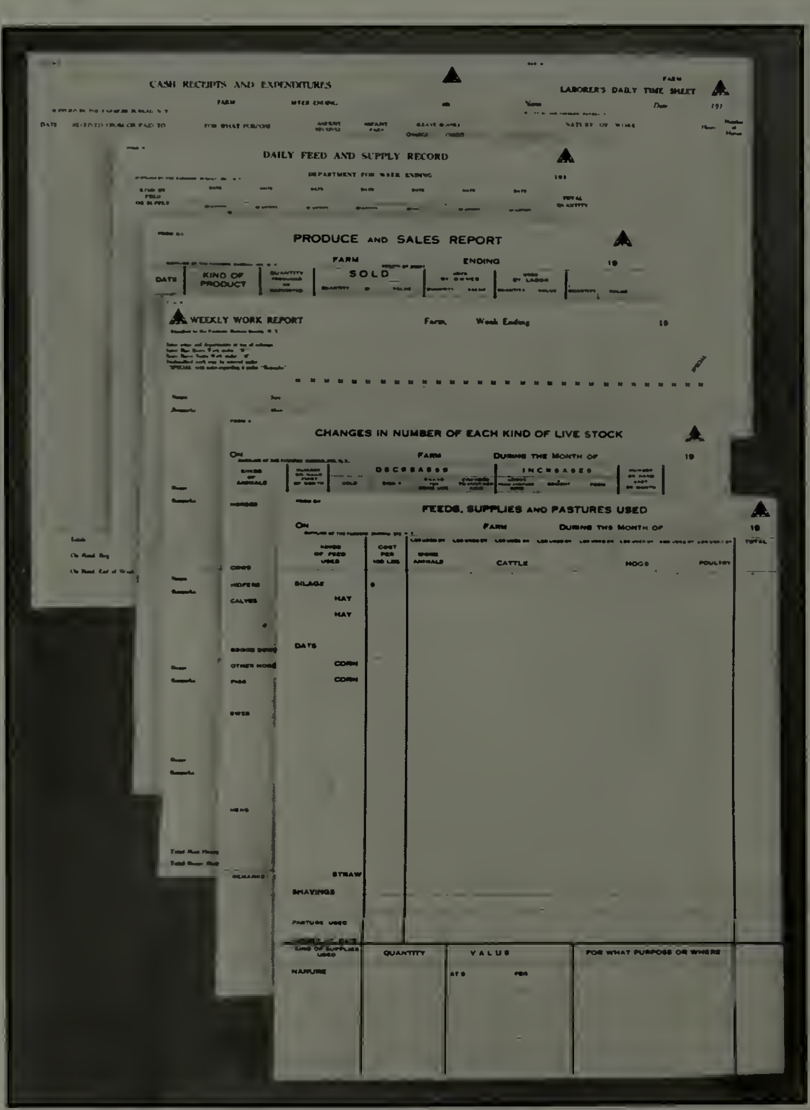
The owner made no comment.

"And now," he continued, taking an envelope from his pocket, "much as I hate to do it, there is my resig——"

"Wait, just a minute," interrupted the owner, "let me say a word. I called you in to tell you, among other things, that I had decided to discontinue this accounting system, myself. It is only another item to my farm bill; but we must cut down *expenses!* You can keep your accounts as you want to. I guess I'll have to keep my farm accounts in my check book. But you've got to cut down on everything. If that place can't be made to cost less, I am going to sell it. I'll be out for the week end. In the meantime, look around and see what expenses can be lopped off the easiest and the quickest!"

I mention this incident—or rather combination of several actual happenings which have come in various ways to my knowledge—because it illustrates better then any number of generalizations the experience which many farm owners have in what is usually termed, or mistermed, "applying business methods to farming." It is not an exaggerated example. In most cases, perhaps, the elaborate system of accounting and records which is put into operation is allowed gradually to fall into disuse instead of being deliberately terminated. But the result is the same. The owner, after experimenting with some specially prepared ingenious system which is supposed to leave literally nothing overlooked in the way of keeping track of expenses, finds either that it cannot be made to work, or that it is not worth the trouble and the expense. It may show him where his pennies went, where before he had only known where the dollars had gone, but it does not prevent their going, or tell him much of anything about how to stop their going again. And as a result he often swings to the other extreme, and doesn't attempt to keep any cost accounting whatever.

What then is the trouble? Is there any such thing as a business of farming? Is there any system of farm accounting removed in degree, and not in kind, from the slate on



CASH RECEIPTS AND EXPENDITURES

LABORER'S DAILY TIME SHEET

DAILY FEED AND SUPPLY RECORD

PRODUCE AND SALES REPORT

WEEKLY WORK REPORT

CHANGES IN NUMBER OF EACH KIND OF LIVE STOCK

FEEDS, SUPPLIES AND PASTURES USED

A set of farm accounting blanks that has been simplified to the last degree consistent with the information that it is required to record

the kitchen door and the stocking in the cupboard, that is both simple enough actually to work, and complete enough to be of any use?

First of all, I think that no one will deny that a better method of farm accounting is one of the most essential features of better farming, and unquestionably, too, that many persons who were thoroughly competent accountants and well versed in business problems have attempted the task of filling this long felt want and have fallen down on the job. What has been the trouble?

Part of the trouble has been that the man who never would have thought for a minute of sending his tailor out to the farm to design working clothes for his working men, has given to his bookkeeper or his efficiency expert the job of getting up a system for his farm business.

But the fundamental trouble lies much deeper than that. In the following paragraphs I hope to explain what it is, and to make clear what the fundamentals of a practicable and worth-while farm accounting system are. In doing so I lay claim to no original discovery. I have seen a good many elaborate systems and have worked out a couple of my own, only to see proven in actual practice that they were too intricate or too cumbersome to work, and to realize later where the trouble lay. Others have had the same experience. I do not know of any one who has any wide acquaintance with farm accounting systems *in use* who would not agree to the first postulate of farm accounting as follows:

The system must be a simple one; the simpler the better, provided it shows the necessary things.

The first step, like the first movement of the Highland fling on skates, is easy. It is afterward that one begins to get tangled up or comes down hard. What are the necessary items? Most farm accounting systems are foredoomed to failure from the beginning because they fail to recognize the differences that distinguish three very unlike things, and attempt to combine that which cannot be combined.

Farm records, farm cost accounts, farm bookkeeping—these are the three ends or purposes of farm accounting. The value of records and cost accounts lies in the fact that they enable one—or should enable one, if properly kept—to analyze the business; further than that they have no *raison d'être*. Furthermore, in their very nature, they cannot be exact, they cannot balance to a penny, and a pound, and an hour; and many of the items put therein must be estimated. Even in a manufacturing business, cost accounting cannot be made an exact science; but much less so can it be one on the farm, where many of the factors entering into the cost of production are not under the farmer's control, and are continually varying. It has to do with the affairs of the farm itself, and may be thought of as *internal*, or business accounting.

The bookkeeping for the farm, on the other hand—that is, the record of all expenses, and of debits, and credits—is to keep track of the relations of the farm as a unit with other individuals or firms, and may be termed *external* or personal accounting. In contradistinction to the internal accounting, this can be, and should be, exact, balancing to the last penny, so that the expert bookkeeper in the office can rule in his red lines at the end of the month or year with as clear a conscience and as jubilant a heart as he balances the city office account with the towel supply company.

In short, any farm owner may easily pick the important distinctions between cost accounting on his farm and bookkeeping accounts for his farm by remembering that a recapitulation of the latter will show him to a cent how much he has lost on his farm; while the former shows *how* he has lost it!

But if it is plain that the most important, or only important, thing about cost accounting is the analysis and interpretation that it enables the operator to make at the end of the year, to serve as a guide in planning alterations or changes that will be likely to prove more profitable, it becomes equally plain that whatever the system, it should, like the hind foot of a mule being shod, "be shaped with that end in view"; *otherwise* there is likely to be trouble.

In one book, the leaves of which are cut back of the total columns, may be kept all the labor charges necessary to make up the final costs of various operations

Decide, first, the things that you want to know about your farm business, and design your accounting system to give you that information. If you want to work out a system of your own, probably the quickest way to decide just what these things are will be to go over any records or accounts you may have, and jot down as they occur to you the things that you would like to know. They will include, of course, the cost of leading crops of the various departments, enterprises, or projects that there may be on the farm.

Right here, before you make the first outline of the forms to be used, recollect that the system must be simple, that it cannot be made absolutely exact, and that as long as you get the starter on which your study of the farm business and the various farm enterprises can be based, all further records, subdivision of expenses, and other minutiæ which would not affect the soundness of your general conclusions are not essential, and tend to make the system more complicated, and therefore less desirable.

To give a more concrete illustration, however, let us suppose that we will want to know what it is going to cost to produce potatoes, and what it has cost to produce potatoes. Then we will want to be able to charge against this crop all expenses for work previously done, or materials used of which this crop will get the benefit, manures, fertilizers, and lime applied; seed used, use of land, use of machinery, use of storage space, and in addition all man labor, or horse labor, or other items there might be, such as draying material, and to be accurate, interest on the money tied up in producing the crop until it is paid back by the crop; and to the credit of this crop we should put down the number of bushels sold, the number used for seeding on the farm, the number saved for seed, and manure and fertilizers (estimated) left for succeeding crop.

But we are met here at once by several problems. The cost of the seed we can probably get exactly; also fertilizer and manure, approximately; rent of land and building space can be arbitrarily estimated; but how much does the man hour, the horse hour, the machine or equipment hour cost? These may be estimated from previous experience, or decided arbitrarily, but to get them to any degree of accuracy, they should be charged at actual cost, as near as it can be determined, up until the end of the season, when we have available the number of man hours and horse hours and machine hours that have been utilized. The year's expense of horses (or draft animals of all kinds) divided by the total number of hours worked will give the cost per hour—but that cannot be determined until the end of the year; therefore these charges at the time of entry may be carried in farm terms, the number of man hours for planting, for cultivating, for harvesting, etc. Similarly in getting up the credit, the crops can be put down in farm terms, in this case bushels, at the time of harvest, and transferred to dollars and cents when the crop has been sold.

Most of these items will apply to all crops to be grown. In the case of different kinds of crops, each sort or enterprise should be charged with the inventory value of seed, etc., at the opening of the account, the original stock bought, seed bought or transferred from some crop or department account, pasture, veterinary service and medicine, use of buildings,

A fair sample of the lengths to which some farm accounting systems go. Useless unless the farm supports a bookkeeping department

use of machinery, or man labor or horse labor, interest on inventory investment, etc.; and credited with sale of products, sale of stock products used or transferred to other departments or enterprises, manure, and inventory at end of year, or whenever the books are closed.

Any system that will enable us to keep track of these things, and is simple enough so that it will be used, will "fill the bill" so far as giving a very close approximation of actual costs, etc., is concerned. But there is one other very important thing to be considered, one which very generally is overlooked, and one which I have found frequently omitted in printed forms which I have had occasion to see—that is, the time spent on different kinds of work. This information is most essential in planning the next year's work. For the fitting in or dovetailing of different crops or enterprises so that a demand for man labor or horse labor will be evenly distributed through the whole year is one of the most vitally important considerations in abridged farm management. If, to use again the illustration already employed, the farm records merely showed that apples proved profitable or that potatoes cost 49 cents a bushel to grow, one of the first things to consider in determining whether or not to increase either of these enterprises, would be whether it could be done with the present labor or horse force, and if so, if it would conflict with something else equally important. Many of the systems that I have seen seem to be devised on the principle either that the manager or foreman would not have time to write down words or that perhaps they could not be read if he did write them, the entire sheet of paper being so covered with intersecting red, green, and pink lines that there remained in the interspaces only room for figures It is small wonder that the average farmer or practical farm manager takes to the cyclone cellar when the twin terrors of a scientific accounting system and efficiency are sprung on him. He has seen them before, but when he has an opportunity for knowing them on a democratic footing, with their working clothes on, he will take to them like long lost friends.

I trust that I have said nothing which may tend to discourage any poor farm owner who is not possessed of unlimited means and a staff of professional bookkeepers, and who has been thinking of using business methods on his farm. This whole matter of farm accounting is not a simple one and it cannot be made so. It is a difficult problem enough even for the average practical farmer, managing things in person, and doing much of the work himself. It is a hundred times more so for the absentee owner who has to do his farming largely by proxy, and keep track of things from the other end of a telephone line or a commuter's railroad. But for such there is encouragement in the fact that it is now possible to hire one's farm accounting done professionally. This does not mean the employment of the professional farm accountant in addition to the other expenses of the place. The record blanks, which in a good system are not complicated, are kept in duplicate by the manager or by the farm bookkeeper where there is one, the originals being turned in at the end of each week or month to a central office, which does work for a large number of farms, and therefore can do it most economically.

Intelligent interpretation, as I have already said, is the thing that really crystallizes the value of farm records and data into something tangible and valuable, and that can be accomplished by having the accounts handled in this way.

MY FRIEND HYLA

By HUGH SPENCER

There are pets — and pets; devotees attest the superiority of alligators, lion cubs, and bantams; hear the voice raised in behalf of the tree frog

THOUGH Hyla is the common name for a tree frog, this Hyla is no common frog, whatever the science of batrachians and herptology may say to the contrary. She was born on a Connecticut farm, just like a great many other frogs; at least I suppose she was born there, for there I found her when she was still an infant. Even at that early age she had acquired a taste for high living and had climbed far above the rest of the farm frogs and sat secure and happy in the uppermost branches of an old apple tree. It was pippins, not Hylas, that I was looking for, but I forgot all about apples when I looked into her trusting eyes and saw her white, palpitating throat.

It did not take me long to persuade her to leave her happy home and go with me to the great city. She soon made many friends in New York, and now she is so popular that I never go anywhere but what the first question I hear is, "Did you bring Hyla?" and every letter I get inquires how Hyla is getting along.

It is more than a year since we cast our lot together, Hyla and I, and in all that time I have never heard a word of complaint from her. If it is cold she never murmurs; if it is hot she does not complain; if there is plenty to eat, all right; if not, she is quiet and patient till there is. Sometimes she goes for days without a bite. For a long time she turned up her nose at meal worms but would smile all over when I gave her a succulent cockroach or a fat, juicy fly. She has at last overcome her scruples about meal worms and is growing fat on an abundance of them.

Her home is a small globe with a perforated cover, which she shares with two other Hylas, cousins of hers, that were acquired later. Science calls them *Hyla Pickering*, and they are popularly known as "peepers." Individually they have been named Louis and Fred. A little moist moss for a bed, a ladder to climb when they need exercise, and food occasionally is all that they require to keep them happy and healthy.

On the whole, frogs are a most accommodating and convenient kind of pet. They take but little room, they do not mind extremes of heat and cold, and they can go long periods without food. One thing they do require is moisture; they cannot live long without that.

Some of Hyla's evolutions with a lead pencil, which prove her possession of an aspiring nature

A little moist moss for a bed, a ladder to climb when they need exercise, and food occasionally is all that they require

Once in a while, usually in the middle of the night, the peepers will take a notion to sing, and then for a few minutes there is a sound not unlike the filing of saws. It is prettier to see than to hear, for when they sing they expand their throats like great bubbles almost as large as their bodies, and with each expansion and contraction they make that yeeping sound.

Now I want to say that tree frogs are not tree toads as they are often called; and also that peepers are not young bull frogs as some people seem to think.

If you want to try keeping a frog for a pet, all you have to do is catch your frog; any variety will do, though the tree frogs and peepers are the cutest, and next the wood frogs; after that there are all sizes and colors of frogs from the spotted leopard and pickerel frog up to the big bullfrog a foot or more in length. Only don't keep a little frog and a big frog in the same cage, for if you do one of them will eat the other, and it is sure to be the little frog that gets eaten.

If they have a place that is moist and are fed occasionally they will live indefinitely. For a diet they will eat most any kind of live insect and can be taught to eat bits of raw meat. Meal worms make a good staple winter diet and can always be secured at bird stores.

But this is beginning to sound like a live stock bulletin.

Tree frogs are easy to catch if you can find them, but they're mighty hard to find, though they are common enough. Peepers can be caught in the spring meadows, at night, with a flashlight and net. Other frogs can easily be found and caught, and with a little patience you can have them eating out of your hand.

BUILDING *an* AMERICAN HOME *in the* PHILIPPINES

By MARY M. McLEAN

UR home is forty miles from Manila, where the native homes are built of nipa palm leaves (for the roof) and bamboo (for the floors and supports), all tied together with strips of rattan instead of being nailed. These houses appear to be flimsy, but in the months of our residence here, we discovered why this form of construction is used—like the paper houses of Japan, they can easily be replaced. So we decided to build an Americanized Filipino home, typical as far as our fastidious ideas would permit it to be.

We selected a site, some 400 feet from our neighbors on all sides, in the middle of a patch of cogon grass which had been the bane of the community for some years. This grass, in the dry season, easily catches fire, causing much damage to life, homes, and land.

Living in a college community where there is a large percentage of poor students who work their way, we obtained the help of some half dozen Filipino boys who work for 10 centavos an hour, with their bolos, cutting the six-foot grass by hand. These student laborers are permitted to work 100 hours a month. The bolos which they use are long, heavy knives, the blades about eighteen inches in length and nearly two inches in width.

These bolos take the place of the inevitable jackknife of the handy man in the States, but I must confess that they possess an edge unknown to the sharpest jackknife, and the work accomplished by them and the manipulation of them by the natives, is something astounding.

We had about a half acre cleared and then staked out a rectangle 28 x 28 ft., within the bounds of which our *bahai* was to extend, and were ready to begin operations.

When passing through Honolulu, we had seen seed houses of the Hawaiian Bureau of Agriculture built on cement bases with oil wells to keep out the ants that infest everything in the Islands—ants white, black, red, and combinations of the three, large and small. The white ant especially is very destructive to all kinds of wood, clothing, books, etc., its habit being to build its nest inside of the wood, often leaving no visible sign of its presence until one discovers, too late, that a handsome piece of furniture or some of the pillars which serve to support the heavy roof, are hollow. This necessitates the replacing of supports, etc., every three or four years. We therefore decided to follow the example of the Bureau of Agriculture.

One of the native carpenters making bamboo nails

The first thing to be done was to procure our materials for the cement bases. The cement came from Manila, having been shipped from China, the sand was dredged by a Filipino company out of the bottom of the lake near us, and the broken rock for the concrete was carried up by hand, from the creek bed a quarter mile in front of the house, by natives who were paid 6 pesos a square metre to crack it and carry it up the steep bank to the site. The most capable cement worker in the neighborhood, a Chinaman, was employed to set the bases, with the aid of several Filipino assistants and a student who was making a comparison between the different kinds of house foundations. The bases for the nine pillars which support the roof are 18 inches square; the pillars, 6 inches in diameter, were set on top of the middle of these, being held in place by iron tongues on two sides, secured by two heavy bolts. These irons were embedded in the cement about 6 inches. In setting the cement, bamboo molds were made to set in the top of the bases, making a continuous trough 1½ inches deep and 1½ inches wide around the pillars. This trough is kept full of water and crude oil, across which ants cannot pass. Thus we solved the first problem of an ant proof house. There are oil wells in all the other bases used, such as those under the supports for the steps, for the shower room under the house, and for the kitchen, which is in a separate building connected with the house by a covered passage.

Most houses are strengthened by many posts under them, but in order to avoid too many oil wells to be cared for, cross beams were nailed to the pillars below the floor level, which is on an average of 5 feet above the ground, to brace the house sufficiently against the typhoons which occur. Of course, in any house, no matter how constructed, earthquakes are felt, and we are not immune from these shocks and tremors.

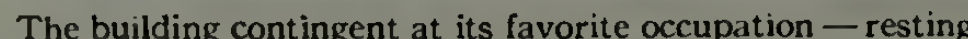
The beams and *soleras* supporting the floor are of sawn timbers, and in this respect our house is much more strongly and neatly constructed than the average house which uses the irregular bamboo poles as beams and supports. As soon as the foundation was braced properly and the top of the pillars braced in place by the bamboo beams used as foundation for the roof, we dismissed the Chinese laborer (who had been drawing the excellent salary of 4 pesos and 50 centavos, or $2.25, per day) and his assistants (each 1 peso a day), and took on our crew of five Filipino carpenters of good repute as fast workers.

These five men began work on the roof the first thing. Some natives have their roofs built on the ground and then lifted on to the completed wall supports by some fifty to one hundred men. This is an interesting sight to watch, but the process weakens the construction, so our roof was built in place.

Two of the longest bamboos were selected from the 200 which our student house-boy had bought for us. In fact all materials used in the construction of the house, such as the bamboo poles, the nipa shingles, the rattan, and the narrow board strips which hold the *swali* on, were purchased by our boy. The natives are clever enough to raise their prices considerably when dealing with Americans, so it was decidedly to our advantage to have our boy do the buying.

The best bamboo should be two years old, and it is cut at only one season of the year and in accordance with a Filipino superstition that the proper time is during the Feast of the Three Kings, being from the 1st to the 6th of January. Incidentally, this is the proper time structurally for the bamboo to be cut, as it is then thoroughly mature and ripe, therefore stronger and more resistant to the attacks of termites (which are called

The Americanized Filipino home. As with most dwellings in the tropics, the kitchen is separate from the main part of the house. The nipa shingles give an effect of thatch



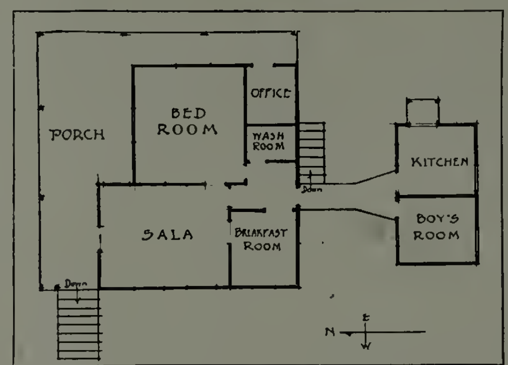
The building contingent at its favorite occupation — resting

A panel of the wall being lifted into place

"*anay*") and boring beetles (locally called "*bok bok*"). Good building bamboo poles measure from 40 to 50 feet in length and 4 to 6 inches in diameter at the base. The walls of some of the bamboo are thin; others are thick and can therefore be used for different purposes very readily. At the right time of the year, bamboo can be obtained almost anywhere throughout the Islands, as the natives make a practice of growing clumps of it in convenient places near their homes. These bamboo groves are extremely picturesque as they tower and sway like tall, green, feathery grasses above the low, brown, Filipino houses. The bamboos sometimes measure a hundred feet, from the base, which is often solid for a few feet, to the tiny thread-like ends which are too small to be used for commercial purposes. There are many varieties of bamboo but the thorny kind is most universally used for house construction. The rattan is procured from a thorny climbing palm grown in wet forest land. The vine is gathered, stripped of its leaves, and then prepared for market at the homes of the natives. Sometimes it is partially prepared, being split only; in other instances it is split, stripped or scraped, and sorted into bundles of various sizes; the large rolls contain a hundred pieces three to four metres long, and the small bundles from one to three dozen; these can be obtained readily in the local market. While these palms grow throughout the islands, the business of gathering them is restricted to certain *barios*. Those which we used were shipped in from the neighboring province of Batangas. The nipa shingles are made from leaves of the nipa palm, which grows in the salt marshes along the shores. In some places the plant grows more luxuriantly than in others, and from the plants of the most luxuriant growth the largest and best shingles are made. The *swali*, as it is called, is woven of strips of the hard, smooth, outer layer of the two-year-old bamboo while it is still green and pliable. A native weaves from six to eight metres a day, weaving in all a strip some sixty metres long and usually three metres wide.

Our boy bought selected bamboos for 5 pesos a dozen, the rattan for 1 peso 20 centavos a bundle, the nipa for 5 pesos 50 centavos a thousand, and the *swali* for 40 pesos a roll.

The two long bamboos, already mentioned, were put up about 12 feet apart, in a line running north and south, in the middle of the house. The house sets nearly square with the points of the compass. This was the first bit of scaffolding erected and it served as a direct temporary framework for the construction of the roof. Instead of being nailed in place, all scaffolding was tied by long, green vines which the carpenters gathered themselves, in the woods and underbrush near by. Many of these are exceedingly strong and are used commercially. Between these two bamboos, two parallel ones 12 feet long, one above the other, were fastened together by huge bamboo nails made for that particular purpose, by the carpenter. These pieces served as ridge poles for the roof and supports for the bamboos running to it from



Floor plan of the bungalow, with the outlying kitchen and boy's room

the four corner pillars. The bamboo beams or rafters set in the tops of the pillars, which formed the outside of the house, were 9 feet from the floor level, as the walls were 9 feet high. From these top beams, bamboos were tied in place, in a most unique design, by rattan strips at convenient intervals, about 3 feet apart, forming the pitched framework of the roof. Across these, forming squares, others were tied, and while this was being done by two carpenters, the other three were splitting bamboos in inch strips which were fastened from the bottom to the top of the roof 8 inches apart, to serve as a network foundation upon which the nipa palm shingles were tied.

In order to have the roof completed, three nipa layers, each paid 40 centavos a hundred for laying the nipa, were employed, and they began work immediately. To cover the roof of the main house required 5,500 nipas. As in laying ordinary shingles, they began from the lower edge of the roof, worked across and then upward, the spacing being 3 inches apart and overlapping across from side to side several inches. On the four corner ridges and the ridgepole across the top, bamboo strips were placed side by side, lengthwise, and close together, and extra nipas tied over these particular places to insure a tight roof. It took three men four days to complete the roof.

The nipa palm leaf is long and wide like that of the cocoanut palm, and in making the shingles, the blade is stripped from the midrib. Several of these are folded in half over a stout strip of the palm and sewed in place by rattan, just below the strip, making the shingles which we used approximately 24 inches long and 18 inches wide. These nipas were tied on by narrow strips of green bamboo, 18 inches long and $\frac{1}{4}$ inch wide. These are usually prepared the day before the laying of the nipa is begun, so that they will be sufficiently pliable. The strips for tying are stiff enough to be pushed through the shingles without any difficulty. The nipa layers sit under the roof while working, holding the shingle in place with the left hand, and pushing the tying strip through the shingle with the right hand and directly to the right of the narrow bamboo strip forming the lattice, which has already been described. The left hand then reaches out, draws the strip across and up over the edge of the shingle, the two ends being then placed together, twisted several times in the right hand, and the twisted ends tucked down under the edge of the shingle below. So, although we speak of tying on the nipas, no actual tying is done; the ends are twisted together instead and seldom come out of place.

While the roof was being completed, the bamboo was being split and stripped an inch wide for the flooring, the thinner bamboo being used. In splitting the bamboo, the pole is laid on the ground and the bolo is forced into the top, then turned slightly as a wedge to split the bamboo open. The strong fibres run lengthwise of the stem, so it is split easily in this direction. When the pole is divided into two parts, each part is divided again into the number of pieces required. A medium sized bamboo will make eight narrow strips. When the strips from a single bamboo are split and stripped, they are all tied together, one bamboo being entirely prepared for use by one man.

The laying of these floors is quite an accomplishment. The supports are 8 inches apart and the strips are laid across them, and nowadays are nailed at each support. Formerly, all floors were tied down with rattan. The bamboo is apt to split when the nail is driven in, so the laborious task of boring a hole with the point of the bolo becomes necessary, and this consumes much time. After taking more than a week to prepare enough bamboo to cover a space 30 feet square, it took a week to lay it, three men working all the time.

We naturally wanted our floors to be well laid and decided that $\frac{1}{8}$ inch space between each two strips would make a pretty and practical floor. The spaces would be too narrow to see through, but wide enough to permit dirt to sift through. This spacing is very particular work but it means a cooler house and a very satisfactory floor if the spaces are not too great.

With the roof and floor finished, we were now ready for the walls to be made.

Before beginning clearing, we had drawn our plans for the size and arrangement of our rooms, but I found much difficulty in having the carpenters construct the rooms the size that I wanted. In the first place, we had to decide whether or not our walls should be hollow, in order to avoid rats; hollow walls are harbors for rats and are undesirable on this account, although they give a much prettier and more finished effect. This had to be determined upon before the numerous wall beams were put in place, as with single walls greater care must be exercised to have the bamboos of somewhat uniform size and appearance.

The general plan of arrangement which was followed, and which proved most convenient for our particular needs, is shown in the accompanying sketch. The kitchens in the tropics, especially in this country, are in separate buildings, some distance from the house, being connected to it by a covered porch or passageway. Where there are a number of bachelors or lone men in a commun-

ity, a sort of cooperative scheme is followed similar to the college clubs. All the men have their mess together at one house, sharing all expenses equally, which includes the food, wages of cook, house boy, serving boys, *lavenderas* (washerwomen), and sundry other incidentals. This cooperative plan seems to work exceptionally well and it is much more economical than running several kitchens.

There are no ceilings in our house, nor in fact in the majority of bamboo houses, this gives added ventilation, but there is no privacy in these houses, of course, as in the ceilinged rooms in the States; one soon becomes accustomed to the openness, however, and it means coolness and a sense of freedom which is delightful.

We decided, as I have mentioned before, to have the outside walls double where the rain would be apt to beat in and to have the two thicknesses of *swali* placed face to face, with the smooth side out and no space between in which to let rats build their nests.

The *swali* walls were put up in panels or sets of panels, according to whether the walls were single or double. One of the photographs shows one of the panels being carried into place after being laid on the ground and cut the size to fit. The *swali* is easily stretched, so if pulled out of shape by the handling, it can be shoved back again to fit the place it was cut for.

All the doors and windows are made of double *swali*, fitted into a wooden framework, which latter took much time to make. One carpenter could make the framework for only one door in one day, and it took almost another day to cut and fit in the latter and nail it in place, with narrow strips of thin boards to finish it on the right side. Thus they were mounted much as the panels are in our hard wood doors at home. It took constant watching on my part to see that all the doors for one room were finished alike, and after being finished, that they were hung as intended. These doors and windows are run on staples, which slide across grooved strips level with the floor and window sills. Thus it is possible to slide back the three doors at the corner of the *sala* and make it and the porch almost one big room. This is a great advantage in a small house when one entertains. The windows in the bedroom are only a foot from the floor and can therefore be used as doors most conveniently, besides giving added ventilation. In hanging the doors and windows, the carpenters made use of their curious bamboo nails; the upper and lower grooved ledges of the windows and the upper ledge of the doors were held in place not by being nailed there by ordinary large nails, of which we had plenty, but holes were bored where necessary and these bamboo nails were driven in, leaving the knobbed ends protruding.

The porch, being high up from the ground, is finished with a simple double row of bamboo poles. The upright supports, fitted into the floor and tied to the eaves at the top, were run through the parallel bamboos, and the graduation in size holds them in place, the poles being larger at the bottom than at the top.

We consider ourselves exceedingly fortunate in having running water and electric lights. The electricity is generated by the dynamo at the college, and we have the use of it only between 5:30 and 11:00 in the evening. This necessitates our keeping on hand a supply of lamps and candles, but as our entertaining is done in the early hours of the evening, we usually manage very well. The water supply does not include hot water at hand, we have to heat it, unless, as is sometimes the case, the intense heat of the sun on the exposed pipes does it for us. Occasionally, in using the shower-bath, one unexpectedly enjoys first a cool shower, then a hot one.

Our steps were put up last and left rough on top, because in the rainy season they become dangerously slippery if made smooth. The steps in the poorer native houses are more like ladders placed almost vertically. Usually three strips of bamboo are used for the sides and between these, at each step, two horizontal strips on edge are tied, the step itself being thus formed of two bamboo strips. It is astonishing to see how soon the little babies learn to crawl up and down these curious steps with perfect ease.

The kitchen was the next thing on the programme, and by this time the carpenters had absorbed the idea of an ant-proof house. With directions from us, they made the cement bases and mounted the short pillars of hard wood which reached only to the same floor level as the house. To save expense, the kitchen was built of bamboo only. Thus instead of the wood supports, we used whole bamboos, and the split bamboo floor is laid across these. As the nails would soon work out of the flooring and supports, the carpenters prepared heavy strips of bamboo about 2 inches wide to lay between the bamboo supports to nail the flooring to. The passageway between the house and kitchen I knew would have very hard usage; we consequently decided to have the flooring both tied down with rattan and nailed. This makes a very secure floor. Before nails were plentiful in this country, and in fact in all the poorer homes, this method of tying was employed exclusively.

As no woodwork was used in constructing the kitchen, the doors and windows were made solely of bamboo. The bamboo strips, or small posts, framing them extend at each side beyond the top and bottom, and these pieces take the place of the staples on which the wooden doors and windows slide. A long bamboo is used for the window to slide through at the top, and a strip of bamboo serves as guide and rest for the bottom. The grooved bamboo at the top of the windows and doors is a whole tree with a strip one or two inches wide split out of the entire length and all the nodes except the end ones cut out also, thus leaving a narrow groove into which is fitted the top of the window or door.

Our endeavor has been to have our furnishings in keeping with the bamboo construction. We purchased bamboo, rattan, and bejuco furniture for whatever and wherever we could make it serve our purpose. It is quite out of the question to invest in anything else but this style of solid wood furniture, because any veneer soon peels off as a result of the dampness during the long rainy seasons. Many Americans have been fortunate enough to obtain old solid Spanish pieces which are not only artistic but durable, unless the *bok bok* gets into them and eats out the heart. Many of the fine old pieces which have been neglected show signs of this pest. The bamboo, rattan, and bejuco furniture is very light weight, cool, and easy to move, thus making housekeeping easy.

Our walls needed a thorough scrubbing with hot water, soap, and ammonia. This removed all accumulated dirt from long exposure to the weather and whitened the *swali* somewhat. Probably no other cleaning of them will have to be done; of course spring or fall papering is unheard of. Some people tint the *swali*, but the result is a mottled appearance altogether rather unsatisfactory to the fastidious eye. The natural *swali*, as well as the bamboo, is straw color; it is restful to the eye and makes an excellent background for any sort of decoration.

It naturally becomes the fad out here to collect all sorts of curios from the numerous tribes throughout the islands, and therefore, instead of pictures, which look almost out of place, one decorates with Bogobo shields, spears, Moro brasses of all sorts, and sundry other curious things.

Water is seldom used on the bamboo floors except when new, for it makes the dirt stick to them more readily than if they are oiled with kerosene; after several months of oiling, they acquire a smooth, dark polish. The oiling not only makes the floors dark and gives them a high polish, but preserves the wood; and in houses that are not ant proof it is the only means of keeping the armies of ants out. These ants, to do them justice, are not altogether a nuisance, for they eat or carry away dead insects, lizards, and refuse of various kinds.

Mosquitoes abound and to discourage them there are spacious lawns around all the houses, and most of the lawns on the hill adjoin. All the space is not, however, devoted to lawn; we have our own vegetables and fruit. The papaya is the universal breakfast fruit in preference to bananas, which are more often used for cooking, and so we have planted more than forty papaya trees. They produce fruit within the year and continue to produce for about two years thereafter.

One shady spot in front of our house, we have devoted to a fern bed and orchid shelter. Some eight feet from the house and surrounding it, is a flower garden of single English violets, cannas, gardenias, calachuchi, and a lamandas. For screening hedges we use heliconia, a banana-like plant, and along the road is a hedge of bright red spider hibiscus. My choice collection of hibiscus is grouped to the right of the front steps and adjoining the fern dell.

This forms an attractive setting after our own ideas of beauty, but there is none compared to the bright green of the tropical foliage with a background morning and evening of most gorgeous sunrises and sunsets, wonderfully beautiful and varied.

The split bamboo foundation of the roof, upon which the nipa shingles are tied

In the *sala* or living room

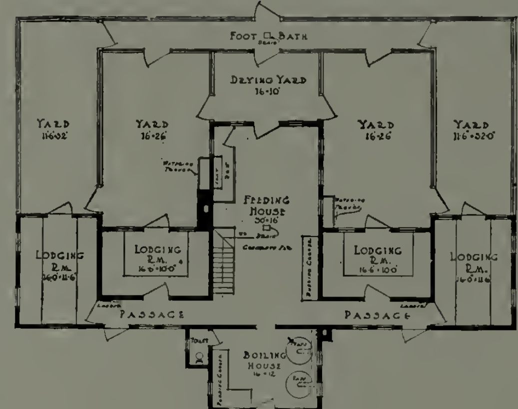
Mr. Higginson's specifications for an ideal kennels site are perfectly met in his own—"on the southern slope of some field. . . . . protected by trees from the north and east winds"

KENNEL MANAGEMENT

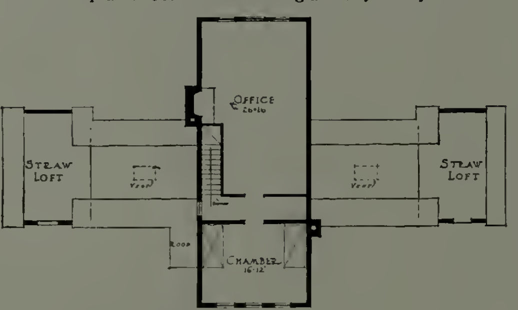
By A. HENRY HIGGINSON, M. F. H., Middlesex Hunt

ET first the kennel be the huntsman's care," says Somerville in his poem "The Chase", written in 1735, and he comes very near the truth. If kennels are not healthful be sure you'll never succeed in producing good hounds, or in keeping the old ones in a state of health. Take as much pains in choosing the site for your kennels, and in the construction of them, as you do in your choice of hounds to occupy them, and you will never regret it. The best situation is on a little rise of ground, the southern slope of some field, and if this can be found on a spot which is protected by trees from the north and east winds, so much the better. A clay soil is said to be the best for hounds, but this cannot always be procured; perhaps it would be best that I should describe my own kennels, which though built in a country where sandy soil is the only one to be found, have always been very healthful.

The main kennels are situated on the southerly slope of a hill, on a small area of made land, 47 x 77 ft. in extent, on which are not only the kennel buildings but also the airing courts. Into a retaining wall built on the slope of the hill were put first stone, graded from large ones at the bottom to small broken ones near the top, then ashes, and finally six inches of sand on which to lay the concrete. This formed not only a solid foundation for the brick walls, but also an absolutely dry bottom for the ground floor. In my opinion such a foundation (or the alternative plan given*) is absolutely essential in any kennels which are not situated on clay soil, and even then it is a decided advantage. By referring constantly to the plan, the reader will be able to follow me during the detailed description of each room. The feeding room is situated, as will be seen, in the main portion of the building, and it is here that hounds are fed daily. On one side are stairs leading to the upper story, a heater used only in winter weather, and the visitor's "pew," where any one wishing to see the hounds fed, may do so without fear of getting dirty. On the other side are coolers for oatmeal, and a sink to which is attached a washboard, where the men can scrub their breeches and kennel coats. A couple of cupboards on the wall, used for drugs, medicines, and surgical instruments, and a closet under the stairs com-



Floor plan of the kennel building and adjacent yards



The second story floor plan

plete the appurtenances. This room is the general room of the building, the only one on the ground floor, in fact, that is used for anything except cooking or lodging room for hounds. At the front end a door leads to the drawing yard, where the hounds are drawn in to feed, while in the rear there are three doors, one on each side leading to the passage behind the lodging rooms, and the third to the boiling room.

The boiling room is the kennel kitchen, where all food is prepared. One side is given up to two great iron boilers, each holding ninety gallons, and each of which has a fire space beneath, the flues leading to the main chimney in the corner. One of these boilers is used for oatmeal and the other for flesh. On the other side are two tiers of shallow wooden coolers for holding the pudding when cooked, until it is fed to the hounds. A toilet for the use of the men also opens off this room, while at the back is a door leading to the rear of the kennels. On each side of the feeding room are two lodging rooms for hounds, accommodating about twenty couples each; one side is used for the dog hounds, the other for the bitches, young hounds being given a separate room from the old ones. The floors of all the rooms on the ground floor, and also of the airing courts, are of granolithic construction (concrete mixed with a great deal of gravel). The surface drainage all leads to a common outlet at the trap in the footbath. Low wooden benches are indicated in the lodging rooms, and these should not be more than eighteen inches from the floor and made to fold up against the wall when the room is not in use, or is being washed out. They should never be solid, but made of slats nailed a half inch apart, so that if hounds stale on their beds, as they often do, the moisture will not remain, but drain through to the floor. Each lodging room is provided with two doors, one at the back opening into the passage, and one at the front opening into the airing courts. The courts in their turn will be seen to be connected with each other, and with the passage at the front of the kennels, from which opens the main gate leading outside to the road.

Directly opposite this gate, and for a distance of six feet on each side, this passage is dropped six inches below the main level, thus forming a footbath which may be filled with water through which hounds must pass on their way in after hunting, thus cleansing their feet from any dirt they may have picked up during the day.

The partitions dividing these various courts are perhaps worth a minute's attention. First comes a brick wall two feet high, and on this is a paling fence reinforced for three feet by heavy wire, the whole forming a fence eight feet in height.* In some kennels the brick wall is much higher, the advantage being that hounds are not able to see each other and are less likely to quarrel. In England this is very well, but in America where the summer heat becomes so intense, I have found that such a high wall is prejudicial to the free circulation of air.

Upstairs in the rear of the building are sleeping accommodations for the feeder or one or two of the whippers-in. In the front, over the feeding room, is a large apartment used as a trophy room and as an office for the Master, where he can, if he chooses, write up his kennel records, or doze in

*A more economical way of producing a dry foundation for kennels is to lay a concrete base, then put a layer of tar paper, and then a two-inch layer of cement over the whole. This will be found to make a very satisfactory foundation, though perhaps not quite so good a one as that detailed above.

*If it is preferred to make these partitions of hollow tile, the directions for construction would be the same; but if, for economical reasons, any partitions in your kennel are of wood, they should be covered with metal lath, which should in its turn receive a thin coating of cement, which can be kept as clean and sweet as a partition of brick.

Yard arrangement at Mr J. B. Thomas's kennels (see below), Middleburg, Va.

The Essex Hunt kennels, Morristown, N. J.

front of the fire after a good day's sport. The space over the lodging rooms is reached by a ladder from the passage, and is used as a loft in which to store straw for bedding.

Every kennel should have its hospital, and this should be situated at least fifty yards away from the main kennel—a hundred would be better. The only thing to be noted in its construction is that the floor should be of concrete so laid that it will drain to a centre where a trap should be provided to let out the water. This concrete floor should then be covered with a movable slat floor which can be taken up when the room is being washed out, for a wooden floor is much better for sick dogs than bare, cold concrete. This room should be fitted with benches similar to those used in the regular lodging rooms. A grass yard should adjoin the hospital, and there should be a wooden platform on the south side where convalescent hounds can lie in the sun. This building would be greatly improved by being provided with a hot-water heating system, as warmth, with fresh air, are absolutely essential to sick hounds.

It will be found that a separate house in which to keep flesh, situated at least a quarter of a mile away from the kennels, is a great advantage. And a small building for the storage of oatmeal at a convenient distance from the main kennels is recommended. Of course, if it is inconvenient to erect such a building, arrangements can be made to store a small quantity of oatmeal in bins which might be built in the feed room, but it is a considerable saving if one can store it in large quantities, so that it can be bought in carload lots.

It matters little whether you have acquired English or American hounds, the details of management are the same, for where kennel management is concerned I think that no one will question the efficacy of the English system. There is little doubt in my mind that if American hounds were handled, and disciplined, and conditioned, as are their English cousins, they would be improved 50 per cent. In fact, this has been done in a good many kennels, with the most satisfactory results. In England, fox-hunting is made such a business, as well as a sport, that all little details have been looked into and experimented on with a thoroughness hardly possible here where there is less time devoted to the sport.

We will suppose that you have acquired your pack, and engaged your hunt servants—two whippers-in, besides your huntsman or kennel huntsman (if you hunt your own hounds) and a kennelman. If you wish to do the thing economically you will perhaps have amateur whippers-in, or let your men do stable work when not in the actual discharge of kennel duties, but I am speaking now of a full kennel complement, enough to look after forty to fifty couples of hounds.

Three things are essential to the well being of hounds—cleanliness, fresh air, and exercise—and unless proper attention is paid to these matters you will not get the best results. Peter Beckford, whose "Thoughts on Hunting" is the greatest work that has ever been written on kennel management as well as all that pertains to the sport, has the following to say on the first of these requirements: "As our sport depends entirely on that exquisite sense of smelling, so peculiar to the hound, care must be taken to preserve it, and cleanliness is the surest means. The keeping of your kennels sweet and clean cannot be too much recommended to your feeder; nor should you on any account admit the least deviation from it."

You may perhaps say that every one must be aware of this fact, but visit some of the kennels in this country and see for yourself how many of the men in charge of the packs neglect their work in this respect. The old saying "If you want a thing well done, do it yourself" is a very sound one, and applies to kennel management as well as to all other things. I do not of course mean that you should "muck out" yourself, but I do mean that you should personally see to it that your orders are properly carried out. Lodging rooms and yards should be flushed out each morning, and in addition to this, all droppings should be picked up whenever hounds are out walking or at exercise.

This leads to the question of excercise and fresh air, and by the latter I don't mean having proper ventilation of the kennels (that you'll have if you've followed my plans in the construction of your kennels), but having them frequently walked out, not turned loose in a grass yard, for that does not answer the same purpose at all. The proper rule is to walk out the first thing

Mr. J. B. Thomas's kennel building, the home of the Piedmont foxhounds and beagles. The length of the main structure is 125 feet; of the wings (which form a court as shown above) 110 feet. Under the one roof are huntsman's living quarters, hound cook room, hound feeding room, courts before and after feeding, wash room, store rooms, hospital, lodging rooms, and whelping rooms and courts. The kennel accommodates seventy-five couples of foxhounds and beagles

Many huntsmen believe that hounds should have road work the year 'round, but Mr. Higginson advocates a three- months vacation. Exercising the Millbrook pack

in the morning, again directly after feeding, and again for a considerable time in the afternoon. See to it that the hounds are always walked out after feeding, no matter how late you come in from hunting at night. The novice should note the difference between walking out and road work, the latter being more for getting hounds fit for the hunting season than for anything else.

There are many huntsmen who think that hounds should have road work the year 'round; I don't; I think that too much of it is inclined to make them stale. The months of June and July are very hot in this country, and unless the exercising is done early in the morning, it will take a lot out of them. I begin cubbing early in August, so that my hounds must be on the road by the first of July, but I let them do without it from the time they stop hunting, usually about April 1st, till then, and I find them all the keener for their three months' vacation.

When you do finally begin, you cannot give them too slow work on the road. Keep them out about an hour daily for the first week, and then increase the length of time, but *not the pace*, until they are doing from fifteen to twenty miles every day. Long, slow work is most essential; it hardens their feet and gets their respiratory organs into good shape, so that when they do begin real work, they will be able to run for two or three miles at top speed without being blown. The latter, by the way, is often the cause for hounds checking after a sharp burst early in the season.

If you have made up your mind to hunt hounds yourself, do as much of this road work with them, as you can. It isn't essential after they get to know you, but it is always a good plan to do it whenever you can spare the time, as you can't get too well acquainted with your hounds. The better they know you the better they will work for you when the time comes.

And now as to feeding. Experience has proven pretty conclusively that the best staple diet for hounds is old oatmeal, the best that can be procured.* In the Old Country a great deal of flesh is also used, but I have found from long experience that it is unwise to use flesh in great quantities in this country in summer, owing to the fact that our climate is so hot that it is impossible to keep meat fresh for any length of time, and while I don't believe that tainted flesh, if well boiled, is in any way seriously injurious to hounds, I think that they are better off without it. In cold weather when hounds are working hard it is a different matter, but even then I should advise making oatmeal the basis of the food. The oatmeal is boiled until it forms a thick pudding, when it is put into wooden coolers and allowed to harden, after which it is broken up into the feeding troughs as wanted. To this in summer is added milk and a small quantity of dog-biscuit; in winter, soup from the flesh boiled, and a quantity of cooked meat. Both boiling kettles should be cleaned daily.

It sometimes happens that thin, ailing hounds will not do well on this regular summer diet, in which case I have found that canned flesh, procurable at a small cost from any dealer in kennel food, is a good addition.

*There are some huntsmen and masters in this country who prefer feeding cornmeal to oatmeal, and there is no question but that it is a great saving in these days of high prices for feeds; but I can only say that I have tried it, and that I do not find it as satisfactory as good *old* oatmeal.

Dinner time in the feeding room at Mr. Higginson's kennels

The actual feeding of hounds should be done with the greatest of care, as it is of immense importance in their welfare. It is perhaps needless for me to say that hounds, like human beings, vary in their appetites, one hound filling himself with a few gulps, while another will require coaxing to get him to do himself justice. The proper plan is for hounds to be called into the drawing yard, and then when the feed is all ready in the trough, have the feeder stand at the door of the feeding room, and call them in one at a time; first the dainty feeders who pick and lap here and there, and lastly those gluttons who would eat much more than was good for them, if allowed to do so. When they have partly sated their appetites call them out again, and repeat the operation, first letting the kennelman thicken up the food for the light feeders. Here again as in the case of exercising, it is not *essential* that you attend to the feeding, even if you hunt the hounds yourself. It is a well known fact that they will always go to the man who shows them sport in preference to any one else. Still it is a good plan to feed them now and again, as it will often give you an insight into certain peculiarities of a hound that you may not know.

During the hunting season, feed your working pack when they come in, if the weather is not too hot; if it is, give them an hour to cool off before letting them at their food. Feed those hounds which have not been out, about ten or eleven o'clock. During the hot summer months when you are not hunting, hounds are better fed at four o'clock in the afternoon, as it is not good for them to go about with a full stomach on a hot day. As a rule they should be fed but once a day, though the thin ones may have a lap at odd times. In hot weather the feed should be mixed less thick than in winter, and it may also be fed quite cold, while in winter the chill should always be taken off by mixing with warm broth instead of cold. In summer, too, it is a good plan to boil up greens for hounds, as these are most excellent for their blood. I need not say that hounds should never be fed on the same day on which they hunt, until they are through with their day's work. After feeding, or while they are walking out, it is a good plan to brush the hounds over with a dandy brush, particularly in spring and fall when they are changing their coats. Don't use dressing if you can possibly avoid it, except in the case of young hounds coming in from walk; immersion in sheep dip will answer the purpose and is infinitely better in every way. Of course you'll have cases of hounds which you buy that may need a good dressing, but your own should never be allowed to get into that condition.

And now I come to the question of discipline. Prompt and cheerful obedience from your hounds

you must have. If they won't mind you in the kennels, they won't do what you ask them to in the field, but you mustn't kill their natural dash or subdue entirely their spirit of independence. Some English hounds have too little of this, most American hounds too much, and it must be your task to get just the right proportion of both, and your pleasure to make them so fond of you that they "will fly to you like pigeons" when you want them—an easy enough thing when you love dogs.

Punishment is unfortunately necessary at times. "Spare the rod, and spoil the child" applies to a hound as well as to a boy, but when you think that it must be done, be sure that your hound knows what he is being chastised for, and *don't ever do it yourself*. Hounds should always look on their huntsman as a friend, and feel that in his presence they are safe from chastisement, and while this rule can't always be carried out to the letter, it should be adhered to as much as possible. You must be very careful, however, not to let your men kill the natural dash and spirit, without which any foxhound is worthless. Some hounds are naturally timid and a single stroke of the whip will cow them for some time, while others take a flogging as if they liked it. Personally, I think that if a fault is committed and the offender can be reached in time, he'd better have his flogging, and if it ruins him let him be drafted.

In the case of young hounds just coming in from walk, it is rather different, and I think that more will be accomplished by patience and kindness than by corporal punishment. Patience with young hounds will work wonders, and one must always remember that, just coming in from walk, they feel very strange and lonely in their new surroundings when they first get a taste of kennel life.

The care of bitches and young puppies is a subject which should really have a considerable amount of space devoted to it and I can only touch upon it in the most cursory way here. Foxhound bitches do not need any especial care, but should be looked after during pregnancy in much the same manner that one would look after any bitch.

I should advise breeding them so that they will whelp between the first of April and the first of June wherever possible, as the weather at this time of year is better suited to the raising of strong, healthy puppies. In the South one may try to get them a month earlier, but in all cases, as it is essential that both mother and puppies should be outdoors as soon as possible, it is unwise to have whelps born while the weather is too cold.

Mr. Eugene Reynal's beagles taking their daily constitutional

In any case, bitches should not be hunted within five weeks of whelping time, but they should be allowed their liberty as, if they are shut up, and do not get adequate exercise the puppies are almost sure not to be healthy and strong.

Most foxhound bitches have from eight to twelve pups; needless to say, no bitch can look after that many to the best advantage, and it is far wiser to reduce the number at once. Five pups are enough for any bitch, and some can barely take care of three or four successfully. It is a very difficult matter to give any rule which can be followed undeviatingly for the selection of puppies in such cases, but unless you desire a preponderance of one sex, or of a certain color, the best rule is to keep the largest and strongest of the litter.

Puppies should begin to eat at three weeks, and they should be given all the new milk that they can be induced to take. Never feed skimmed milk; it is bad economy and will kill more puppies than any other feed I know of, as it invariably causes them to scour badly, and very often brings on fatal dysentery. By the time they are ten weeks old they should be strong enough and well grown enough to be ready to go out to walk, as it is called—i. e., to live with some kindly farmer who is good-natured enough to bring them up for you. The only instructions you can give him are to let them have plenty of liberty and plenty to eat. If he follows those instructions, you may be sure that you will have a healthy lot of puppies when they come back to you in the following spring.

Breeding is a very interesting subject to any one who has given any thought to the matter, and about the breeding of foxhounds, the scientific blending together of the different blood lines in an effort to produce the perfect hound, a book might be written, but here I have not space to give it even cursory consideration, so I have refrained from touching upon it even lightly. I have tried merely to give my readers an insight into the first principles of kennel construction and kennel management, with the idea of helping the novice, the man who is just beginning with a pack of hounds. To the initiated, to my fellow M. F. H.'s, most of what I have said is an old, old story and I hope that they will forgive me if I have trodden on any of their pet theories. There was a time, when I first began to keep hounds, when I should have been glad to have had at my command some of the information which I have tried to impart, and if it proves a help to any beginner, my attempt will have been justified.

The Middlesex Hounds leaving Thornedale, Mr. Oakleigh Thorne's country home at Millbrook, N. Y. The central horseman is Mr. Higginson

HERE AND THERE

Encouragement for Conservationists Two recent presidential proclamations will receive the hearty commendation of all interested in the protection of our national resources, whether floral, faunal, or otherwise. The first of these has turned the Pisgah National Forest in western North Carolina into a Federal game preserve—the first of its kind east of the Mississippi River. The protection afforded while the property was part of the George W. Vanderbilt estate has kept the land fairly well stocked, and the continued regulations combined with the contemplated establishment there of herds of elk, buffalo, etc., should insure a gradual restocking of adjacent territory by a natural overflow process. The second act creates the Old Kassan National Monument out of thirty-eight acres of the Tongass National Forest in Alaska, including the abandoned Haida Indian village on Prince of Wales Island. This relic of aboriginal life contains some excellent totem poles, buildings, and other specimens of great ethnological value, but the ravages of time and self-centred, souvenir-hunting tourists have made essential the protection that will now be given by the Forest Service, that the village and its environment may be preserved for the use and edification of future generations.

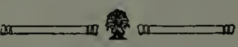
Circus *à la Mode* One of the definite landmarks of youth, masculine youth at least, is that happy occasion when, parental objection having been more or less vanquished, the half-grown boy sits on the edge of the station platform in the misty dawn and watches his first circus train come limping into the siding. Through life no other sound will ever be filled with quite the same awesome, goose-fleshy quality of horror as the roaring of the toothless lion bidding his keeper remember that it is time for his bowl of warm milk toast. No future gratification of the wanderlust will ever approach the quivering delight of that primal sight of the familiar freight yard filled with the strange bulk of the elephant herd, the grotesque outlines of the camels, the inquisitive enormity of the giraffes. Through the gray dawnlight, uncouth men, stubbly of chin, vociferous of speech, rush to and fro, bellowing commands, kicking elephants, hustling about solid gold wagons with the nonchalance that marks them heroes of romance and worthy of the arrows of youthful vaulting ambition. On future occasions this collection of wonders will be just a circus, but for the one impeccable first time it is no mere show that creeps into the familiar siding; it is romance, pure and undiluted.

And all this rhapsody because one, whose youth lies with an older generation, happened on an item that a great circus had purchased a hundred big motor trucks, on which it will hereafter move from town to town over the highways, dispensing with the time-honored train. The motor circus train is to be segregated in two divisions. One of these will comprise the parade section, animal cages, band wagons, etc., while the other will consist of the baggage train and Pullmans to carry the performers, workmen, and officials. This new method of transportation will effect enormous economies in administration, and seems certain to rehabilitate the familiar form of bucolic entertainment, which has latterly fallen on lean financial times.

A Massachusetts Maid Montana has its Hon. Jeannette Rankin, M. C., and is justly proud therefor; but Massachusetts has its Ruth Wood and is consequently in line for some congratulations of its own. Ruth is thirteen years old, lives in Merrimac, and is a freshman in the Essex County School at Hawthorne. She is, moreover, a real farm girl with strong leanings toward the study, management, and ownership of live stock. Wherefore, early last fall she entered the boys' and girls' cattle judging contest that was held at the National Dairy Show in October. Refusing to be daunted by the fact that she was the only girl among ninety-seven contestants from eight states, she coolly judged her four classes of Holstein, Jersey, Guernsey, and Ayrshire cattle, wrote out the reasons for her choice well within the specified eighty minutes, and walked away with second prize, scoring 485 out of a possible 600 points! Then she further showed her longheadedness and acumen by looking over the prizes offered and choosing a registered Jersey bull calf by Sophie 19th's Tormentor, out of Figgis Betsy, donated by Hood Farm. That this most commendable accomplishment was no mere matter of luck, is indicated by the fact that in two local contests in which she participated earlier in the season, Ruth won, respectively, sixth with 265 out of 400 points in judging two classes of cows, and one each of hogs and horses, and first with 215 out of a possible 300, in judging one class each of cows, hogs, and horses. Furthermore, for the past two years she has been a member of the Boys' and Girls' Pig Club in her state, turning out in each instance a very creditable animal.

Copyright by W. Ward Smith

Miss Ruth Wood and the prize that she won in the cattle judging contest at the last National Dairy Show, held at Springfield, Mass.



An Old Fraud in a New Light It would be interesting to know how many dollars have been spent for, and how many trees have been subjected to the wonder working (?) treatment of having holes bored in the stem and filled with marvelous, cure-all preparations. And this despite the repeated exposure of the quack tree doctors who have practised it, and the frequent warnings against schemes of that kind in general. It will be even more interesting, however, to watch the development and application of this very same principle as a method of fighting insect pests, now that it has been discussed and even partially investigated, on a true scientific basis, by scientists. Messrs. W. Moore and A. G. Ruggles of Minnesota report experiments in which potassium cyanide and hydrocyanic acid were inserted into the stems of geranium plants and the trunks of mature apple trees. In the latter instances the results suggested that the method would be useless in combating borers (the purpose for which it has most often been recommended) unless applied locally—that is, close to where the insects are known to be. The other tests gave rise to the conclusion that "in semi-woody plants, like the geranium, where the cyanide diffuses through the cortex, the method might be useful against sucking insects." This, though non-committal, will at least hold the interest of horticulturists and entomologists until further developments are announced.

The Cost of Bad Roads In one of the Texas counties, road conditions have been so notoriously bad and the inhabitants have been so entirely indifferent to their shame that the district was the despair of the good roads men until the last election. A practical joker had contrived to present to the free and untrammeled electorate a proposition to raise by means of a bond issue some $500,000 for highway improvement. The gentleman nominated for congress in this district, however, refused to accept the matter as a joke. He made a vigorous canvass of the district in favor of the bond issue. He advanced figures proving that the farmers of the county lost, in actual cash because of their inability to get produce to market promptly and through damage to produce shaken about on its journey over the execrable roads, enough to pay the interest on the proposed bond issue. *Mirabile dictu*, the bond issue carried triumphantly, and another Texas county is to be pulled out of the mud.

A New Outdoor Profession Out in California, where the golden sunshine attends as strictly to business as O. Henry's one-armed paper-hanger with the hives, a certain youth is roaming the highways about Los Angeles, regaining his lost health and earning his living by grace of a brand new commercial enterprise, of which he is the ingenious originator. This novel business venture consists of a perapatetic garage, mounted on a second-hand commercial car chassis. The stock carried by our commercial adventurer consists of tires, standard tools, oil, gasolene, spark plugs, and other small accessories. Many a stranded motorist has had cause to thank his lucky stars that one ex-bank clerk had the pluck and ingenuity to work out a commercially remunerative self-cure for the effects of confinement and monotonous labor. Incidentally the idea might be profitably applied in other parts of the country.

A "GOOD ROADS" MOVIE

The photographs here produced illustrate in "movie style" the construction of one type of Tarvia Road—and the story follows:

[illegible]

[illegible] in place

[illegible]

[illegible] wearing-course

Distributing Tarvia on wearing-course

Distributing three-quarter inch stone over the first coat of Tarvia

Good Roads increase property values, decrease taxes, make easy and long haulage possible. They know no season, because their construction is such that they are free from dust and mud and ruts in all seasons.

And good roads to-day very largely mean Tarvia Roads.

For a road that is built and treated with Tarvia has all the good qualities described above and its cost of construction and maintenance figures less per year of service than any other type.

Bad Roads, on the other hand, decrease property values and increase taxes. For instance, according to Government estimates, it costs 23c. a mile to haul a ton over bad roads and only 13c. a mile over good roads.

They are hard on horses, destructive to vehicles, and frequently wreck motor cars unfortunate enough to travel over them. Furthermore, bad roads are practically unusable during certain seasons of the year, a road condition that is inexcusable and unnecessary.

The use of Tarvia offers the real solution of the road problem in this country outside of the most heavily-traveled streets in the very large centers.

Many of the streets and parkways of New York, Chicago, Boston, and a thousand smaller towns have Tarvia roads because they give adequate service at low cost.

Tarvia roads are a delight to owners of horse-drawn vehicles and motor cars alike. They are easy on the vehicle and easy on its occupants. They give horses perfect traction. They annihilate distance for the automobilist and reduce the cost of up-keep.

Towns on Tarvia highways are many, many miles "nearer to things."

Send for illustrated booklet showing towns all over the country that are using Tarvia successfully.

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.

Rolling the three-quarter inch stone into the first coat of Tarvia

Sweeping off excess of three-quarter inch stone

Putting on seal-coat of Tarvia

Covering the seal-coat of Tarvia with screenings

Rolling the road to finish

The finished Tarvia road

New York Chicago Philadelphia Boston St. Louis
Cleveland Cincinnati Pittsburgh Detroit Birmingham
Kansas City Minneapolis Nashville Salt Lake City Seattle Peoria

The Barrett Company

The Paterson Manufacturing Company, Limited: Montreal Toronto Winnipeg Vancouver St. John, N. B. Halifax, N. S. Sydney, N. S.

GRANDMOTHER'S FANCY CHAIRS

By WALTER A. DYER

EARLY in the nineteenth century there were certain types of chairs popular in the United States which were neither Empire-Colonial, Sheraton or Phyfe mahogany, nor yet Windsors. They were derived from the Sheraton style, were usually rush-bottomed or cane-seated, painted, and decorated with painting or stenciling, usually in yellow or gilt. They were known in those days as "fancy" chairs.

Fancy chairs owned by the Misses Thompson, Hempstead, N. Y. The seats were originally of rush

I find that the term fancy chair is not altogether familiar, either among collectors or dealers. They are not to be confused with the brightly painted chairs of Pennsylvania, of Pennsylvania German origin, which are now being sought and which sell for $6 to $10 each. Nor are they the same as, though akin to, the satinwood, curly maple, and painted chairs, also of Sheraton derivation, which were called "drawing-room" chairs and which are now quite valuable.

The accompanying illustrations will serve, I think, to place these fancy chairs most readily, though some of them differed somewhat from these types. Fancy chairs and sofas were lighter than most of the contemporary styles, and became very popular in some parts of the country, particularly around New York, from about 1800 to 1820. The backs were light and open, usually containing horizontal spindles and frequently gilded ball ornaments. They were painted, usually black, with some gilding. The top rail of the back was generally stenciled in a pattern of fruit, foliage, etc. The seats were of rush or cane, square, or, more commonly, gracefully shaped, with the front corners rounded. The legs were turned in ornamental patterns, with a slight outward concave curve. The arms of the armchairs were of turned spindles or rods. Settees were made in the same style, the backs resembling chair backs in triplicate, and with arms at the ends.

Sheraton designed a chair with turned baluster legs, cane seat, and a painting on the top rail of the back, which was evidently the parent of the fancy chair. Mr. Lockwood doubtless refers to this type of chair when he states that a late form of Sheraton painted chair is often found in the United States. It has groups of upright spindles in the back, and the top rail bears a painted decoration.

An American fancy chair of the early nineteenth century, in the Metropolitan Museum of Art

That the manufacture of fancy chairs was extensive in New York, at least, is indicated by a number of old newspaper advertisements unearthed by Miss Singleton. The earliet mention of fancy chairs is in a New York advertisement of 1797: "William Challen, Fancy Chairmaker from London, makes all sorts of dyed, japanned, wangee, and bamboo chairs, settees, etc., and every article in the Fancy Chair line, executed in the neatest manner and after the newest and most approved London patterns." This suggests that the first of our fancy chairs was based directly on English—possibly Sheraton—models.

After 1800 there appeared in the New York newspapers numerous advertisements of makers of fancy chairs, as well as of Windsors and other kinds, usually accompanied by an offer to repaint or regild old chairs in the new fashion. Here are two: In 1802: "Fancy Chairs and Cornices—William Palmer, No. 2 Nassau Street, near the Federal Hall, has for sale a large assortment of elegant well-made and highly finished, black and gold, etc., Fancy Chairs with cane and rush bottoms. . . . Old chairs repaired, regilt, etc. . . ."

In 1806: "William Mott, 51 Broadway, has a large assortment of elegant and well-made fancy chairs of the newest patterns."

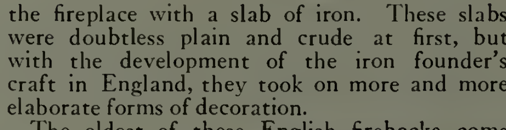
These fancy chairs are not infrequently seen in homes where old furniture is cherished, and they are not without their decorative and practical value. They appear to have been well made and to-day are often as sound as when new. English Sheraton chairs of this type are worth perhaps $25 apiece. The American fancy chairs are worth somewhat less, but seem to be increasing in value. A pair of them were recently sold by a dealer for $7.50 apiece, but the price was probably a bit low. The best of them might be considered worth from $12 to $15 apiece.

OLD FIREBACKS

Photographs from the Metropolitan Museum of Art

IRON founding is one of the arts which should appeal to collectors and students of the antique more than it does. It is not as fine an art as cabinet-making or pottery, but it possesses an interest all its own, and there are iron castings of an elder day to be had which exhibit a considerable degree of originality in design and skill in workmanship. Among the more interesting of these things are the old firebacks.

The masonry of the old English fireplaces was such that it was often injured by the intense heat of the wood fires; the mortar tended to disintegrate. This meant frequent repairs, and some one conceived the idea of protecting the back of the fireplace with a slab of iron. These slabs were doubtless plain and crude at first, but with the development of the iron founder's craft in England, they took on more and more elaborate forms of decoration.



The oldest of these English firebacks come from Sussex. They were rectangular in shape, wider than they were high, and showing in many respects a similarity to the cast-iron grave slabs which were also common in Sussex. The popular designs are believed to have developed naturally here, during the fifteenth and sixteenth centuries, before there were any foreign importations.

Fireback of Dutch or German origin, depicting the Pharisee and the Publican. Dated 1666

German fireback of rectangular shape and dating from the eighteenth century

The earliest examples were molded by pressing a board of the required size and thickness into a bed of sand. Molten iron was poured into the depression thus made, producing, when cool, a flat slab. To give the front of this some sort of decoration, various objects were impressed in the sand in the depression, before casting, such as flowers, leaves, mechanical objects, and even the hu-

WILLOW WARE

for the Summertime Living-Porch

ONLY willow furniture — cool, comfortable, charming—can impart to the summertime living-porch the cordial invitation to rest.

It looks cool, this craftsmen's furniture. It *is* cool and clean and home-like.

But look into quality. For all "willows" are not *willows*, and as they approach the true willow reed they become cooler and better to look upon and longer wearing.

These Lord & Taylor *willows* are made of the very finest stalks. They will last season upon season, and as they gradually darken with age, they become ever more "homey."

See these summertime glories on the sixth floor—and there are draperies and hangings, grass rugs and grandmother rugs and every accessory that makes the summer porch the most popular living room.

Lord & Taylor

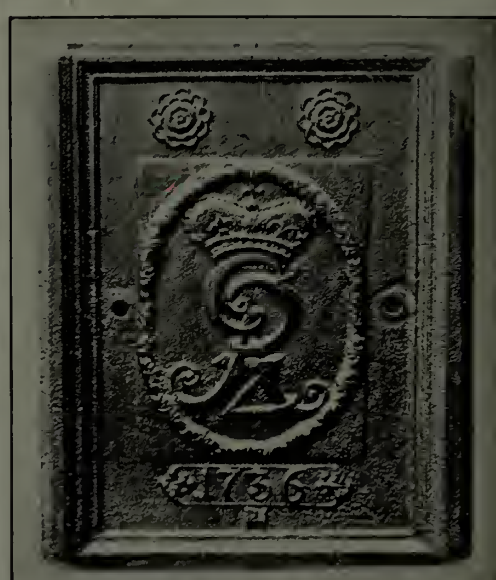
38th Street FIFTH AVENUE 39th Street

NEW YORK

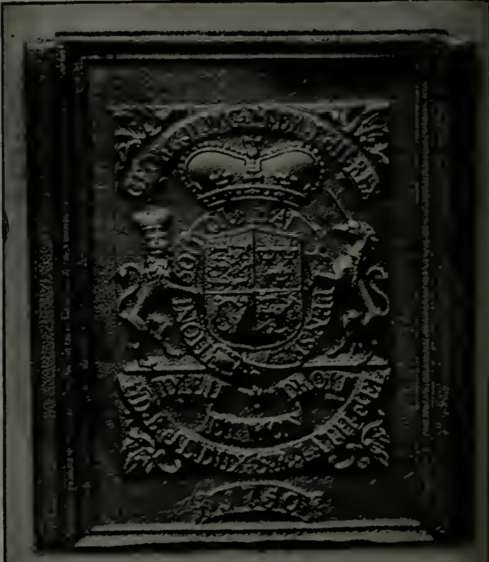
man hand. As the art progressed, these makeshift objects were replaced by stamps made for the purpose—decorative designs, coats of arms, etc.

The final step was the making of a wooden model or pattern all in one piece. A few of these patterns are still in existence. The finest of these bore the arms of the reigning sovereigns, from Henry VII to James II. They were usually rectangular in form, with a semicircular projection in the middle of the top which often

At the left a fireback of Dutch origin; at the right, fireback bearing the English lion, rose, thistle, and fleur-de-lis, dated 1649



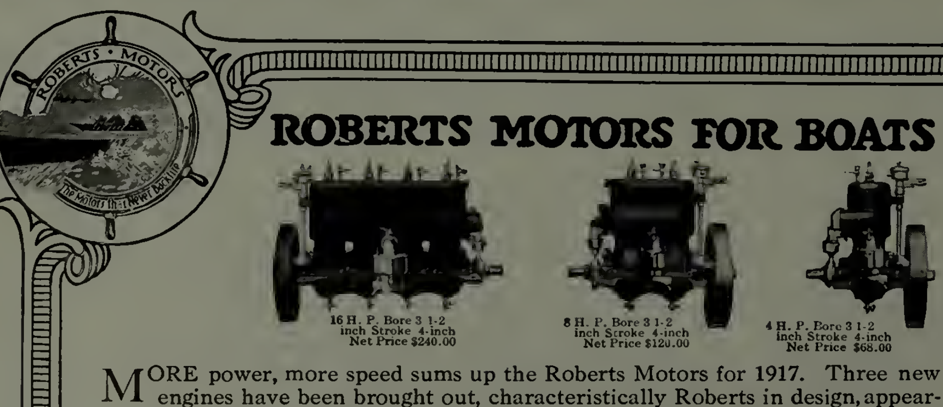
Part of the cipher of George II on a fireback dated 1736



Coat of arms of George II, dated 1750

bore the figure of the crown. Seventeenth-century firebacks of this type often show considerable skill in design and execution, and are highly valued by collectors.

Next came a great variety of shapes and designs. There were square and rectangular plates, with or without the curve at the top, a few with the top corners cut down, and also narrow panels which may have been used at the sides of the fireplace, or in pairs at the back. Some of these bore the arms of noble families of Kent and Sussex; a few were commemorative of historical events. One, bearing the early date of 1588, carries a design of ropes, an anchor, fleur-de-lis, and roses, in honor of the defeat of the Spanish Armada. Another, an excellent



MORE power, more speed sums up the Roberts Motors for 1917. Three new engines have been brought out, characteristically Roberts in design, appearance and construction, with Roberts Dependability built right into them.

Get Your Boatbuilder's Advice Before Getting That New Engine

Your Boatbuilder is the man that knows by experience just what a Roberts Motor will do for you, furthermore, his expert knowledge will enable him to advise you as to which size is best adapted to your boat and the necessary equipment required. He can tell you why Roberts Motors are so free from breakdowns, so absolutely dependable, yet full of power which means speed for your boat

We have prepared a concise, clear description of the new Roberts Motors, write for this description today.

ROBERTS MOTORS
2004 ROBERTS BLDG. SANDUSKY, OHIO

$1150 F. o. b. Racine
Mitchell Junior—a 40 h. p. Six
120-inch wheelbase

$1460 F. o. b. Racine
7-Passenger—48 Horsepower
127-inch wheelbase

One Type—in Two Sizes
Built Like No Other Car

This model plant—covering 45 acres—was built and equipped for this single type.

It is designed to build this one type at a cost which none can match. John W. Bate, the great efficiency expert, has spent millions of dollars to do that.

The savings go into extras. So the Mitchell has a wealth of features which other cars omit.

All Mitchell cars are designed by our artists, and built by our own craftsmen. So each style is exclusive.

A Distinctive Car

Mr. Bate has worked 14 years to perfect this factory and this car. Every building, machine and method shows the last word in efficiency.

His methods save us on this year's output about $4,000,000. And all that goes into Mitchell extra values.

Our latest models are the result of more than 700 improvements made by Mr. Bate. He spent a year in Europe to get some of the ideas.

So the Mitchell offers, in many ways, what you cannot find elsewhere.

Unique Features

The latest Mitchells embody these distinct attractions:

31 Extra Features—
24 Per Cent Added Luxury—
100 Per Cent Over-Strength.

There are 31 features, most of which all other cars omit. Each is something you will want. Go see them. These are paid for by our factory savings.

On this year's models we add 24 per cent to the cost of finish, upholstery and trimming. Our new body plant saves the money to do that. This makes the Mitchell the luxury car of its class.

In the past three years we have doubled our margins of safety. Now each important part shows 100 per cent over-strength.

TWO SIZES

Mitchell—a roomy, 7-passenger Six, with 127-inch wheelbase and a highly-developed 48-horsepower motor.
Price, $1460, f. o. b. Racine

Mitchell Junior—a 5-passenger Six on similar lines with 120-inch wheelbase and a 40-horsepower motor—¼-inch smaller bore.
Price, $1150, f. o. b. Racine

Also six styles of enclosed and convertible bodies. Also new Club Roadster.

To Double Car Life

The object of this new standard is to double car life. Over 440 parts are built of toughened steel. Safety parts are all oversize. Parts which get a major strain are built of Chrome-Vanadium.

Our engine test is 10,000 miles without wear. Our gear test is 50,000 pounds per tooth. Our spring test calls for limitless service. Not one Bate cantilever spring has broken in the two years we have used them.

One Size, $1150

Mitchell Junior is about like the Mitchell, but a slightly smaller car. Still it has a 120-inch wheelbase. It is the marvel of Motordom this year in the value that it gives. See which size you like best.

You will want these extras. And, when you know, you will want a Bate-built car. It means a complete car, a smart car and a lifetime car. It is the last word in efficiency. Let your dealer show it to you before the spring over-demand.

MITCHELL MOTORS COMPANY, Inc.
Racine, Wis., U. S. A.

Drainage in the home

should have a free and continuous escape from the premises. The joints where the pipe and fittings come together should be so tight that there will not be any openings or crevices for foreign matter to lodge in.

CRANE DRAINAGE FITTINGS

are made with a shoulder against which the pipe abuts so perfectly that all "pockets" are eliminated so that the drainage may have an unobstructed flow to escape to the sewer. That is important.

We invite inquiry.

FOUNDED BY R. T. CRANE, 1855

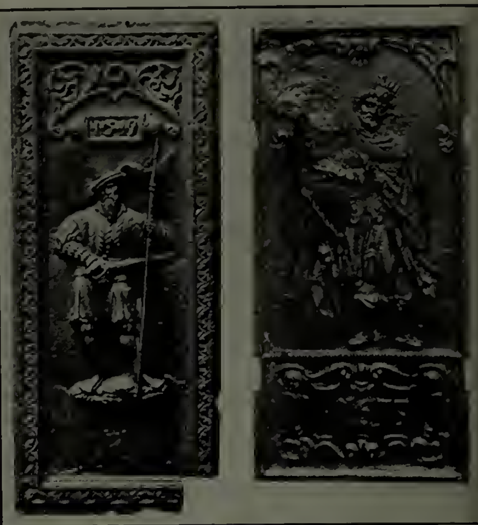
CRANE CO.

836 S. MICHIGAN AVE.

CHICAGO

Branches in 52 leading cities.

piece of work now in the Victoria and Albert Museum in England, celebrates the escape of King Charles. It bears an oak tree, with three crowns and the letters C. R., and on a ribbon



At left, German fireback or panel, dated 1673. At right, panel or part of fireback of German type, dated 1549

Typical English fireback, with curved top, marked "Cole Brook Dale Furnace, 1763"

Depicting Christ and the Woman of Samaria—fireback of Dutch or German origin, dated 1613

below, "The Royal Oak." Another good one commemorates the Restoration, and bears laurel wreaths, palm branches, and crowns, and the date 1661.

Firebacks imported from Holland and Germany became fairly common during the seventeenth century, and the foreign designs were also

Guggenheimer, Untermyer & Marshall,
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June 30th, 1916

Cyclone Fence Company, Waukegan, Ill

Dear Sirs I take great pleasure in herewith enclosing check for $5,258.89, being the amount of your bill. I want to say that I am making this payment with great satisfaction and that the work as done is fully up to all your promises to me. I would be glad at any time to recommend your Company to my friends, as being thoroughly reliable in the character of the work that they have done.

Very truly yours,
SAM'L. UNTERMYER.

Cyclone Fence, from the standpoint of beauty, character, great strength, durability and dependability, is America's greatest fence, built by America's greatest fence manufacturers.

The erection of a Cyclone Fence affords absolute protection to public and private grounds. Eliminates depredations and assures respect and care from the public. No other means so fully conserves the beauties of nature and the constructive work of man.

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Cyclone Fence is especially designed as a beautifying and safeguarding enclosure for large country and suburban estates, public parks, club grounds, municipal and government grounds, cemeteries, etc. Its unapproachable quality imparts distinction and charm to the grounds enclosed.

Our Engineering Department will freely assist and advise with you without charge.

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Write to office nearest you, or to home offices at Waukegan, Illinois.

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Enamolin is an enamel so white, so durable, so porcelain-like that it not only *beautifies* but *protects* any surface to which it is applied.

As for the floors of the *Enamolin*-finished room—there is *Namlac Floor Finish*, the most durable floor varnish on the market.

Enamolin and *Namlac* are on sale at the better paint and hardware stores. If you cannot secure them, write to us.

Ask for free copy of "The White Spot" booklet. A sample can of either *Enamolin* or *Namlac Floor Finish* sent for 10c. Address Suburban Dept.

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The Whitest Enamel in the world

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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.

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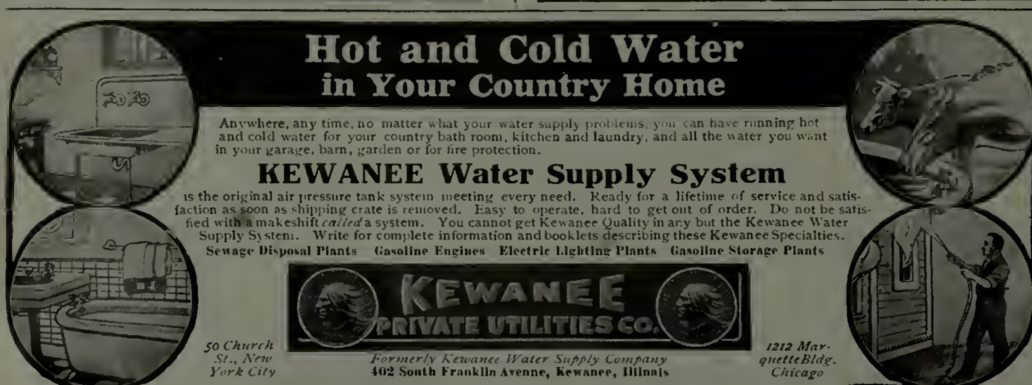

copied or adapted by English founders. The imported plates usually differed from those of English manufacture in design, shape, and proportion, being generally tall, narrow, and thin, and frequently having an arched top against which dolphins rested. They were often richly ornamented. There were also rectangular plates bearing designs of the Dutch or German type. These designs were often pictorial in character, and included mythological and scriptural subjects, such as the Nativity, Christ and the Woman of Samaria, etc.

With the increasing use of coal, the practice of employing firebacks gradually ceased, though there are some examples which were evidently designed to help support a grate. They are already somewhat rare, especially in this country, though numbers of them were imported here in the old days, and some were manufactured in the foundries of Pennsylvania. These Pennsylvania firebacks often bear designs in which the popular tulip motif is prominent.

Collecting old firebacks is not quite such an absurdity as it may at first appear to one whose taste runs rather to more delicate objects of art. There is a place for an old fireback in any modern fireplace, and they are not without a certain quaintness and decorative charm.

ANSWERS TO QUERIES ABOUT ANTIQUES

WILL you be so kind as to tell me the age, style, probable value, and anything else of interest concerning the desk, a snapshot of which I am enclosing? The desk is of walnut and is in very good condition, with no patches except about four inches of molding that has been replaced along the edge of

Walnut desk, with ogee bracket feet and Hepplewhite drawer pulls. Owned by Mr. Charles M. Jones

the lid. The boards on the back are fastened on with hand-made nails. Behind the door in the centre of the desk are two small pigeonholes and two small drawers. The compartment containing these drawers and pigeonholes pulls out, if the door is opened wide, and back of them are

American Empire card table of the lighter type, also owned by Mr. Jones

Think of January–*Then* Build

DUNHAM
Radiator Trap

This device is one of the fundamentals of the Dunham Vapor Heating System. It is the trap known the world over to heating engineers as the device that revolutionized Vacuum steam heating. Leading architects everywhere use it. It makes impossible the presence of water in radiators, it prevents their pounding and knocking, reduces fuel consumption, causes the radiator to heat evenly and quickly, eliminates the hissing air valve and spurting water

BEFORE you break ground, provide against the biting, bitter cold of January. Else the home you plan will yield but scant comfort.

Install a Dunham Vapor Heating System. Then winter will be welcome. In spite of coldest weather, home will be truly comfortable. Coal consumption will be low. Radiators will neither knock nor pound.

About all the attention you'll give the boiler is to feed it coal. It will be to bed each night without a cellar trip to shut the damper doors. Neither need you get up before your rising hour to open them. For, a feature of Dunham Heating is dependable, automatic temperature control—any predesired degree of heat at any hour is mechanically produced.

The Dunham is not the lowest priced heating equipment—but dollar for dollar it is splendid value. A steam fitter can Dunhamize your home. Do not build until you have written for full information. Write immediately, asking for our fine, free, vital book—"The 3 H's."

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Walworth Steel Flag Poles

are not only durable and lightning proof but are graceful—A worthy addition to any estate, club, park or building. Furthermore the patented

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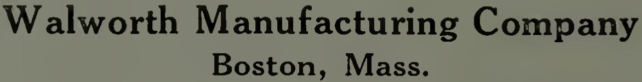
allows the flag to swing with the breeze and prevents it from fouling the pole. It flies free at all times. Costs no more than wood—inexpensive to maintain. Booklet with details of sizes, prices and full instructions for erecting, gladly sent on request.



Walworth Manufacturing Company
Boston, Mass.

NEW YORK 19-21 Cliff St. CHICAGO 220 N. Desplaines St.

three secret drawers. On either side of the centre door are book-shaped compartments for the filing of papers, etc.; they are pulled out by little brass knobs. On either side of these are four pigeonholes, below which are two small drawers. Below these, in turn, is one large drawer. The lock is gone from the door in the centre and from several of the larger drawers. The brasses are all original except the handle of one.

Will you also give me your opinion of the table, a picture of which I am also enclosing? It is of mahogany veneer, and the veneering is broken on the top and along the edge of the top. Do you think the table is old enough and of good enough style to justify the expense of refinishing? What style would you call it, how old is it, and what is its value?

C. M. J., Bridgeton, N. J.

The desk is an interesting one, though, as is frequently the case, the writing board is rather high for modern needs. The walnut would indicate a period about 1750, though some of the details are of a later period, the Hepplewhite handles dating about 1770. These, of course, may have been a later addition. The desk might bring $100, or even more.

The table is a rather good example of American Empire, dating about 1830. The shape of the top is unusually good, and the table might be worth $65. It is well worth repairing.

I HAVE a hand-woven coverlet of a sort of checker-board pattern, similar to one you illustrated as a late eighteenth century example. Can you tell me its value?

Mrs. E. B. M., Jr., Huntsville, Ala.

I find that old coverlets of the ordinary patterns have been selling for $10 to $15 apiece.

I WISH to inquire about the probable value of an old tall clock which I own and which has been in my father's family nearly 200 years. The ancestor who then owned it removed from Hampton, N. H., to Rye, N. H., about 1720, and it was told by his descendants that he had the clock in Hampton. It remained in the house in Rye till about fifty years ago, when it fell into my possession and has since been in my house. It keeps excellent time and seems good for another century. It has a brass face and works, and the name W. Tomlinson, London, is inscribed on the dial.

I find in a clock book that he became a member of the Clockmakers' Company in London in 1699 and was a master in 1733, and I have been told that there are not a dozen clocks in the country as old as that.

E. G. R., Brookline, Mass.

It is difficult to place a valuation on a clock of this kind, especially without seeing it. Tomlinson clocks are valuable, but in this country we reckon the value largely from the style of the case. If this is of walnut, quite plain, and in good condition, the clock might be worth $350. If it is of some less beautiful wood, or not in good condition, it would be worth much less. If the case is an especially fine example of cabinet making, with fine marquetry, etc., its value might run as high as $500 or $600.

I think you have been misinformed, however, about the rarity of clocks as old as this. They are rare, but there are a great many more than a dozen in this country.

I HAVE a camel's hair shawl which I am anxious to dispose of, and if you can give me any idea of its value I would be very grateful. The shawl is an inheritance and I have no idea of the original cost, but it must have been a very valuable one and seems to be in perfect condition. It is 2¼ yards square. The centre is black but the plain color shows for only five or six inches.

Miss J. N. J., Watertown, N. Y.

I regret to say that cashmere and camel's hair shawls are not bringing anything like what they are worth just now. Shawls which cost several hundred dollars originally have been offered for sale recently at $25 to $50 apiece, and no one seems to want them. I should advise you to keep your shawl if possible, for I am sure there will be a better demand for them some day.

W. A. D.

Roof stained with Cabot's Creosote Stains. Walls finished with Old Virginia White. Roth & Study, Architects, St. Louis

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Good paint costs twice as much as Cabot's Stains and painting costs twice as much as staining, on shingles, siding or other woodwork. The stains are softer, richer and more artistic in color, and the Creosote penetrates and preserves the wood. So you can reduce the high cost of living and also gratify your artistic sense by staining your woodwork with

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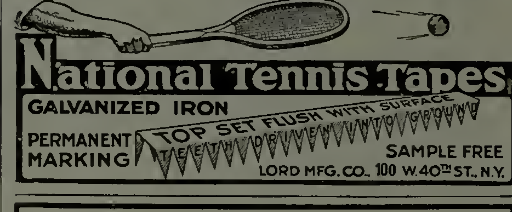
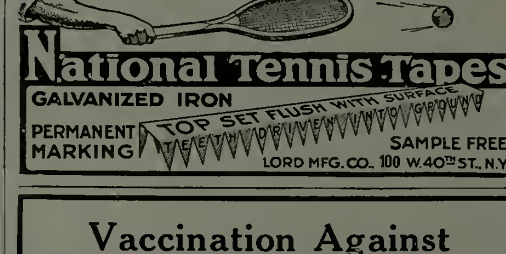
You can get Cabot's Products all over the country. Send for stained wood samples and name of nearest agent.

SAMUEL CABOT, Inc., Manfg. Chemists, 147 Milk St., Boston, Mass. 24 W. Kinzie St., Chicago 523 Market St., San Francisco





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It's lucky their mother used Valspar—

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Let them play as much as their little hearts desire, without fear of a scolding if they happen to spill something.

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On your white woodwork use
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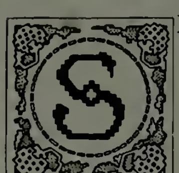
Starts white—stays white
Ask your dealer

Stonelee, from the west. The lot itself is a hillside, 200 feet square, with a not too heavily wooded front on Lake Keuka

A HILLSIDE SITE

By May Ellis Nichols



SEVERAL years ago we decided to build a summer home which could with little change be turned into an all-year-round house. Accordingly we looked for a place that combined the advantages of country and town—a difficult requirement, truly—but one that was perfectly met.

The location selected was one mile from the thriving town of Penn Yan, N. Y., on a trolley line, and within the limit of city water, telephone, and electric light service. The lot itself is a hillside 200 feet deep, with a 200-foot wooded front on lovely Lake Keuka. A wooded gorge forms the boundary between us and our nearest neighbors.

The lot secured, the house became a fascinating problem. For months we studied houses and books on architecture. Then, with our own location in mind, we made a rough draft and took it to an architect whose artistic houses had attracted our attention. This architect embodied our desires in practical working plans.

The style of architecture selected was the English half-timbered type. The gables and roof are sharply peaked; the front door opens directly on the ground; and the diamond paned casements swing *out.*

From the beginning we hoped to build of stone and stucco. Judge then, our dismay at being told that there was no suitable stone in the locality. The fields all about us were thick with flat stones that were used for cellar walls, but never for houses. But why not? Size, shape, color, all exactly suited our purpose. They were purchased at 90 cents a perch, measured in the wall—really the cost of delivering them—and our stone first story, porch pillars, and large outside chimney are monuments to their utility. The upper stories of the house are half-timbered stucco. The timbering is stained brown and contrasts pleasantly with the gray of the stone and stucco. The roof is stained a dull red.

The arrangement of the rooms is simplicity itself, yet every foot of space is used to advantage. The half partitions between the dining and living rooms give some seclusion without making it impossible to use the two as one room. Bookcases and china closets are built in the partitions. Even the space at the back of the chimney furnishes a china closet. The stone wall, which is eighteen inches thick, makes all the windows on the lower floor recessed, and some are fitted with seats.

The large porch is built in front of the dining room, that the long windows on the lake side of the living room may not be shaded. This makes

The south side, showing the small latticed porch over the door into the living room

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have become an essential part of every residence. Why not have beautiful, clean water in your home? Have your dishes washed and your food prepared in water you know to be clean and safe.

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Bathe in sparkling, refreshing water.

Use filtered water in your laundry and the linen will be free from that yellow stain.

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 [illegible] construction most durable and efficient. Several sizes to meet large or small requirements.

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makes such wonderful roofing that we really want you to know more about it. Just fill out the coupon below and we'll send you our book—"*For the Generations to Come.*"

Full of worth-while facts and figures, plans and actual photographs and tests. The dollars-and-cents side is accurately discussed.

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WOULD you roof for your children's children—roof with Vermont Sea Green Slate! The one roofing that will outlive you, that'll shield you 'gainst fire; shelter you thru the worst of weather without costly repairs and paint, and each year will add to its beauty.

Man-made roofs are temporary. They wear and you repair and paint. Wood roofs encourage fire. But Nature has made Vermont Sea Green Slate and it has been thousands of years in the making. Yet it costs no more than other roofings.

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Please send me FREE your handsomely illustrated book, "For the Generations to Come." I am interested in roofing a (kind of building) ____________

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May is the month when our Lingerie department is more than usually well prepared with the newest and daintiest articles in Lingerie.

This year we have gathered together in many respects the largest and most complete showing of Lingerie we have been able to exhibit for years. This includes Imported and American-made goods, but particularly those of French manufacture.

Our new stocks from Paris are here; a very wide variety including the latest models which, though not greatly different from those heretofore shown, are sure to please.

Boudoir Gowns, Caps, Brassieres, etc., from the simplest styles at moderate prices to the more elaborate and costly, in satisfying variety.

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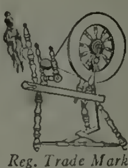
The Underwear and Dresses for Children, of which we show a very comprehensive assortment in sizes up to ten years, are all sturdy, sensible, well-made little garments in good taste.

The Dresses are made of our own Linens, Chambrays, Japanese Crepes, Dimities, etc.

Suits for boys up to five years of age, also of Devonshire Cloth, Linens, Ginghams, etc.

Write for illustrated Booklet, "Special Attractions for May"

James McCutcheon & Co.
Fifth Ave., 34th & 33d Sts.
New York


Reg. Trade Mark

the living room especially pleasant in cold or rainy weather. The porch is reached by a door from the living room, French doors from the dining room, and by steps from the outside. There is a latticed porch at the kitchen door with a seat and a hinged table. There is also a small latticed porch at the living room door.

The interior finish of the lower floor is rough gray plaster. The joists are arranged in groups of two, and boxed, giving a beamed effect. These beams are stained brown, but the woodwork of the room is stained a soft moss green. The floor is Georgia pine; the stairs, oak. There is a fireplace in the dark corner of the living room, with an ingle nook whose seat is boxed to make a place for wood.

The kitchen is really a model of convenience. Three large south windows give plenty of light, and the north door, also with a window in it, gives cross ventilation. There are large cabinets built in, stationary tubs, a coal range with hot water attachment, and a blue-flame oil stove. A back stairway, leading to the second floor, opens into the kitchen, and the cellar stairs are directly below it, thus saving space. The whole house is lighted with electricity.

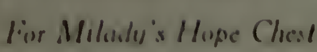
Overlooking the lake is a large porch, topped by a balcony for outdoor sleeping

The half partitions between the living and dining rooms give some seclusion without making it impossible to use the two as one room

There are four bedrooms on the second floor, the two on the lake side opening on balconies, which could be used as sleeping porches. Each bedroom has its closet. There are two bathrooms, each fitted with porcelain tub, seat, and bowl; and a good-sized store room.

The walls of the second floor are ceiled, but they could have been plastered at the same cost. The foundation for a furnace was laid when the house was built, so that the furnace can be put in at any time.

The place has several unusual features. In excavating for the cellar a spring of delicious water was struck and piped into a cement tank in the boat house. The garret stairs are weighted and swing up like a trap door, thus saving the room of a staircase. As the house was built in the side hill, the door at the end of the hall on the second floor opens on the ground.



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Ivory Py-ra-lin

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UNION METAL PERGOLAS

"The Ones That Last A Lifetime"

These pergolas with columns of galvanized open hearth steel, will withstand the dampness of vines and shrubbery and the heat of summer sun as long as your house itself. Wood columns placed on the open ground soon swell and shrink, open up at the joints and finally rot out, just as the climbing vines are reaching the perfection of maturity.

Union Metal Pergolas come in any length com lete with metal columns, beams, rafters and trellis strips ready to put together on the spot Any workmen can erect it or you can do it yourself and enjoy the work.

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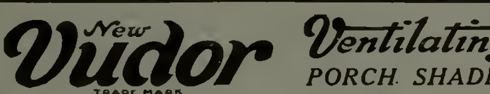
No. 2252 *Tycos* HOUSE Barometer

The best materials enter into its construction. Adjustable by anyone to 3,500 feet altitude. In a 5-inch lacquered nrass case with enamel metal dial.

S. & M. Weather Instruments are sold by your Optician and Scientific Instrument Dealers. If yours does not have an S. & M. *Tycos* House Barometer No. 2252 in stock send us his name and address and $10 and we will ship you one at once. Our 36-page Barometer Booklet, which describes other styles, is yours on request.

Taylor Instrument Companies Rochester, New York
World's Largest Manufacturers of Scientific Instruments



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The Vudor exclusive *Ventilating* feature causes circulation of fresh, cool air.

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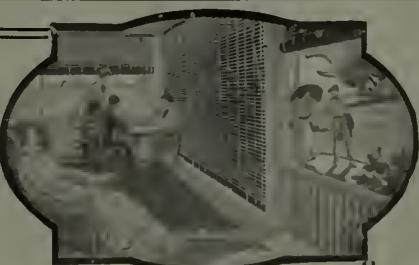

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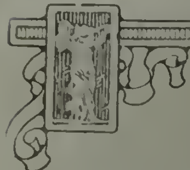
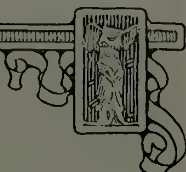

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BARRED PLYMOUTH ROCKS AND THE STANDARD OF PERFECTION

THE general public does not know that Barred Plymouth Rocks as bred to-day, and for years and years, are two distinct breeds which are never cross bred, and that the reason for this is because of the erroneous Standard of Perfection.

The two varieties might properly be called Light and Dark Barred Plymouth Rocks, but they are better known among the big Barred Rock breeders as pullet and cockerel matings.

The reason for this double mating in order to produce a standard male and female as described in the Standard of Perfection is as follows: Barred Plymouth Rocks were originally produced by using a large infusion of blood of the American Dominique, from which fowl they take their color scheme of black and white barring. This same Standard of Perfection, in speaking of the color of the male and female of the Dominique, says, "The male may be one to two shades lighter than the female," and the illustrations in the Standard show the male bird to be several shades lighter in color than his mate. Now that is as it should be and is according to nature. Turning in the same Standard to the color description of

The dark-colored Barred Plymouth Rock male required by the present erroneous Standard, as described by Mr. Prescott

Barred Plymouth Rocks, we read that the color of male and female is the same, and the illustrations show the same color for both sexes. Now that is all wrong, as it is against nature, and two such Barred Rocks of the same shade of color when bred together will not produce their like; the males will be considerably lighter in shade than the females; consequently in order to produce males and females of the same shade of color it is necessary to have two distinct matings, one with the Standard male mated to very dark—almost black—females to produce exhibition males; the other with Standard-colored females mated to a very light-colored male, which will produce females of the same shade of color as the Standard male in the other mating.

It is the practice in the show rooms to exhibit only Standard bred Barred Rocks, and the public does not see or know of the other mates of these birds left at home and which are necessary in order to produce their like. To make the deception still greater, the shows have classes for breeding pens in which the Standard Barred Rock males and females are shown penned together, whereas they are never so penned except in the show room. The public, coming to the shows for education as to the proper color of Barred Rocks and how to mate them to produce Standard specimens, are misled, and go home to practise wrong principles in breeding. If perchance they purchase a pair of fowls or a breeding pen as exhibited, these have no breeding value as they cannot be thus bred to produce exhibition specimens.

The Barred Rocks are the oldest American made breed and were once the most important, but by this error in the Standard they are gradually going back and one sees fewer and fewer at the leading poultry shows. Take, for instance, the 1916 Madison Square Garden

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poultry show which is said to be the leading show in America; there were but 86 single Barred Rocks shown, and of these 69 were sent in by one prominent breeder so that there might be a better showing, as without his entry there would have been but 17 single birds shown. White Plymouth Rocks were present with 100 single birds sent in by twenty or more exhibitors; Single Comb R. I. Reds were present with 120 single birds and twenty-five or more exhibitors. The reason for this dropping off in the exhibition of Barred Plymouth Rocks is that hundreds of breeders are getting tired of being allowed to show only one half the birds as bred and being obliged to leave the other birds at home. Some of them are also refusing to send their birds to the shows mated differently from the way they are mated at home.

At the next to the last meeting of the American Poultry Association this error in the Standard was practically admitted, for they voted to try to right it by making a still further error. It was voted to issue a separate breed Standard of Barred Plymouth Rocks and to describe the double mating necessary in order to produce exhibition specimens; but two wrongs never made one right; and this new breed Standard does not admit to the Standard the very light males used

Showing the light-colored Barred Plymouth Rock male required in the double mating system

in the pullet line and the very dark males used in the cockerel line; they will have to stay at home as hitherto, and those who do not purchase the new breed Standard will continue to be misled.

The results of this error in the Standard are very far reaching; for instance, a purchaser sends to any breeder of Barred Rocks for a setting of eggs, twenty-five or more day-old chicks, or a pair or pen of fowls. What shall the breeder do? Write his customer and say that Barred Rocks are two distinct varieties and that in order to breed Standard males and females he must double his order and keep two matings, or shall he send from one mating only and the customer be satisfied to breed but one half the breed as described in the Standard?

Again the purchaser receives a pair of fowls that he has ordered to exhibit at some local show, and the breeder has picked them out for this purpose; they are a Standard bred male and female and they cannot be bred together and will not produce their like if so bred. The purchaser finds this out to his cost after a year's time.

To-day the general public is ignorant of what Barred Rocks should be, and is breeding them regardless of color description, with the result that there are doubtless fewer Barred Rocks of real show quality than of almost any other popular breed.

This error in the Standard does not exist alone for Barred Plymouth Rocks, but for Brown Leghorns, Dark Brahmas, Silver Penciled Wyandottes, Silver Penciled Plymouth Rocks, Blue Andalusians, and several other breeds, in all of which double mating is required to breed Standard males and females. As a result, all of these breeds are waning in popularity and the single-mated breeds are being sought in preference.

Some day this error will be righted and the Standard will describe birds as they are mated and bred to reproduce their like. The next revision of the Standard will be in 1923, and without doubt a movement will be made to do something in that line at that time. In the meantime the public and the double-mated breeds will suffer.

F. M. PRESCOTT,
New Jersey State Vice-President of the Barred Plymouth Rock Club.

Wm. F. Thompson, Architect

THE four photographs to the left are of houses painted with Bay State Coating more than two years ago. The top one is the residence of Mr. Neustadt, Jr., Altadena, Cal.—Architect, Elmer Grey. The one below is the home of Mr. Robt. D. Hopkins, Baltimore, Md. — Haskell & Barnes, Architects. The third one is Mr. Fred C. Lomes' residence, Providence, R. I.—Painting Contractor, C. M. Freeborn & Co. The last photo is of a Los Angeles residence painted by C. C. & S. J. Chapman Co.

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THE POLLEN OF FLOWERS

TWO essential processes are associated with the final stages of the development of the flower. These are the maturing of the stigma or female organ, and the preparation of those wonderful grains which play such an important part in the scheme of reproduction. In most cases the anther lobes are two in number and, at a certain stage, these open wide so that the golden pollen which they contain may escape. To the unaided vision the pollen looks like so much yellow dust, but on a close examination with a microscope each grain is disclosed as a highly complicated arrangement. Generally speaking, the wall of the pollen grain is composed of three layers; these are the interior or intine, the middle or extine, and the external or perine. In the centre of the grain is the tiny spot of protoplasmic matter which makes the pollen effective as a fertilizer.

The shape of pollen grains shows a considerable variation in the different species of plants, although in a very large number of cases the form is ellipsoidal. Of these the grains of the calla lily and the dead nettle (Lamium) are typical. A goodly number of pollen grains are spherical, and examples of this type are to be found in the pollen of the mallow (Malva) and gourd tribe (Cucurbita). A considerable group of plants bear pollen of a crystalline design, which may be regular in shape as with the pansy (Viola) or extremely uneven, an example of which is the grain of the dandelion (Taraxacum).

How pine trees produce their pollen. It is borne by the male flowers, in huge quantities, as shown by the pile of pollen at the right

In the case of most examples of pollen it is the outermost layer which arrests attention. This is not always the same thickness in every part, the layer being in some places quite thin, something like little windows. Now and again the thin places resemble actual openings, and in the past have been wrongly considered as such. In the pollen of the phlox the patches look very much like the port-holes of a ship. Even more strange is the manner in which the thin places are arranged in the pollen of the marrow. At certain points in the covering, excrescences arise and these are surmounted with little cap-like processes. When the time comes for the emergence of the pollen tube from the grain, one of these caps is detached, which enables the tube to grow outward and plunge down through the tissue of the style. This give us an indication of the purpose which is served by the thin places on the pollen grain. Briefly, the chain of happenings after the settlement of the pollen grain on the stigmatic surface is as follows: the first event is the taking up of moisture from the surface of the stigma. This causes a great increase in size of the grain, which may swell to four times its original dimensions. Then begins the development of the matter within the grain, which leads up to the formation of the pollen tube. This tube, which consists of the whole contents of the cell, makes its way to the thin place which is nearest to the stigmatic surface. At this point the tube emerges, and from thence travels down the stalk of the style until the ovule at the base is reached.

In nearly all cases where the pollination of the flower is dependent upon insect agency the pollen is of an adhesive nature. It is likely that all the sculpturings on the walls of the grains are directed

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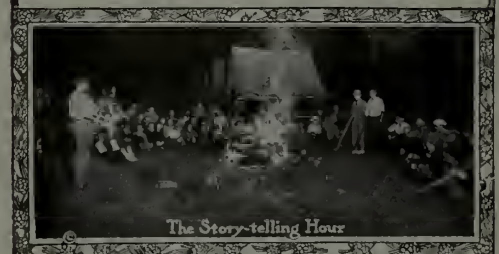

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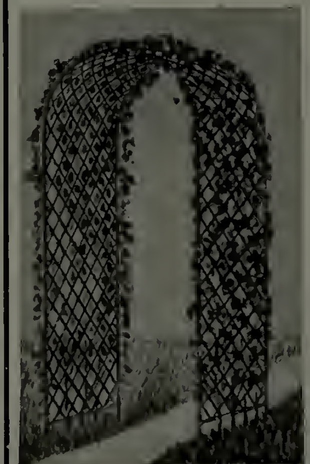

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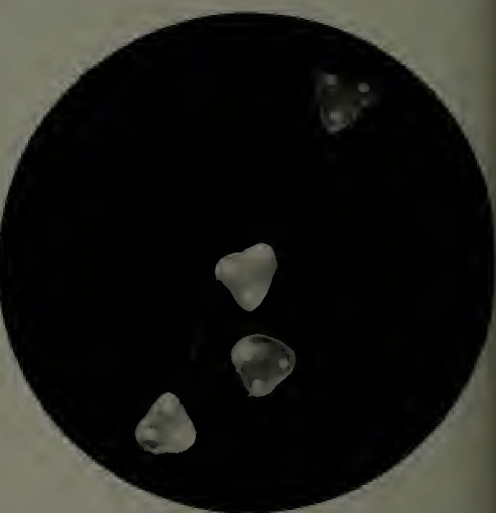
toward this end. In many instances it is found that the pollen is covered with spines. Good examples are to be found in the grains produced by the daisy tribe, and also the mallows. These spines make it quite certain that the pollen will hang together in masses and, as well, readily attach themselves to some part of an insect visitor. One may feel almost certain that the adhesive character of this pollen is connected with the insect visitors to the flower, for such feature is wanting in the case of wind-pollinated plants. The pollen produced by a large number of trees such as oaks, beeches, hazel, etc., is quite smooth so that the grains float away individually and, by their very lightness, secure a dispersal. A very singular device for the joining together of a number of grains of pollen is that to be observed in the case of the rhododendron and

Pollen grains of the gourd under the microscope. Pollen grains differ greatly, but many of them are spherical like these

azalea. Here the grains are banded together with viscin—a substance not unlike the bird lime obtained from mistletoe berries. The effect of this material is that at a touch the whole contents of the anther lobe is removed.

In considering the question of the pollen of plants, one cannot well avoid a reference to the pollinia which take the place of the fertilizing grains in some species. In this case the whole of the grains produced from the sack in the anther remain joined together. A pollinium may consist of a dozen grains, or even several hundreds. These are present in the flowers of the asclepiads and in orchids. In the latter instance the pollinia often terminate in a little disc which, being of an adhesive nature, readily becomes attached



The pollen grains of the azalea are found bound together in numbers by a thread-like substance

to any object which it touches. In such cases the insect visitor carries the pollinia away. In other instances the flower may be self-pollinating, and at a certain stage the pollinia fall down and touch the stigmatic surface. This is notably the case with the bee orchis.

Pollen grains vary considerably in size. Thus the grains produced by the forget-me-not, for instance, are extremely small when compared with those of the gourd tribe, which are nearly one hundred times larger. As well, too, the amount of pollen produced by the different species varies greatly. A single flower of the common balsam will not bear more than 200 or 300 grains.

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On the other hand it has been estimated that a dandelion head of blossoms will be responsible for not less than 365,000 grains; that produced by the peony has been figured out as anything between three and four millions! In the case of wind-fertilized plants the yield of pollen is simply prodigious. Thus we have it on the authority of Professor Ainsworth that, in the year 1858, the dust in the neighborhood of some fir woods in Invernessshire, Scotland, covered the ground to the depth of half an inch.

The length of time over which a grain of pollen will be effective as a fertilizing agent has been determined in a few cases. With the pollen of the wallflower (Cheiranthus) it is stated that the vitality is lost after fourteen days. In the case of the peony the period is as long as two months. It is known that the pollen of some palms will if kept in a dry state last in good condition for a considerable while. The Arabs who artificially pollinate the female blossoms of the date palm are in the habit of putting aside a quantity of the pollen from one year to another. This is done to provide against the chance that the male flowers might not develop properly in the succeeding season. LEONARD BASTIN.

PHOENIX FOWLS

APAN has sent us many rare and curious things, some of them more ornamental than useful, others combining both those qualities. The Phoenix fowls belong to the latter class. Harrison Weir said: "They are an adornment; as a flower is to a garden, so are they among poultry."

Some of their breeders in this country declare them to be excellent layers, one saying "the best of all the sitting breeds with which I have had experience." They are said to lay most of the time when not sitting, and to begin laying again while still brooding their chicks. They are also claimed to be good sitters and mothers.

The chicks must be very precocious, for the eggs hatch in twenty days instead of the regulation twenty-one. American breeders say that

An eight-months-old Phoenix cockerel bred by Dr. C. A. Shore At twelve months of age the tail was six inches longer

the chickens are very active almost immediately after hatching, and if the weather is warm, the best care that can be given is a big range. They stand the cold well if protected from dampness till well feathered. The chicks learn to use their wings early, and the adult birds have the power of flight equal to the pea-fowl or turkey. They are, however, easily tamed, and exhibit none of the nervousness of many breeds of fowls.

The colors do not seem to be very uniform or firmly fixed, though black, silver gray, yellow or white predominate. Authorities have differed as to combs, though the majority seems to favor the single comb.

The striking and distinguishing feature is the long tail. In Japan, under the most extreme care, the tails of the cocks attain a length of ten feet, it is said. But no American would spend the time necessary for caring for such birds. At least six inches increase in length of tail may be counted on for each molt.

The illustration gives a good idea of the general appearance of the birds. The Phoenix are a very interesting breed, and are not only beautiful but quite rare in this country.

F. H. VALENTINE.

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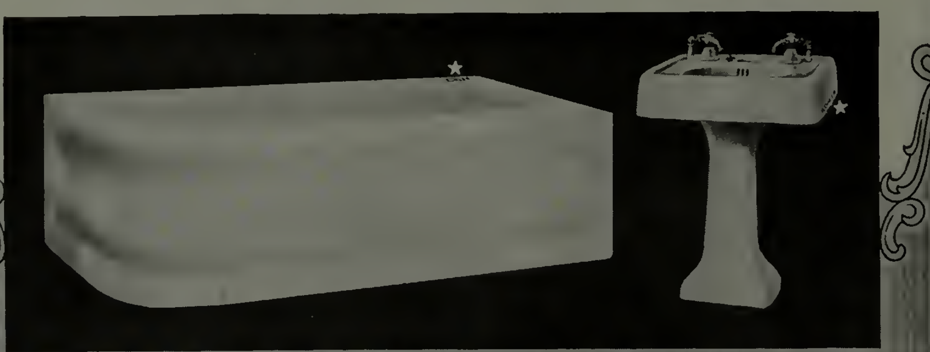
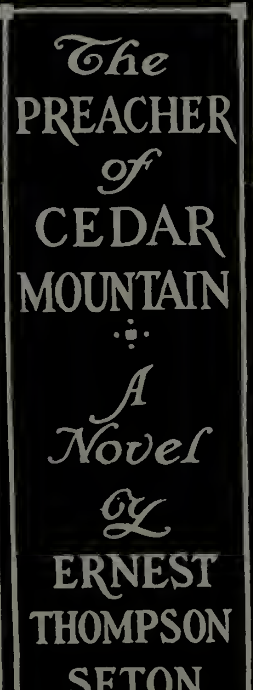


"Viceroy" V-12 (Patent Applied For) Columbia Lavatory, K-205A



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GROWING TREES ON FARM AND FOREST

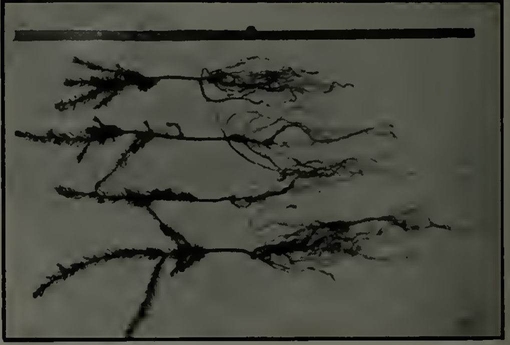
ALL areas of land which are not suitable for profitable agriculture should be growing trees. The present annual cut of forest products in the United States is probably twenty billion cubic feet of wood. To supply this demand without impairing the forests requires that about seven hundred million acres of woodlands must produce thirty cubic feet per acre yearly. It is safe to say that our forests are now growing only ten cubic feet per acre annually, consequently we are using our forests three times faster than we grow them. Nature is making a valiant effort to grow trees, but as a general rule her methods are wasteful and do not produce desired results. The area

An old farm field coming up naturally to white pine. This area should grow three times as many trees

is either covered with trees and shrubs of no commercial importance, or the trees stand so far apart that the land grows only one half or one third of the timber that it should.

Practically the same general principles apply in the growing of trees on the farm as in the forest. The first thing to do is to determine what kind of tree to plant, and when. This depends in a large measure on the ultimate object of the planting and also upon the climate, soil, altitude, slope, and other factors. It would be wise to obtain expert advice as to the species and the best time to plant before deciding definitely. As a general rule, conifers do best when planted in the spring and hard woods in the fall.

Best results are always obtained by planting trees grown in nurseries. Small seedlings or transplants from one to five years old are generally



The main thing to demand in seedlings for planting is a good root system. These are three-year-old Norway spruce seedlings, nursery grown

used. Experience has shown that nursery-grown stock is hardier and has a more fibrous and well developed root system than trees taken from the woods, consequently, such trees can better withstand the shock of transplanting to the permanent location. The main thing to demand in the trees to be planted is a good root system. Upon the arrival of the trees from the nursery, they should be removed to the site of the permanent planting and unpacked. Shallow trenches should then be dug in a shady spot and the bundles of trees laid in the trenches and the roots covered with earth. This will keep the seedlings for a short time, at least until they are permanently planted. The trenches, however, should be watered lightly every evening so as to make sure that the roots do not become dry.

The tools needed for the actual planting consist generally of ordinary wide-bit mattocks, buckets, and preferably some kind of wood mallet for setting the tree. Such mallets can be easily made at practically no expense. Under hard and continued usage, however, the ends of the mallets become crushed, and it is advisable to place an iron band around the head and set a

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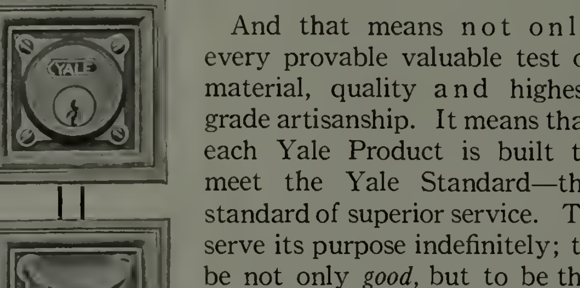

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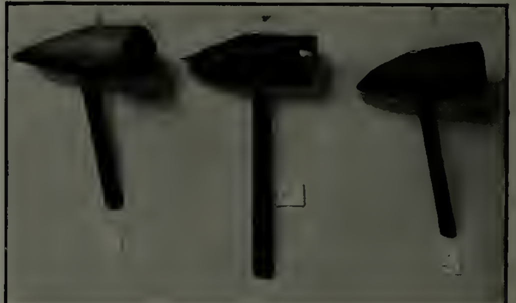
piece of flat iron slightly sharpened along the pointed end. The iron gives more weight and the sharp end serves to cut away any briars or weeds which may remain in the hole made by the men with mattocks.

The spacing of the trees varies, but as a general rule it is advisable to plant them from three to ten feet apart. This serves to stimulate height growth and shades out the lower limbs, preventing the formation of knotty timber. Further, it makes allowance for those trees which will die in the struggle for light and air and will provide revenue in the way of thinnings and improvement cuttings in a short time. As a general rule it is not necessary to clear the area of briars and weeds before planting. The young trees will withstand some shading at first, and in most cases will eventually overtop the undergrowth and shade it out completely. The expense of clearing should be kept to a minimum. The lower the initial cost of the plantation, the less the interest and other charges will be, and obviously, the greater the profit at the final cutting. The cost of the plantation should not exceed $10 or $15 per acre under ordinary conditions.

Scotch pine planted in 1906. Some of these trees are twenty-five feet high and six inches in diameter. This pine is practically free from insect and fungous attacks

When all is ready for the planting of the trees, fill the buckets about half-full of water and add enough earth to make the mixture about the consistency of ordinary flour paste. Remove enough trees from the trenches to fill the buckets, being careful not to get the tops muddy. This is known generally as "puddling the trees" and is done to prevent the roots from drying out during the planting.

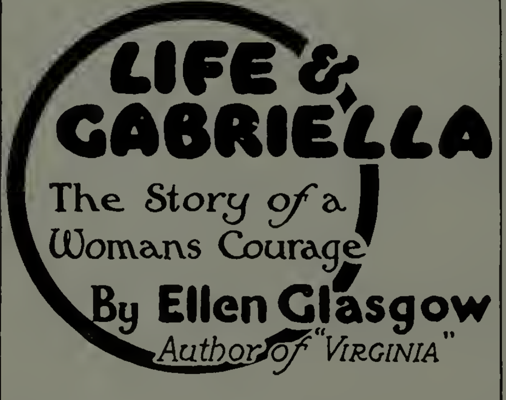


Planting mallets can be made at practically no expense. The central one shown has an iron band to prevent splitting

The men with mattocks then arrange themselves in roughly parallel rows at about the distance apart that the trees are to be spaced, and each makes a hole slightly larger than the tree to be planted in it. After these holes are made they move forward and repeat the operation. The men with the buckets of trees follow and place one tree in each hole. The men with the planting mallets then plant the tree, one man following each mattock-man. The tree should be set slightly deeper than it stood in the nursery bed and the earth around it should be packed tight enough with the mallet so that a light pull will not remove it. Care should be taken also not to injure the tender tree in the planting, and the roots should not be turned upward. Have the mattock holes deep enough. Under ordinary conditions, one man can plant from forty to sixty trees an hour. It is possible, however, to better this, but carefulness and good planting should not be sacrificed for speed.

Practically the only care that such plantations require is protection from fires always, and from grazing at least until the trees are ten or twelve feet high. It might be better to exclude grazing always, but the desire of the owner will generally dictate his policy in this matter.

Walter D. Ludwig.



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A CHECK LIST *for* HIM WHO BUYS

By ALEXANDER JOHNSTON

THE average cost of American motor cars is nearly $1,000 each, and there are 4,000,000 of them in service at the present time. This represents a grand total investment in motor cars of some four billion dollars, a sum greater than the national debt of either England or France before the present interchange of amenities began. Beyond a shadow of doubt no other investment of similar size ever was made with quite the reckless abandon that has characterized the buying of motor cars in this country. In other words, the average automobile buyer makes his purchase altogether too casual an affair and seemingly with supreme indifference as to whether the car he is getting is likely to prove a satisfactory and profitable investment.

When the ordinary business man purposes to make an investment involving $1,000 or more he is careful to investigate the proposition from all sides. He finds out the standing and character of the concern with which he is about to do business; he examines with scrupulous care the possibilities of gain or loss. If he is at all doubtful in regard to his own qualifications for passing judgment in the matter, he consults some one whose advice he has reason to respect. When the same man decides to invest $1,000 in a new automobile, he takes his wife on his arm, and the pair of mechanical imbeciles paddle off down automobile row to pass judgment on something about which they know rather less than nothing at all. In view of this state of affairs, a brief examination of certain essentials that ought to be considered by every purchaser of a motor car, before he finally saldles himself with the vehicle, may not be unprofitable.

The least of the troubles of the motor car buyer is the matter of price. He will perforce decide on the sum that he is able to spend for his car and will then make a list of the vehicles coming within his field of interest. That much being accomplished with enforced accuracy, the intending purchaser proceeds to pick out with appalling casualness, as we have suggested, the car that appeals to him for various superficial and inadequate reasons, and plumps down his money for it. Thus the first phase ends and the foundation of future trouble is laid.

As a matter of fact, the prospective owner should first investigate the financial status of the manufacturer who stands behind the car he intends buying, something that not one purchaser in a hundred considers. The organization behind the car must be financially sound or there is a possibility of the vehicle's becoming an "orphan", in which case the matter of replacements assumes serious proportions. It should also be ascertained what sort of a service department the factory maintains. Some large manufacturers have been so busy building up production and engineering departments that they have neglected the very important matter of bringing their service departments up to a coördinate degree of efficiency.

Having ascertained that the manufacturer is solvent and maintains a reasonably efficient service department, the next step is to look into the reputation of the dealer. Has he ample facilities for taking care of the repairs and replacements that inevitably occur? It may seem rather like croaking to ask the purchaser of a new car to look ahead to the time when the vehicle will be laid up for repairs, but it is better to be careful beforehand than to have the car laid up for a month in the midst of the touring season by some comparatively simple job that the dealer's inadequate facilities forbid his completing promptly. A few inquiries among some of the dealer's actual patrons will readily establish his status, as customers of this class are notoriously critical.

So far there is no inquiry necessary that the most unmechanical intending purchaser of a motor car cannot make for himself. A commercial agency rating and a few inquiries among owners of the make of car under consideration will very quickly establish the manufacturer and the dealer in their proper places.

When it comes to considering the mechanical desirability of the car, unless the purchaser is wholly qualified himself to pass on this phase of the matter, he should seek the advice of some one on whose judgment he feels safe in relying. Even here some knowledge of certain points that even the mechanically qualified may overlook will not come amiss.

First we must be sure that the car in question is reasonably adapted to the intending owner's particular needs. A grave and reverend minister, purchasing a car to carry him on parochial visits, will not appear altogether to advantage in a sporting runabout with bucket seats. The bride and groom will scarcely need a seven passenger touring car, unless they are buying for posterity. The dweller in a hill country should be sure that his car is a good hill climber. It scarcely seems necessary to suggest such obvious qualifications as these, and yet some purchases that we have seen made are little less ridiculous.

Next in order of importance, from the fact that it is so commonly forgotten, I would place the matter of convenient location of the various parts of the mechanism that need frequent attention. Not only is this important in saving the owner trouble, but if these parts are located in out-of-the-way places, they are apt to be overlooked and actually neglected, to the infinite prejudice of said parts. Now accessibility of parts is a somewhat involved matter. Every salesman will expatiate on the notable degree of accessibility of parts to be found in his particular car. In no one vehicle is maximum accessibility present in every respect, but the purchaser of a car should be sure that a reasonable degree of convenience exists in the machine that he intends to buy. The valves at least should be easy to get at, and the lubricating system should not have its inlets tucked away in a sort of mechanical game of hide and seek, which was common a few years ago, but is not generally found to-day. In one type of gearset location, it is five minutes' work to get at the gears; in another it is a half day's job for two mechanics. Certain cars have a construction enabling the main bearing to be reached in about three minutes; in others the lower half of the crank case has to be taken off. Undoubtedly accessibility should weigh heavily in the selection of the new car.

Next in order for critical examination, we should consider the engine. If, as is extremely likely, it is not the product of the maker of the car but of one of the specialist engine manufacturing concerns, find out which one of them turned it out and make sure that it has a reputation for putting out a reliable product. The fact that various parts of the mechanism are not produced by the company which gives its name to the car as a whole, is not to be held against the vehicle. In fact, one is quite likely to get a superior part from a specialist, who devotes his entire time and attention to doing one thing well; this is a development quite in keeping with the ideals of this specializing age. The individual points about the engine which should be examined include the number of cylinders and method of cooling, by which latter we mean the circulation of the water by pump or the thermo-syphon method or by air alone. The importance of having engine parts readily accessible has already been noticed. The style of piston employed is also worth considering. It is very important to note whether the cylinder head is removable, as this type of construction renders comparatively easy the inspection and repair of the parts inside. For the benefit of intending buyers unequipped with mechanical knowledge of the vehicles they are examining, we reiterate the advice previously given, to obtain expert advice on which they can rely, in selecting the product embodying a maximum quantity of the best practice in all the features we have mentioned. Individual preferences, of course, will differ with regard to almost any of the parts mentioned, but each buyer should certainly get the type he likes best.

Another point to be considered in connection with the engine is the relation of the power plant to weight and load capacity of the car. A ten-horsepower motor would not become a seven passenger touring car. There is a certain logical relationship between power and load which must be accorded due consideration. Piston displacement and gear ratio will come under this classification, with the weight of the car, size of the wheels, and the wheelbase. As a matter of fact, however, in our modern American cars this problem has been carefully weighed by the manufacturer, and in the main we may trust his judgment.

The next part of the mechanism that is open to casual inspection by the ordinary buyer is the rear axle. By far the greater number of car manufacturers prefer to buy rear axles from specialists. Now most of these axle manufacturers put out an entirely creditable product, some better than others, but there are a few whose products are extremely poor. Our hypothetical buyer will do well to find out what make of rear axle is used in his selection and be governed accordingly. And make no mistake, a defective rear axle can give more trouble than we would care to wish on any nation except one.

Having covered in detail the mechanical parts of the car, the person interested should next consider the riding qualities of the vehicle. The type and dimensions of the springs should be considered in connection with the wheel base and tire sizes. The unsprung weight should be taken into consideration, and the depth of the

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cushions is so obvious an inspection to make that it is almost needless to mention it.

Another thing that should not be forgotten is to ascertain that there is plenty of leg room in both front and rear compartments. Unless one has endured it, he cannot realize the acute discomfort of having to sit habitually in a car wherein he is cramped and uncomfortable.

There should also be a careful inspection of the parts of the car that indicate the strength and wearing qualities of the vehicle. For instance the depth and construction of the frame should be carefully examined. It should be seen that the axles are heavy enough to promise long life under the rather trying conditions of our highways. Wheels must be soundly built and of reasonable weight. Fenders should possess as much strength as is consistent with this extremely vulnerable part.

The auxiliaries, starting and light system, etc., will generally receive an undue amount of consideration from the car buyer, so we shall not enlarge upon it here. Some consideration may profitably be devoted to the type of fuel feed used on the car. The old-time method of feeding the fuel by gravity, may serve very well for one motorist's needs, while for the service another owner will ask his car to perform, vacuum or pressure feed is practically a necessity. The speedometer and dash equipment is somewhat a matter of personal taste, and the possibility of adding anything desired to this extra equipment will prevent the purchase of a car hinging on the installation of some small instrument dictated by individual fancy.

One further suggestion we shall add, which may seem far-fetched to the buyer standing in the full glamor of the glistening finish of the new car that he purposes acquiring. It is that he examine the second-hand value of the particular make of car. It sounds rather ravenish to talk about selling a used car before one has bought the new one, but the owner will be glad that he took the precaution, when he comes at a later date (may it be a dozen years away) to dispose of the vehicle in its ultimate condition. Different makes of cars vary widely in the price they command in the second-hand market, even when condition is the same. By finding out what average price each model of the particular car brings in the used car market, the buyer can readily tell just what percentage he must charge off to depreciation. In this same connection it is well to find out how many models each year the manufacturing company is in the habit of bringing out, and whether succeeding offerings differ radically from their predecessors. Rapidly succeeding models depress the second-hand price of a make. And in the final analysis, could there be a better, a more inevitably accurate commentary on the desirability of a car as a new buy, than its customary value in the second-hand market?

We have purposely couched this humble treatise in rather elementary language for the benefit of the man who lacks the mechanical equipment to pass on the constructional features of his new car for himself. From what we have said, such a non-technical buyer may indicate the parts of the car on which he desires advice. Even the mechanically competent buyer will possibly find some suggestions that may prove helpful, for mistake it not, many veteran motorists purchase cars without proper consideration of all the numerous points that one desires to find in the car he uses constantly. No car exists that offers every single feature considered desirable by any buyer. The best that we may hope for is to get the car that embodies the greatest number of our individual preferences.

Said Mr. Ryder —

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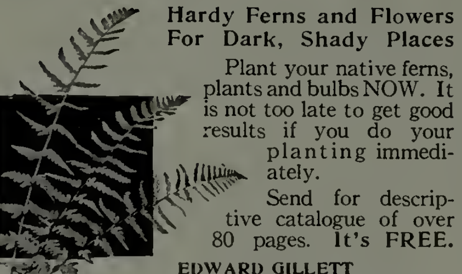

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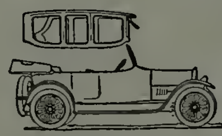

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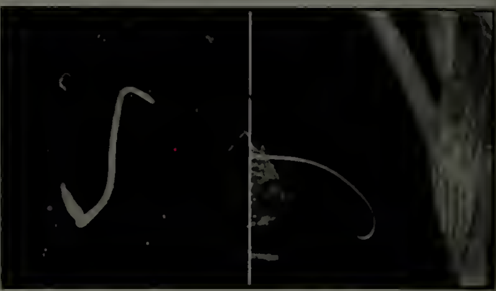
A WONDERFUL PARASITE

IN THE world of vegetation parasitism is to be found in a variety of forms, but the robber plants differ to a marked degree in their dependency upon their unwilling hosts. For instance, a large number of species such as the lousewort (Pedicularis) attach themselves by means of suckers to the roots of grasses. These partial parasites have green leaves and are able to form starch in their foliage. In addition to the roots which bear suckers, they have a plentiful supply of others which seem able to withdraw nutritive substance from decaying vegetable matter in the soil. Evidently the food supply which they draw from the grasses is only an extra means of livelihood adopted by these plants. Much more remarkable is the case of those plants in which parasitism is to be seen at its worst. Of all the robber plants there are none more singular than the dodders (Cuscuta). The common dodder (*Cuscuta Gronovii*) is widely distributed throughout North America, making its living at the expense of a number of species of shrubs and herbs.

The life story of the dodder is one of the most fascinating in the book of nature. Almost all the



A dodder plant in the first stage of its career, and a little later as it starts out to find a victim

species of Cuscuta which have been described are annuals, but before the plant disappears in the fall there is an enormous distribution of seed. All through the winter the seeds lie in the ground waiting for genial spring weather. The little plants make rather a late start at this season, which is an advantage, for the dodder is entirely dependent upon its host plant after the first few weeks.

The germination of the seed of the dodder is worth following rather closely. First of all there appears on the scene a little club-shaped root which at once plunges down into the soil. This

At the left the dodder has secured a foothold. At the right it is shown when it has given up an independent existence

acts as a kind of an anchor, and it is also likely that a certain amount of moisture is absorbed by the process. The seed of the dodder has no cotyledons, yet there is an abundant supply of food material stored away in the embryo itself. On this account there is plenty of energy in the growth of the thread-like shoot which extends upward.

The writer's close study of the habits of this remarkable parasite shows that the dodder is able to live for a much longer period than has been supposed. Some plants which he raised, and purposely kept away from any hosts, lived for many weeks on the store of nutriment which was contained in the embryo. During this time the shoots grew to the length of two or three feet, and subdivided many times. All the while the stems were twining around in the apparent hope that at last a suitable subject for a host might be discovered.

If some plant happens to be within reach of the dodder, an attachment is quickly secured. No sooner has the victim been seized, and the curious sucker-like processes which are borne on the stem have penetrated to the tissues of the

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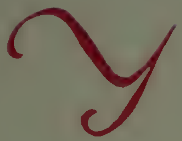

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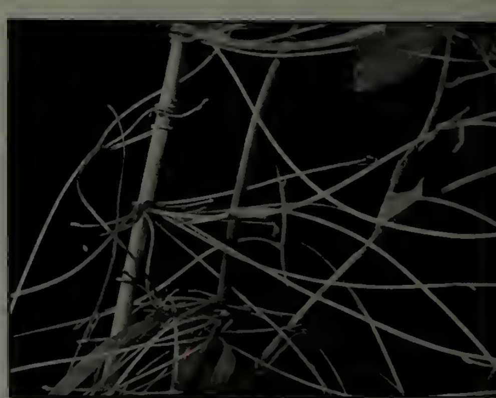
plant where the nourishment is to be found, than the root of the parasite withers up. Thenceforward the dodder has no attachment with the earth and relies solely upon that which it can withdraw from its host. A close examination of the suckers shows that the final processes developed are rootlets, and these plunge into the host in such a manner that they are able to tap the great store of nutrient matter which is present in the sap.

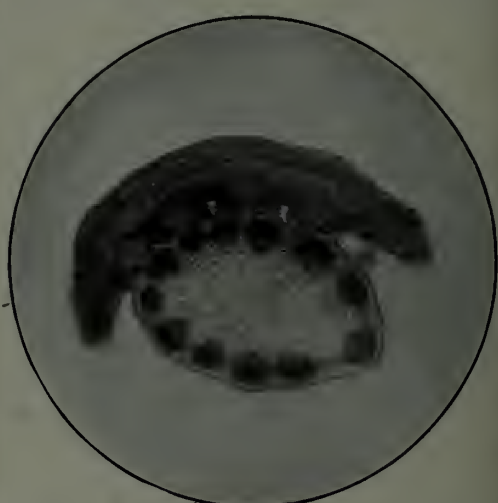
In these early days the dodder is a mere speck, often not much larger than a pin's head. Yet directly the attachment is complete an astonishing change comes over the parasite. It starts to grow prodigiously, sending out shoots in all directions, each one of which increases the entanglement which will soon overwhelm the host. The dodder is entirely destitute of foliage, and in its stems there is no trace of chlorophyl. At almost every point where the stems touch the



Showing the remarkable growth made by the dodder in the space of a few weeks

host plant suckers are produced, and these hold on so tightly that it is very difficult to bring about a separation.

In the photographs is shown the attack of a species of dodder (*C. epithymum*) which has traveled to many parts of the world with sendings of agricultural seed. Some specimens which the writer grew half smothered strong-growing clover plants by the sheer weight of the masses of the twining stems. The host plants were bowed to the ground, and even such foliage as they were



Photomicrograph of dodder attacking a clover stem

able to produce was poorly developed, owing principally to the fact that a great deal of light and air was screened away by the parasite.

With the full development of the stems of the dodder, which in the different species vary from yellow to pink, the flowers are produced. These are of a dull white, rather small in themselves, but being borne in dense clusters they stand out conspicuously. The blooming season lasts throughout the summer, and the seeds are being produced while the plant is still flowering freely. When one considers the vigorous habit of growth of the dodder, it is really a wonder that the plant is not a more serious menace to vegetation than is the case. But something seems to keep the plant in check. Of course, the dodder often suffers because it is too exacting in its demands. Thus it is not an uncommon thing to find that the host plant is killed. When this happens in the middle of the growing season, the dodder simply transfers its attentions to another plant, and a single parasite may bring about the downfall of a number of hosts. S. Leonard Bastin.

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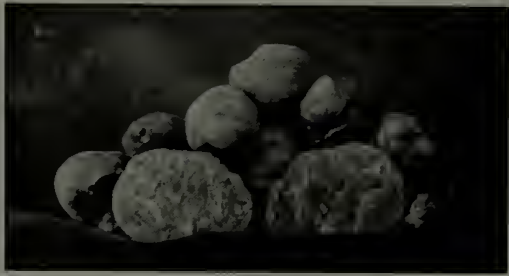
POSSIBILITIES OF THE TRUFFLE INDUSTRY IN AMERICA

IN THESE days when Americans are looking toward the expansion and development of home industries, it is quite fitting that the truffle problem should be brought to the attention of the public. While truffles are usually looked upon as a delicacy, and may be unknown to the average person in America, the collection and sale of these interesting edible fungi is an occupation of considerable importance in European countries. In France from $6,000,000 to $7,000,000 worth are sold annually at from $1 to $2 per pound. Fresh truffles shipped to New York often sell as high as $6 to $8 per pound.

The truffles are the most valuable of all of the edible fungi and are at the same time the most difficult to collect, since they occur buried from two to eight inches in the ground. In Europe where these fungi are collected and sold as a commercial article, they are collected with the aid of trained animals such as pigs and dogs.



American truffles collected with the aid of dogs

These animals are able to detect the presence of the fungi by their odor, and are trained to hunt and dig them. Europeans coming here, who are familiar with the habits of these fungi in Europe and the means employed there to collect and put them on the market, are naturally interested in finding them in this country in sufficient quantity to bring financial returns.

The recent importation of truffle hunting dogs from Europe and their use in the vicinity of New York City has revealed the presence

A truffle-hunting dog and his master. With the help of this dog several different species of truffles have been located in the vicinity of New York City

of several species of truffle, but in no case have they been found in sufficient quantity to be of practical value. The frequent collection of these plants, however, would suggest the possibility that they may be found in quantity if the search is persisted in long enough to discover those localities which have exactly suitable conditions for their growth.

The occurrence of truffles in close proximity

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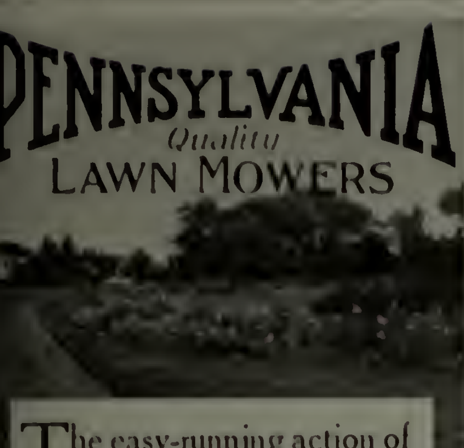

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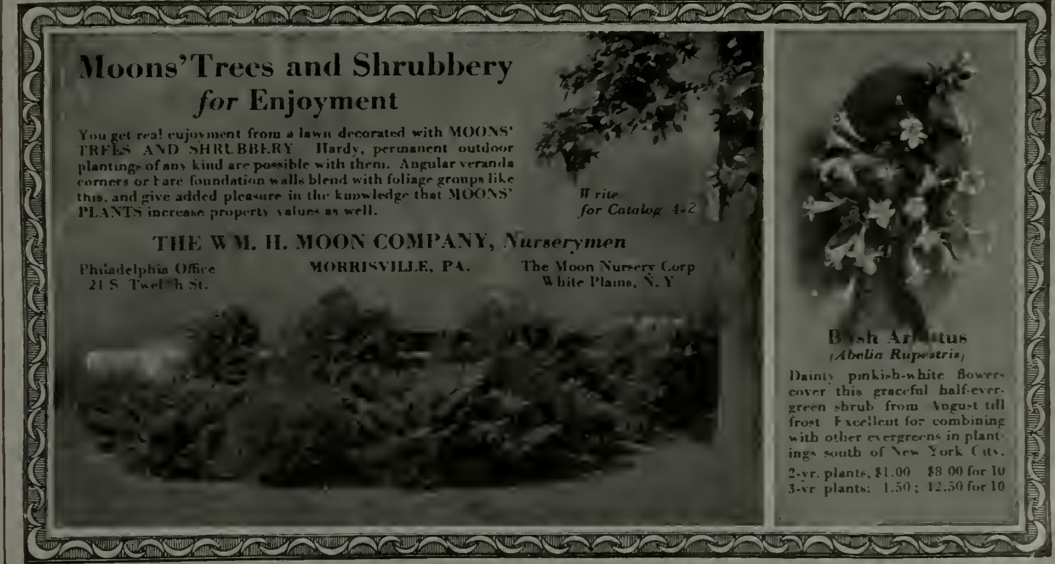

THE HORTICULTURAL DIRECTORY

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.

Spring Time is Lilac Time

—and Lilac time is Spring time at its best, with the air heavy with fragrance, and every bush a mass of glorious color—seemingly perfect. But the master hybridizer, M. Victor Lemoine, touched them with his hand, and, lo, from the purple and white a multitude of new forms and colors appeared. Ellen Willmott, with long pointed snow-white trusses of flowers nearly an inch in diameter; Madam Buchner, flushed with soft rose; Belle de Nancy, soft lilac pink; Leon Gambetta, with semi-double flowers almost as large and as perfectly formed as tuberoses; Waldeck Rosseau, great trusses of dark violet, are but a few examples of the more than one hundred new kinds in my garden at Wyomissing.

Now is the time to study Lilacs and make a selection for your own garden. Make it a point to visit the comprehensive collection at Highland Park, Rochester, The Arboretum, Boston, or come to Wyomissing—it is worth while. Here I grow Lilacs on their *own roots*, which is the proper way, as plants budded on privet are short-lived. Select *now*, while they are in bloom, the varieties that appeal to you, for fall planting. If impossible to come here, let me select a few of those I know to be the very best.

The prices of the best new Lilacs range from $1.00 to $1.50 for plants on their *own roots*. To readers of Country Life I make the following offer for fall delivery:

6 plants, in 6 varieties, my selection................	$6.50
12 " " 12 " " "	12.00
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A complete list of my collection of Lilacs will be found in

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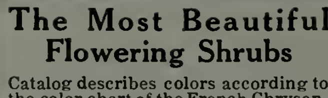


The Most Beautiful Flowering Shrubs

Catalog describes colors according to the color chart of the French Chrysanthemum Society. You can make harmonious color combinations. Thousands to select from, grown here several years and have large root systems. You can plant now and have a beautiful show June first. Beautiful foliage.

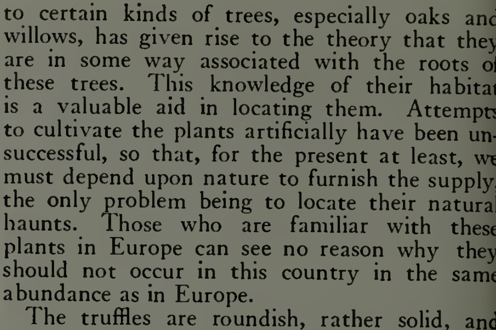
Grown in Pots and Now Ready to Transplant

We have a large stock of hardy perennials which will give your old-fashioned garden a riot of color and fragrance this year. Phlox, Sweet William, Hollyhocks, Blue Bell, Larkspur and all the old favorites. Prices are 15c, 20c, 25c. Most of them 15c.

Send for list of trees and shrubs prepared in boxes or big balls of earth for late planting. Want them now? Have them now. Satisfactory growth guaranteed or replaced free.

Phlox

Hicks Nurseries, Westbury, L. I. Box L, Phone 68



to certain kinds of trees, especially oaks and willows, has given rise to the theory that they are in some way associated with the roots of these trees. This knowledge of their habitat is a valuable aid in locating them. Attempts to cultivate the plants artificially have been unsuccessful, so that, for the present at least, we must depend upon nature to furnish the supply, the only problem being to locate their natural haunts. Those who are familiar with these plants in Europe can see no reason why they should not occur in this country in the same abundance as in Europe.

The truffles are roundish, rather solid, and have very much the appearance of an ordinary potato, the external surface being either smooth or rough according to the species. When cut through, the cut surface has a mottled appearance. The odor is characteristic and pleasant. They vary in size according to age, often reaching the size of a walnut or occasionally even larger.

The truffles belong to the genus Tuber. Three species have been reported in the Eastern United States, in addition to the two recently collected, the exact identity of which is uncertain. While some of the species of Tuber collected in this country are similar to those usually eaten in Italy, we are not certain that those most commonly eaten have yet been discovered in America. Thirteen species have been collected in California, none of which has been found in sufficient quantity to be of economic importance.

Knowing that the truffle industry is one of considerable importance in the various countries of Europe, and knowing that the same or similar plants occur in this country, we have a reasonable right to hope that they will yet be found here in sufficient quantity to make America independent of the European supply.

The most favorable time for collecting truffles is in the autumn up to the time the ground freezes. When dogs are used, they are taken to the general locality which appears to be favorable to the growth of these plants, and put on the scent. After scenting the ground for a time the animal stops to dig at frequent intervals until the plants are located. The animal is then taken away and the plants dug with an implement which is suited for shallow digging. Unless the dog is taken away he will eat the plants, since they are regarded as a great delicacy not only by man but by the lower animals as well. The dogs used for this purpose are especially trained and seem to take as much interest in locating these underground plants as does the average hunting dog in trailing wild game.

Pigs are often used for the same purpose in European countries, but though they are especially keen in locating the plants, they have the disadvantage of not being able to travel long distances and are not able to cover the ground as rapidly as dogs.

While truffles are no doubt often found by accident, unless one is familiar with them and has some knowledge of their uses as food, they would attract no attention and might even be overlooked entirely or mistaken for a ball of dirt. Any one suspecting the presence of these valuable plants should refer specimens to some scientific expert who will have no trouble in determining their identity, since they are easily recognized by their microscopic characters.

Fred J. Seaver.

THE MAGIC OF LIME-SULPHUR

BEFORE the days of lime-sulphur, fruit growers were uprooting and burning their orchards. Like an epidemic, the San José scale had spread through our land. In August, 1893, it was discovered for the first time east of the Rocky Mountains, yet in less than three years it was ruining valuable orchards in every state in the East. It had been imported from California, but came originally from northern China. The only reason why it had not there completely exterminated every growing thing was because of the parasites which kept it in check. Here the same parasites were slow to become acclimated and effective, and meanwhile the prolific scale had everything its own way among us, and our Department of Agriculture, with a long face and puckered brow, published these cheerful recommendations in its Bulletin of 1896:

"(1) In all cases of recent or slight attack the

One of the beauties of evergreens is the quickness with which you can give to a new place, an air of long establishment. These on H. J. Chisholm's country place at Port Chester, N. Y., were planted only last fall

May is None Too Late
For Planting Evergreens and Hardy Flowers
In Truth, it's Quite the Ideal Time

Evergreens

NOT until along in June is the new growth in evergreens so far advanced as to be harmed by transplanting.

Right up till then, planting can be carried on with positive success.

The fact that the ground is now warmed down so deep, causes the roots to quickly start growing, largely overcoming the usual retarding of top growth.

Another thing to not lose sight of, is the surprising variety of foliage formation and color gradation in present day evergreens. Instead of a half dozen recognized kinds, we now have right in our Nursery, at least forty.

For securing immediate effects and lasting satisfaction, what can ever compare with evergreens?

Our catalogue includes them all, and even shows some in color. Our Helpful Hint Booklet gives group collections for various places and purposes.

We will be glad to send you both.

Four Desirables

Mr. Davis, our hardy flower expert from England, is enthusiastic about the following four. You can't go wrong in securing every one of them.

In Oriental Poppies, we have six new ones. A collection of two each, of the six, you can possess for so little as $3.50.

Six truly wonderful Larkspurs. $7.50 buys two each, of them all.

Likewise Heliopsis (Hybrid Sunflowers 2 to 3 feet) in unusual colorings and formations; charming for cutting—$5 for 12, which includes 2 each, of 6 kinds.

Verbascums, in primrose, buff, apricot and bronzy yellow. Here indeed is a find. They remind you of the stately field Mullein, very much "dolled up." $3 buys 8; 2 each of the 4 kinds.

Hardy Flowers

IF YOU want to be sure of free blooming results from your hardy flowers, it's too late for plants secured by dividing roots. They resent the rough treatment.

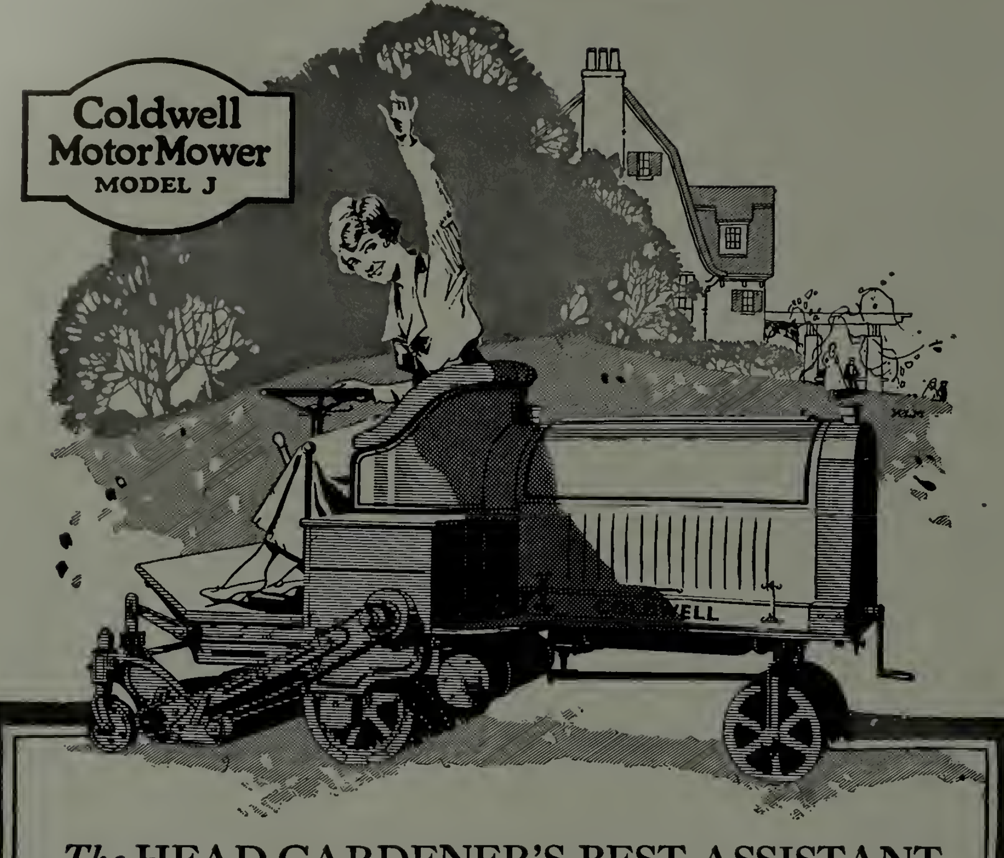
If you plant seed, you must also wait until next year for blooms; besides having no surety of their trueness to color and habit.

By far the most satisfactory way is to secure from us, potted plants grown direct from *cuttings*. They will come to you with all their ball of earth preserved, insuring successful transplanting.

They will be full-rooted, vigorous plants, each holding first year bloom promise.

Besides the usual old time favorites, we have a few exceptionally choice varieties, grown direct from cuttings of mother plants imported from England. For the most part, they are gold medal winners. They are described in our catalogue. Our English hardy flower expert will be glad to suggest collections for various uses.

JRCo



The HEAD GARDENER'S BEST ASSISTANT

The new **"Coldwell Clipperbuilt"** Model J is the head gardener's best helper. It makes the lawn beautiful and healthy. Cuts like a razor—does not pull or tear the turf.

Rolls evenly—not too heavy, just heavy enough. A 4-cylinder 1917 Continental automobile engine drives the machine up any grade to 25%. Coldwell cutters, Mayo radiators, Cleveland worm drive.

All gears run in dust-proof cases, insuring easy draft and little wear.

Coldwell Walk Type Motor Mower is particularly popular with owners of country estates. Easily operated. Upkeep light. Moderate price.

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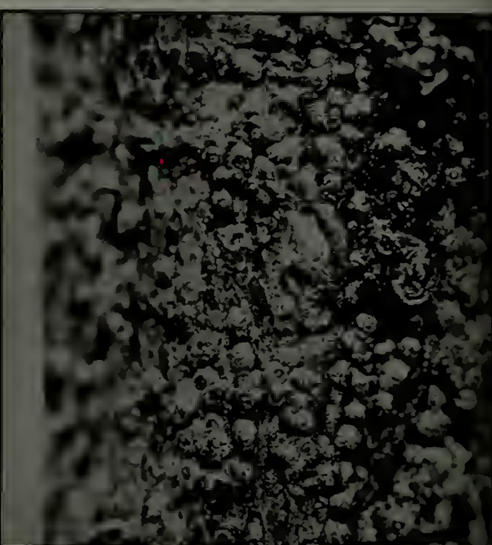
Offices & Factory at NEWBURGH, N. Y

Chicago Office 62 EAST LAKE ST. CHICAGO, ILL.

affected stock should be promptly uprooted and burned.

"(2) In cases of long standing and wide extent the affected stock should be cut back severely and treated with winter soap wash. Stock badly encrusted with scale should be cut out at once and burned."

A many-sided genius is this San José scale. The mosquito carries her poisoned lance, the cotton weevil its coat of mail, and the tiny plant lice multiply with a rapidity that defies the competition of the lightning calculator. But lance, and armor, and breeding record find their climax in the San José scale. Its armor-like, waxy scale usually imitates the color of the tree, and not only shields the insect itself from sight, but protects it from almost any spray material that will not also kill the tree. It is as proof against poisoned food as against law and reason, for it sucks its sustenance from within the tissues of the tree, where poisons cannot penetrate. On the other hand, it seems, mosquito-like, to carry its own poison, injecting it wherever it enters its beak to stimulate the flow of its liquid food to the point where it feeds. Poor tree, it responds for a time, but death comes to relieve it in a very few years. Unlike those of most insects, the young



Enlarged photograph of San José scale on a Japan quince twig

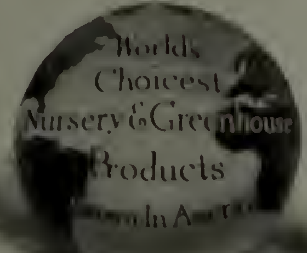
of this scale are not hatched from eggs but are born, a provision which greatly increases its possibilities for rapid breeding. Kill off 97 or 98 per cent. of this pest every year, and the remaining 2 or 3 per cent. will not only make up the loss but actually gain on the game.

But when Nature turned out the San José scale as a finished product, guaranteed to defeat all enemies and make sure the conquest of the orchard, the one thing it left out of account was lime-sulphur solution. When this material touches an infested limb it works as though some ubiquitous imp had pounced simultaneously upon every scale, and had gone at its task armed with vacuum pump, poison bottle, and soldering iron. It makes each scale temporarily air tight, while it pumps out from beneath every vestige of life-sustaining oxygen. Not content with this, it evidently substitutes a poisonous gas for the oxygen, and it solders the waxy scale covering down tightly over the luckless creature beneath. Nor does it stop even now. When all life is extinct beneath the scale, now a death trap instead of a protecting armor, it breaks loose the waxy covering, so that the winds and rains may carry it away and restore to the pores of the tree free access to the life-giving air.

To attribute this seemingly purposeful and well-planned work to a mere yellow solution may sound like the dream of a patient in a padded cell. In reality it is the voice of science. Technically, autopsy determines that *Aspidiosus perniciosus*, a vivaparous coccid of the sub-family Diaspinæ, meets death by asphyxiation, due to the absorption of oxygen and simultaneous generation of hydrogen sulphide, a reaction product of carbon dioxide upon lime-sulphur; with the concomitant ensealing of said Aspidiosus in its own sarcophagus. In plain English, the insect is suffocated and poisoned, and then disposed of with a concluding kick.

These facts were worked out by the untiring patience and scientific skill of Dr. George D. Shafer on the research staff of the Department of

Bobbink & Atkins



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YOUR beautiful lawns and gardens, on which you have expended so much money, time and labor, should not be left to the mercy of the scorching dry spells of summer when it is so easy to protect them with the

Cornell Systems of Irrigation

An Underground System of piping in conjunction with the Cornell Rain Cloud Nozzles sends the water evenly in a fine spray over every foot of your lawn or garden. A turn of the control valve and you have an artificial rain which can be regulated at will in duration or quantity.

The Underground System, adapted for lawns can be installed without disfigurement of the turf and does not interfere with mowing.

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Floors that look new

Some people seem to think there is no use trying to have smooth, clean, beautiful floors. Yet who ever saw a thoroughly satisfying house without them? Floors that keep looking like new are as easy to have as floors that get shabby. Have your floors finished with *good* varnish and they will smile. But be sure it is *good* varnish, because poor varnish is a lot of bother and doesn't last.

Murphy Transparent Floor Varnish

"the varnish that lasts longest"

makes you realize how much beauty there is in the grain and color of natural wood. It will not scratch white and can be kept free from dust with a damp mop or cloth. But the great thing about it is the way it wears—long enough to put off for months the expense and annoyance of refinishing, and it looks well to the very end.

Your painter or dealer can furnish Murphy Transparent Floor Varnish and any of these Murphy finishes for beautifying the home—

Murphy Transparent Interior Varnish *Murphy Univernish*
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Send for our interesting and handsomely illustrated book, "The House That Found Itself."

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Franklin Murphy, jr., President

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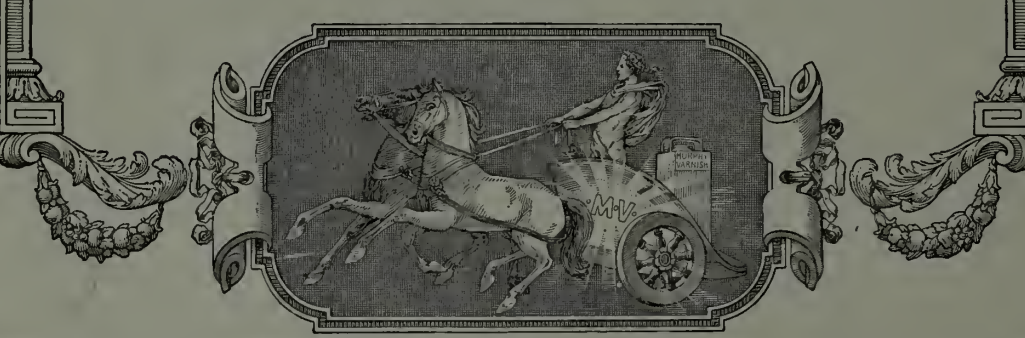

TOWNSEND'S TRIPLEX

The Public is warned not to purchase mowers infringing the Townsend Patent No. 1,209,519, Dec. 19th, 1916

The Greatest Grass-cutter on Earth, cuts a Swath 86 inches wide.

S. P. TOWNSEND & CO.
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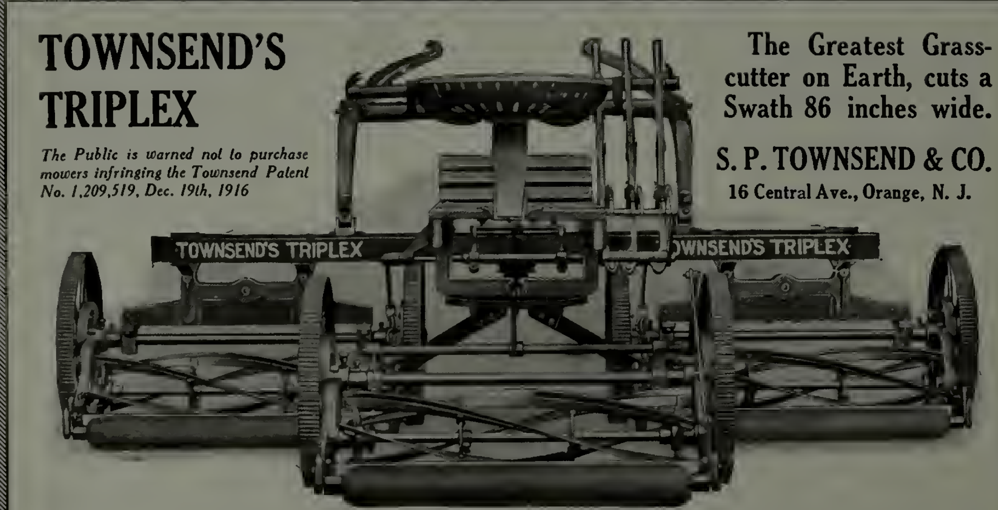

Drawn by one horse and operated by one man, the TRIPLEX MOWER will mow more lawn in a day than the best motor mower ever made, cut it better and at a fraction of the cost.

Drawn by one horse and operated by one man, it will mow more lawn in a day than any three ordinary horsedrawn mowers with three horses and three men.

Floats over the uneven ground as a ship rides the waves. One mower may be climbing a knoll, the second skimming a 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 Catalogue illustrating all types of TOWNSEND MOWERS.

Entomology of the Michigan Agricultural College. His experiments covered a period of many months. He found that beetles and tomato worms suffered only slight irritation and soon completely recovered after having been submerged for two minutes in lime-sulphur solution. On the other hand, when scale insects were treated with the solution, after one day some of them were already dead and many others were in a comatose condition. After one week, moreover, both the number of dead and of dormant was greatly increased; and, scarcely less important, large numbers of young, born after the application of the spray, were imprisoned with their mother beneath the scale covering. This literal packing of the tiny creatures within a sealed enclosure greatly increases the chances of the death of all by suffocation.

Dr. Shafer found conclusive experimental proof of the two main factors in the suffocation process—the absorption of oxygen and the sealing down of the scale. When he dipped either filter paper or wool glass into the lime-sulphur solution and then placed it under a bell jar, he found that after about sixteen hours all the oxygen was absorbed from the air under the jar.

The battle with the armored foe. Spraying high-headed sixteen-year-old peach trees, after close pruning of all dead and weak wood

There are several steps in the chemical process, in each of which oxygen is consumed. The lime and sulphur first form polysulphids of calcium, which change to calcium thiosulphate, then, upon further oxidation, to calcium sulphite, and finally, perhaps, to calcium sulphate forms. Dr. Shafer also found that after a scale was once treated, he could detect a wet circle of the solution around the scale margin for two hours or more, even under favorable drying conditions. He discovered, too, that after being in contact with the waxy scale for a time the solution softened the wax all around the margin in contact with the bark, thus making a temporary air-tight seal; but after three or four weeks, when the solution had become completely oxidized, a white crust stooled up around the margin and loosened the scale from the bark. In experiments, Dr. Shafer further found it easy to show that when carbon dioxide comes into contact with lime-sulphur, the reaction gives rise to hydrogen sulphide, a gas poisonous to insects; and, seemingly, this must take place under the scale covering, due to the carbon dioxide given off in the breathing of the insect. To go under the tiny scale itself for the proof was of course not feasible.

In this way has been solved the magic of lime and sulphur solution. Unlike the magic of the stage performer, it loses none of its fascination now that its methods are explained. Lime and sulphur are both simple things of themselves, but when combined in proper proportions their solution seems to take on intelligence and purpose, and nothing from the mind of man could take advantage more ingeniously of every possible weakness of the foe, the once dreaded insect scourge of the orchard.

H. R. BOWLES.

Dreer's Roses for the Garden

Strong two year old growing plants that will bloom profusely this year. The very finest standard sorts as well as the latest introductions of the world's most famous hybridizers. Roses for every purpose—for cutting, for bedding, for porches, for hedges, for pergolas, for hardy borders.

The Dreer Dozen
Hardy Everblooming Hybrid Tea Roses

will furnish a constant supply of blooms throughout the summer and autumn, and include the best of every color.

Killarney: One of the most popular of garden roses. Sparkling brilliant pink, buds long and pointed, the petals very large and of great substance, and just as handsome in the full blown flower as in the bud form.

Lady Alice Stanley: Absolutely perfect in form, color, size, freedom of bloom and fragrance. In color a beautiful shade of coral rose, the inside of the petals shading to flesh pink with deeper flushes.

Lady Ashtown: Produces perfect blooms under all weather conditions. The flowers are large, double with high-pointed centre, and are produced on long stems, splendid for cutting. In color a soft rose, shading to yellow at the base of the petals.

Laurent Carle: Produces its large, deliciously scented, brilliant carmine flowers throughout the season, nearly as good in hot, dry weather as under more favorable weather conditions.

Caroline Testout: Full globular flowers of bright satiny rose, very fragrant.

General MacArthur: Rich crimson scarlet. Healthy, vigorous grower, producing its sweetly scented flowers of good form in great profusion.

Jonkheer J. L. Mock: One of the best bedding varieties. The flowers, on long, stiff stems, large size and perfect form, of a deep imperial pink, the outside of the petals silvery rose-white.

Mme. Leon Pain: Entirely distinct in color, a silvery salmon, with deeper orange yellow, shaded centre, the reverse of the petals being a salmony pink, flowers large, full, and well formed, very free flowering.

Mme. Ravary: Color, a rich, deep nankeen-yellow, becoming lighter as the flower expands. The flowers are of splendid form, full double and very fragrant.

Kaiserin Augusta Victoria: Soft pearly white, tinted with just enough lemon in the centre to relieve the white; remarkably fragrant, beautifully formed flowers on long, graceful stems.

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Ophelia: Is admired by every one, its flowers are held erect on long stiff stems, are of perfect form, large size; and of a most pleasing delicate shade of salmon-flesh, shaded with rose.

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not only describes and illustrates the best roses for every purpose (color plates of some) but is the best guide published for the amateur grower of flowers and vegetables. Sent free if you mention this publication.

The New American Hybrid Tea Rose "Los Angeles"

has created the greatest sensation of any rose ever introduced. Long stemmed blooms of luminous flame pink, toned with coral and shaded with translucent gold at base of petals; fragrant as a Marechal Neil. Strong two year old plants that should give a full crop of flowers this year. $2.00 each.

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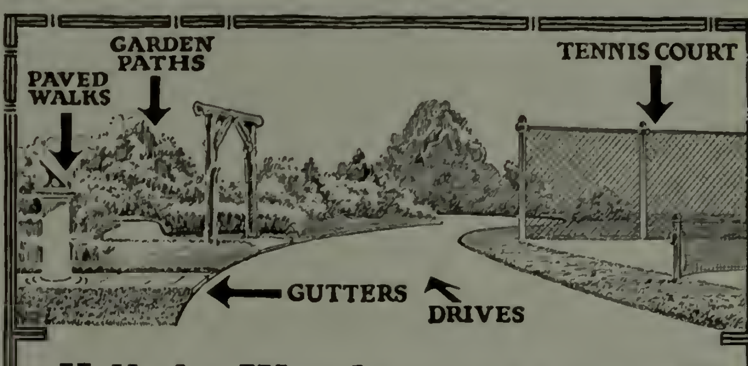

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Owners of estates and homes, country clubs, municipalities and railroads all over the country employ Atlas Chemical Weed Killer, instead of costly hand-labor.

Atlas comes in highly concentrated liquid form. You mix it with 20 parts water and apply in ordinary sprinkling can or cart. Atlas enters the plant at the surface and soaks down to the deepest root. Weeds die in a few days and the ground round about is sterilized for all season.

One gallon of Atlas Weed Killer keeps 600 sq. ft. clean for the whole year. Compare this with costly hand-weeding which must be done over and over again.

Sample Offer

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Enclosed is $1.00, for a 2 qt. trial can of Atlas Weed Killer.

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Get More Flowers this Season

The more light, air and moisture your vines have the better they will grow and produce blossoms and leaves. They get all they need if they have an

"EXCELSIOR" RUST PROOF TRELLIS

on which to climb and spread their glory to the elements. They are made of extra heavy, strong steel wires, held at every intersection by the Excelsior steel clamp, which is a patented feature. This gives them rigidity and strength to withstand heavy winds and sudden shocks.

Dip-galvanized AFTER making. This completely solders the whole trellis into one rigid fabric at the same time making it completly rust-proof.

The arch at the entrance, porch-end trellis and fence shown here are all made in the same manner and of the same materials. They are truly economical necessities for the home grounds.

Interesting catalog A mailed for the asking.

We also make a full line of Excelsior tree guards, bed guards, fences, railings, gates, etc.

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(and for the corresponding FURNITURE) is desired by the well-informed not only because of its historic excellence as a cabinet-wood and its inborn trait of "staying put," but also because, by reason of centuries of respectful familiarity, there is an inbred accuracy in handling OAK among those who work in woods. They know how to get the best results without the experimentation required for less standard cabinet-woods.

THE AMERICAN OAK MANUFACTURERS ASSOCIATION
know the whys and hows of OAK. Ask them any sort of questions. Please address
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THE LAST DAY OF THE SEASON

IN MY calendar there are two all-important dates, and neither is Christmas or the Fourth of July. They are—draw near while I whisper—the Day on which the Trout Season Opens and the Day on which It Closes—to be exact, April 1st and June 30th in Connecticut.

Of the two, the opening day is by far the more important. It comes just after old Winter has tucked his gray robes about his thin shanks and scurried off into the discard, while Gentle Spring waves a fly swatter after him; when the roads—in many places, at least—are just getting in suitable condition to hold a studded tread, for—let me whisper again—all my trouting is done by aid of a good, husky, twin-cylinder motorcycle.

While the first day of the season is a big day to a motorcycle angler, it still has its disadvantages. The air is usually colder than Greenland's icy mountains, and the poor deluded specimens of brook trout that you catch are so chilly that they can't even wiggle. Trout and people are different, you know. The colder we get, the more we shiver; but the colder a trout gets, the less he shivers. Then, to add to the discomforts of the opening day, you're just as likely as not to get into a mud hole on the road, where the bus sinks to her hubs, and you work and swear and churn goo as the rear wheel spins. And when you at last get home, both you and the boat look as though you'd been holding down a dispatch-riding job in the rainy season. That is the day you've looked forward to for months, however, and you have a royal time, whatever happens. I do, at any rate.

But the last day!

Roads are fine then, and the fishing is usually fine too, though that depends upon the weather. An excess of rain may make the streams too high, while a lack of it may make them fatally low. But the trout are gamy and full of fight; and then, if weather conditions are exactly what you would call for if the weather were made to your order—well, if you felt any better it would hurt you!

The last part of June, 1916, was so fine that it really seemed a shame to take advantage of the opportunity. I planned to end the season by a trip into the northwest section of the Nutmeg State, sixty-five miles from home as the motorcycle chugs. And that the last day of the season might be a sure success, I allowed myself two days; that is, I decided to go on June 29th. If the weather was poor, I had June 30th to fall back on. If June 30th was below par, I would go anyway.

Well, June 29th was the one day of the year. I think it was the day the poet had in mind—"What so rare as a day in June!"

It was about 5:30 when I pushed the motorcycle out of its shed and gave the shove at its kick starter that sent the gasolene vapor coursing through the two gray cylinders. There was a good breakfast stowed away inside my ribs, for it doesn't pay to start off with your own oil and gas tanks empty any more than the machine's. Skipping meals is a mighty poor way to save a little time, when you've a substantial day's work cut out for you.

Two and a half hours later I was climbing a hill with a grade steeper than the roof of a New England farmhouse. It led up to a crude sort of bridge across my brook. The road was in exceptionally poor condition, as it was hardly ever traveled by anything except cows to and from pasture—just the sort of road that makes a rider thank his lucky stars that motorcycles have passed the single speed stage.

Half way up I came upon a good sized herd of cows being driven to their pasture by a couple of young chaps. It was too narrow a place to pass without risking a bovine panic, so I pulled up to let them keep ahead, and the "cowboys" stopped to talk a minute. They knew little about motorcycles save from hearsay, and right there I did a bit of missionary work for the two-wheeler. Then I rode up a young precipice for their edification.

I hid goggles, lunch, gloves, etc., under the low branches of a clump of small evergreens, put my fly rod together, and prepared for business. My fishing was done with flies exclusively. As a sporting proposition, fly casting is as far ahead of all other forms of angling as stalking

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deer is ahead of butchering steers. To deceive a wary trout with an imitation insect and to sink the hook into his jaw in the fraction of a second before he spits out the feathered deceit, is nothing short of an art. Izaak Walton—peace to his bones—said so ages ago, and all fly fishermen will back up his opinion. For a tail fly I started with a Coachman, and for the dropper a small fly of unknown name but attractive appearance that I picked up one day in a tackle store. On the very first cast a trout gobbled the Coachman, and a minute or so later a second did the same—surely a glorious start for the morning's sport.

That brook of mine is wonderfully beautiful. For several miles it flows with moderate speed until it comes to the Valley of the Housatonic, when it abruptly drops several hundred feet in a succession of falls, one after another. Under each fall is pounded out in the native rock a deep pool, and each of these contains a sprinkling of good trout. But the water is so deep and dark, shaded also by the overhanging branches of numerous evergreens, that these fish rarely rise to flies, though an occasional good one can be picked up by plugging with bait. The last pool of all, not so deep and more in the open, provides a notable exception to the general rule.

I scrambled down the steep descent, hanging on with arms, legs (I was almost going to add teeth, as well), doing little fishing until the lowest pool was reached. Several casts brought no results, and I stopped to change the dropper fly, putting on a gray gnat. Then, in quick succession, I took four beautiful trout from the pool itself, and another just below it, hooking and losing two or three others in the process, after which, as I was close down to the big river, I ascended the precipitous slope to continue my fishing on up the brook.

There is probably no need to describe my exploits of the morning in detail. Every pool and riffle on the stream contained trout, and, what was much more important, they were in a feeding mood.

On one or two occasions they stopped rising to the flies that I was using, but each time a little experimenting quickly determined a pattern that met their approval. By noon I had thirty fine fish—all that the game laws of Connecticut allow to one angler in a day—and was well satisfied to stop. My last trout was taken at the very crest of the upper fall, just before the water plunges down fifty feet to the rocks below.

There only remained the double duty of eating dinner and cleaning the catch—for in hot weather fish soften all too quickly. Then I set forth down the cow road toward home, with a farewell glance down the beautiful little stream, which I would not see again until the following year.

George M. Johnson.

THREE YEAR-ROUND VEGETABLES

THREE or four months of the year every properly planted home garden will yield a supply of fresh beans; the other eight or nine months will be provided for by the invariable surplus that comes from overlapping sowings or an especially productive season. This surplus should be salted, not canned. Canned beans do not always keep, even when apparently done under the best conditions and with the greatest care. Salting is a safer and saner method. The beans, of course, should be fresh picked and clean, fairly young, straight and even in size, for the sake of the eye as well as the palate. The brine is made of clean rock salt, the sort that is sold in ten pound bags at the grocer's. In our own kitchen we start the brine the night before, by putting perhaps a pint of salt in two or three quarts of fresh clean water—the proportions do not matter, as the object is to give the water all the salt it can take up. In the morning we boil the brine and if it absorbs more salt all the better. The brine is skimmed and strained and when cold is ready for the beans. We have used stone jars and glass preserve jars for salted beans, but favor the glass jars, if they can be spared for the purpose, as they are cleaner and easier to store, also they need no weight to hold the beans under the brine, and they contain about the right amount for an ordinary meal.

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is not enough they can be cooked in more than one water, or the water can be changed several times while they are soaking. We rarely use the beans alone as they are well liked with peas, either dried or canned, samp, carrots, canned corn; or any other vegetables that have an affinity for beans.

There is an old fashioned dish that we make as a reminder of our great grandmother's cooking. The beans are put over to cook with a piece of salt pork and some finely sliced carrots and onions, later peas, corn, and potatoes (if wanted) are added. If some of the string beans are old enough to shell they are considered an addition to the dish. This combination is good for winter or summer. In late summer and early fall it is an excellent way to use up the garden odds and ends. In winter all the ingredients are obtainable, either home stored or bought. Salted beans, in the opinion of one famous cook, are "far better than canned." There seems to be no doubt about their keeping qualities. A jar filled in early fall was as good as new a year from the following March and that after being kept under unfavorable conditions.

To our minds there is one kind, and only one kind, of bean for salting, and that is the old-fashioned Lazy Wife. Other sorts, although preferable to bought beans, are somewhat fibrous and tasteless when salted, but the Lazy Wife is as tender and delicate as when fresh picked. This is not a fancy bean, in name or appearance, but has most excellent qualities. We have had people come twenty miles to beg for a few more of "those delicious beans" from our garden. They are a productive sort of pole bean, yielding four quarts in one picking, from a twelve foot row.

The bush varieties can be sown, in the neighborhood of New York, from late April to early June, at intervals of two or three weeks. If pole sorts are sowed late in May, other sowings of bush beans will not be needed until late July or the first of August, which sowing is frequently the best of the summer.

It is a convenient provision of nature that so useful a vegetable as the carrot can be kept in its original state, to round the year by so simple a process as storing in sand and keeping in a cool place. Our box in the cellar has provided us with fresh roots in June, at the time that the garden supplied us with new carrots. By sowing seed every month from March to August first, we have young carrots for the table from early June to late November. A sowing made at the end of October will germinate early in the spring and produce an early crop, thus saving time in the spring. We use Early Scarlet Horn for those we wish to cook while young and tender, and for storing in sand we sow the Early Half Long Scarlet. We pull them before frost decays the foliage, and cut the stems, leaving perhaps an inch of stem, so as not to cut too near the root itself. We next lay them, without touching each other, in layers of clean sand, taken from a bank by the roadside. They have remained in good condition, so treated, until August. For winter storage a temperature of thirty-six degrees is best.

Carrots should not be scraped, as it is so much easier (and they also look so much more attractive) simply to boil them with the skins on, cool a little, and rub off the skin. Young carrots are excellent both creamed and chopped. Pickled carrots are a good addition to potato salad. Small, even sized roots, such as are often pulled out when the rows are thinned, are the best for pickling.

Another useful vegetable which can be ready to the housekeeper's hand the year through is parsley. The plants from seed sowed this summer can be mulched for the winter and will send out fresh leaves in March. This will continue in good condition until the earliest of next year's planting is supplying leaves large enough to use. In the fall, fresh, vigorous plants should be potted for winter use. If cut back when potted and trimmed often enough to keep them stocky they will make house plants that are useful and ornamental too. A couple of pots in a sunny window provided all the parsley we needed till the wintered roots outdoors were sending up their new leaves. Parsley may also be dried and pickled for winter use. The whole plant is pulled up and hung in a dry place. When seasoning, and not appearance, is desired this is all-sufficient. To pickle we refer to the cook book rule—"Select perfect, curly heads of parsley, wash thoroughly in salt water, drain, and shake till dry. Put into jars of cold vinegar and to each quart allow two tablespoons chopped horse radish. Cover and stand away for use."

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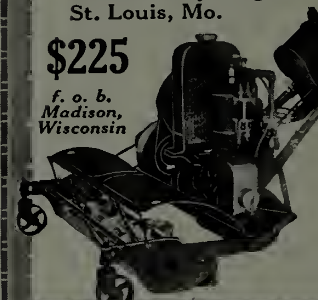

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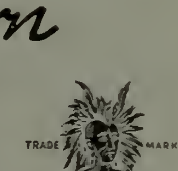

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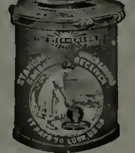

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THE most common cause of fires in the home is a defective flue or an overheated furnace—terms capable of concealing a multitude of common sins.

A defective flue in the majority of cases is simply a *dirty* flue; or one in which the mortar between the bricks has worked out, thus admitting the flames directly to the woodwork of the house. Sometimes the fire is confined to the chimney, and no great damage is caused. In New York and many other cities a fine is imposed upon all house owners when a fire starts in the chimney. If dirt and soot are kept out of the chimney, it can not catch on fire.

The old chimney-sweep of Dickens's day has passed into history, partly because of our new way of building chimneys, with separate glazed-tile flues for each fireplace. The glazed surface does not permit the soot to collect on it very readily, and so chimney sweeping is of less importance than it used to be.

But all chimneys should be cleaned at least once a year, to prevent fires and to improve the draft of furnace and range. With a long rope and a round iron attached to the end, it is a simple matter to scrape off all the accumulated soot by lowering it from the roof and pulling it up and down. The loosened soot falls below where it can be shoveled out by removing the pipe at the chimney breast. Most chimneys have one or more turns in them, and the iron weight should not be lowered so far as to get caught in one of these bends. Below the bend the chimney can be swept from the opening near the furnace with a long-handled brush with stiff bristles. Cleaning the chimney in this way in fall and spring will absolutely prevent chimney fires.

Where a great deal of wood is burned in furnace or kitchen range, the creosote, found in most wood, eats away the mortar between the bricks. The flames may thus come in direct contact with the interior of the house. It is quite important that all such chimneys should be examined carefully for loosened joints, and a good quality of cement used to fill up the crevices. These weakened mortar joints are usually found near the smoke pipe that enters the chimney from the furnace, and can thus be readily reached and repaired. The top of the chimney is another weak point, and it is not unusual to see the top row of bricks loose and ready to fall off in the first heavy wind storm.

An overheated furnace is always a source of danger. Usually this means a furnace insufficient in capacity to heat the house, and it must be continually forced in cold weather. If the furnace is too small for the house, it should be discarded for a larger one before it causes a fire, or if you must put up with it, a wise solution in cold weather would be to add other heating units to the rooms, such as oil stoves, open fireplaces, or even gas stoves.

The chief danger from an overheated furnace comes from the smoke pipe leading to the chimney. This gets so hot that it ignites the wood or plaster of the ceiling. A prevention is to line the ceiling and woodwork all around with double sheets of asbestos, and the pipe itself can be covered with asbestos. This precaution will largely nullify the danger.

The use of sheet asbestos for other danger points will often be worth more to the house owner than an insurance policy. Where furnace pipes or steam pipes enter and pass through the ceilings and floors, they should be wrapped with asbestos. Few heating companies take this trouble, and they leave exposed places that are particularly dangerous. By pulling down a few inches of the plaster where the pipes enter floors, you can easily get at them and cover them with sheets of asbestos. Then the opening can be closed up with new plaster, and no further anxiety need be felt.

Radiators and heating pipes passing near woodwork may not actually start a fire, although they may damage the woodwork itself. On the other hand, so many inflammable materials are used in mixing paints and varnishes, that it is not entirely certain that some fires have not been started behind radiators and steam pipes. For instance, if you place an oil-soaked rag beneath a hot radiator, spontaneous combustion may be started. In a lesser degree the same may happen

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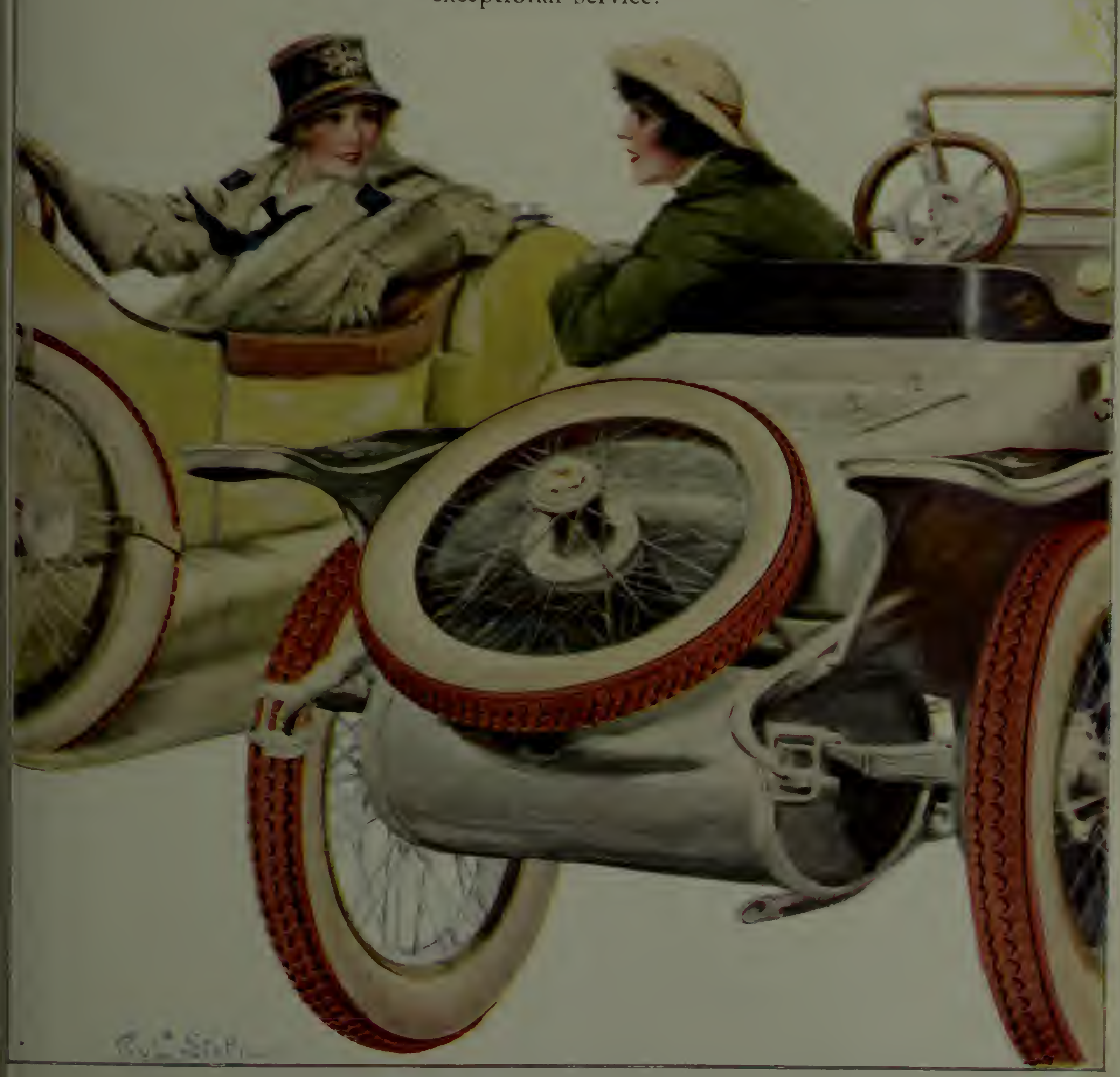

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when fresh varnish has been applied to woodwork.

To be on the safe side, all woodwork very close to a steam pipe or radiator should be protected either by sheet tin or sheet asbestos. Radiators in new houses are not as a rule placed near wooden partitions and wainscoting, but in many old houses they are found so close that they often touch. These are danger points and should be remedied in the manner described.

Spontaneous combustion causes many a fire, but it simply means that some one has been careless in leaving oil soaked rags or cloths near a pipe or furnace. They should be kept in some tin-lined or asbestos-lined box where there can be no such risk of ignition. One can only be absolutely sure of this by insisting that every one who uses such rags shall replace them in the box after using.

Precautions in the use and storage of gasolene, benzine, and naphtha have frequently been published. The surest way of avoiding accidents and fires from these is never to have any of them kept permanently in the house. Buy only so much as needed for each time, and then do all the cleaning with them in the day time and preferably out of doors. Many a fire of a disastrous nature has been started from the careless use or storage of these inflammable materials.

Matches likewise should be carefully used and stored. Safety matches are the best, but if the others are used they should be kept only in metal receptacles with a self-closing cover. This will keep rats and mice from gnawing the heads and starting fires.

Hot ashes have caused many fires. When a furnace or kitchen range is shaken down, the ashes should not be removed for fifteen or twenty minutes afterward. They should be put only in metal cans or pails, and these should be stood on concrete or dirt floors and well away from woodwork or papers. The best thing is to stand them outdoors until they are thoroughly cooled off. Hot ashes will retain their heat sometimes for five or six hours, and they are a menace to the house all the while that they are in the cellar, unless particular precautions are taken. The dangers from open gas flames are still with us, and will remain so until electricity has entirely superseded gas for lighting purposes. Every gas jet should be surrounded by a glass globe, to keep curtains and other articles from blowing directly into the flame.

There is one other common cause of fire that is perhaps more noticeable in the spring and fall of the year. It is the open fireplace. Beautiful and homelike as a crackling open fire is, it is always a source of danger unless carefully guarded in every way. No open fire should be left a minute without a strong, substantial, all-inclosing wire screen in front and on the two sides, so arranged so that it cannot easily fall down.

Hot coals or burning wood should never be left in an open fireplace at night when retiring. No matter if there is a screen in front there is danger. The fire should be entirely extinguished with water and a little salt. Then replace the screen or front hood, and you can retire with a peaceful mind.

Fighting fire in emergencies should be included in precautionary measures. A fire just started can often be easily put out and great damage avoided. If a chimney takes fire, salt is one of the best extinguishers. Climb to the roof with a pail of salt and throw it down the chimney in great handfuls. Use force in throwing it, and the fire will soon yield. Then a few buckets of water poured down will complete the work.

Burning oils, gasolene, naphtha, or similar materials cannot be extinguished with water. Instead of putting the fire out, the water tends to spread it and make it worse. Use sand if you have it, or salt, or smother it with rugs or heavy clothes. A hand fire extinguisher is always an excellent thing to have ready for such emergencies. If a fire starts in a room, and you wish to fight it with water or chemicals, close all doors and windows to keep down drafts. An open window or door fans the flames into greater activity. Water will extinguish fire burning among papers or wood, but a heavy blanket soaked in the water is still better. You can beat out a fire easily this way, and then by throwing the wet blanket over it keep it from starting up again. If caught in a room on fire, the best way to get out of it is to crawl out on hands and knees, keeping the head as near the floor as possible. The air is always the purest here, and the smoke and heat less stifling. GEORGE E. WALSH.

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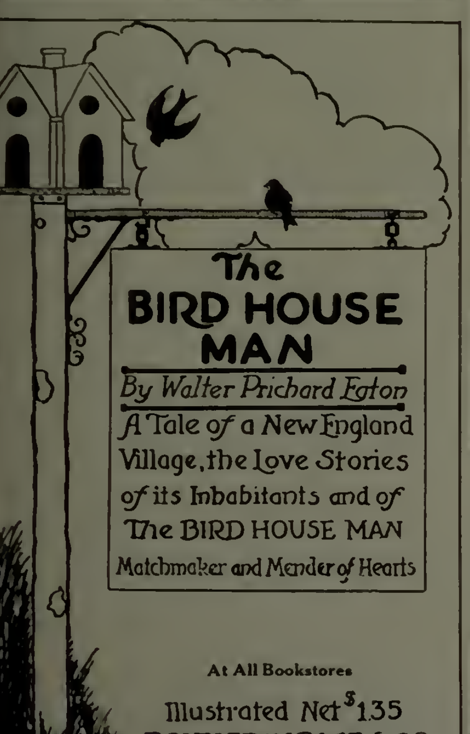

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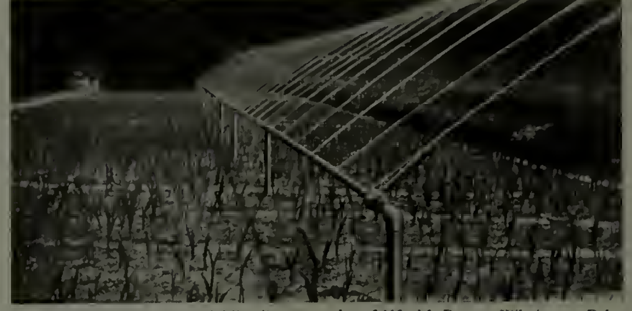
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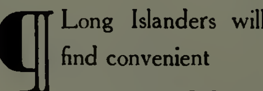
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MY BIRD BUNGALOW

BECAUSE some one was always bringing me an injured wild bird or a nestling whose parents cou ld not be found, and because I had no suitable place in which to keep them until they could again be liberated, I had the bird bungalow built. It is placed at the top of a 5-foot post and is inaccessible to cats. The base is 38 x 24 in., with a 10-inch porch in front, on which food is kept for the garden birds. It is 25 inches to the eaves, which project 6½ inches beyond the sides. The back, and 15 inches on each side, is finished with narrow strips of siding, just as a real bungalow would be. The remainder of sides and front is covered with a strong square-mesh wire.

Front view of the bird bungalow

The front of the little house is adjustable, being held in place with buttons, which when turned and the front removed, make house cleaning easy. A small door at the bottom of this portable front is used in the ordinary way. The inside is fitted with a swinging perch and stationary ones at varying heights.

Several times I have had injured birds that I have been able to nurse back to life in th s bungalow-hospital. Two of them were distinguished members of the feathered tribe.

Side view, showing open-air compartment

One a glossy black phainopepla, or silky fl catcher, as it is sometimes called, which is distinctively Western bird, and the other gorgeous red-headed Western tanager.

Just recently the bungalow has served another purpose. Our Anthony towhees have a way of jumping from the nest long before they can fl Their legs are well developed and they are abl to hop over the ground at a remarkable pa but are, of course, at the mercy of every prowl cat.

When, one day in May, I found three you towhees on the ground, it seemed best to p them in my bird house and fix it so that th could not jump out but the parents could g in. And so I turned the front upside dow which brought the little door at the top, and soon the old birds were feeding away as if th were used to these conditions. To keep t nestlings warm at night I put straw on the floo and tacked curtains across the open sides.

Harriet Williams Myers.

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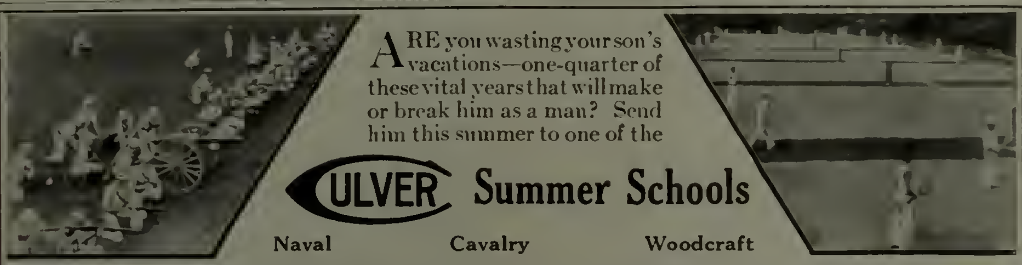

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SELECTING WALL PAPERS

THE selection of suitable wall paper seems a staggering proposition to so many people it may be profitable to show a few of the new patterns in this season of house-cleaning and decorating. Notwithstanding the fact that this business seems to reveal to us more plainly than any other thing the mote in our artistic eye, it is really a very simple matter. It means that one has only to resolve on a pattern that will be fitting to the needs of the room and within the range of one's taste.

For instance, a large room can carry a paper with large pattern, provided the ceiling is high; for a low room a stripe would better be chosen; although here one should be careful to select a narrow, inconspicuous stripe, as a too bold design will prove annoying, and because its chopped off effect will not add to the ceiling height. This effect is better obtained by the finer lined stripes, particularly the column patterns having flowers intertwined.

Not only is the large woven flowered design good in this pattern, but also the small gray vine which gives depth to the whole

There is poesy in the willowy grace of this interesting small-figured paper whose strength is seen in its medallion-like stripes

For a large room with high ceilings, that is, where the ceiling seems too high, an all-over pattern in self colors is much the best. And it should be remembered always that the question of lighting is as important as the pattern itself. Certain it is that the papers must be bright and cheerful in all cases. I do not believe in putting sombre tints on a wall to tone down the sunlight. That is nonsense. If there is too much light for comfort, then shade with added curtains and hangings. However this is accomplished, keep the walls cheerful.

"The June Morning" is the name of this fresh looking pattern which comes in several colors, although the pink and yellow are best

Gorgeous is the word which describes this superb pattern copied from an old one in a famous Salem house. The blue water, distant green mountains, and gray hamlets are framed with brilliant blossoms

Covered entirely by tiny green leaves overlain by a slender tan trellis. Small berries give the pattern an occasional touch of warm color

A good many new houses have dados of wood paneling in the rooms of the lower floor. This is, of course, seen most often in the Georgian or Colonial type of house. It is a really beautiful form of finish—simple yet with a classic richness that never fails to satisfy. With this kind of interior one has a far wider scope for artistic expression. Here the scenic papers are particularly effective. Here, too, the plain broad stripe may be employed successfully, and the irregular climbing vine that smacks somewhat of the Chinese or the Dutch influence.

The soft rose pink and greens of this quiet interlacing vine pattern are imposed on a warm crisscross ground that adds to its daintiness

Splendid in its classic purity of design and cool grays, this Adams' paper needs no extolling other than to commend its perfect balance

One frequently sees very formal and very ornate papers used over dados, giving an effect of very beautiful wall decorations. This I consider their condemnation, for, to my mind, nothing in the house should give the impression of being a decoration. Do not misunderstand me to say that Adams' papers are not generally satisfactory—quite the reverse—but in this instance I feel that the less formal patterns will be more satisfying.

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New Tableware for the Summertime

ONE of the many surprises of this terrible war is that through all the frightful ordeal, business in the warring countries not only is carried on, but export trade is well attended to, orders being filled with amazing swiftness. This last statement seems questionable when one

Rarely does a modern ceramic artist get a good red out of his bake. This tea-set is a splendid exception to the rule, for not only is its shape unusually graceful but its color is genuine bullock's blood which is charmingly set off by narrow gold bands

considers the long waits for imported goods. However, these delays are occasioned by lack of shipping facilities and not by the factory.

The English wall-paper firms have established new records in printing, while the French china manufacturers not only continue to make beau-

Enameled ware always sets off the table as well as the food it carries. This fascinating cluster of dishes will be equally good for sweets and hors d'oeuvre

tiful wares, but have, I am told, entirely new designs which are now ready for exportation that will astonish as well as please.

The American chinas are forging to the front of popular fancy and will eventually find and hold a place for themselves. The American Beleek is as good as any and takes decorations in color charmingly.

There is a growing taste among American women of culture to have china, service plates in particular, painted with scenes of American life. This seems bizarre, although really not so. It is only what the English and French did 200 years ago, when they covered the entire dish with grotesque scenes from their own history.

Who ever heard of the price of anything being reduced these days? Yet these superb service plates exquisitely painted have been reduced, some of them to $350 per dozen. The left one is dark blue and gold, the upper, all gold with cobalt flecks; the one to the right gold with pink

There are also some very pretty lustre sets that equal the old lustres, while the china itself is better. Then, too, there is a dainty type of painting that gives the effect of jewel insets around the edges. All the new chinas indicate that the heavy lined and highly colored New Art influence is passing.

There is sprightly cheer in this yellow and black and white after-dinner set, which has trays for cakes, nuts, and bonbons to match

A Glimpse of Subtle Elegance at the Hampton Shops

PROBABLY your attention would anywhere be attracted by this bowed fronted Cabinet of gleaming Satinwood which owes the nicety of its proportions and the delicacy of its decoration to the brothers Adam. But you must see it in the Hampton Shops Galleries, in the setting there provided for it if you would appreciate, to the full, its fascinating charm.

Here its effect is enhanced by the shield-back Chairs whose Prince of Wales feathers point unerringly to Heppelwhite, by the slenderly curving Jardinière stand, by the Adam Candelabra of silver and by the Frame of carved and gilded wood which hangs above.

It is all very delightful and suggests the cultivated taste and discriminating knowledge which are a part of the Hampton shops.

Appropriate Furniture
For the Country House

That the charm of its rustic environment may be fully realized, the modern country house, with its many-windowed rooms and broad vistas of green lawn, requires fine discrimination in the selection in its furnishment.

¶ In this interesting establishment, for two-score years devoted *exclusively to Furniture*, there are gathered together those appointments which will impart to each room decorative distinction and a pleasing sense of *appropriateness*.

¶ The reproductions and adaptations of Old World Cabinetry on view here recall every notable epoch in Furniture history and include many unusual pieces not elsewhere retailed—available here, withal, at no prohibitive cost.

¶ Suggestions may be gained from *de luxe prints* of well-appointed interiors, sent gratis upon request.

New York Galleries
Grand Rapids Furniture Company
INCORPORATED
34-36 West 32nd Street
New York City

New Tables for Old Uses

THERE are a greater number of good looking and practical tables of various types and sizes to be found this spring than usual, a condition that is very gratifying to the housekeeper who is looking for odd pieces of this description for her house as well as for the poor bachelor in search of useful wedding gifts. Certainly nothing is more acceptable than a comfortable table, as there can never be too many in any home to please a man.

American kidney tables are handsome as well as practical, this mahogany one being suitable for many uses

Of the new ones the best, of course, are copies of the old. The various English types, the curved-legged, cow-footed Dutch ones and the simpler Italian patterns being equally popular. Yet there are some good ones that might be called Amercan—in truth they are American adaptations—such as the small kidney-shaped one pictured at the top of this column, which is plainer than the old ones and much reduced in size. The antiques almost always were used as writing tables. This one, however, is more suitable for sewing, reading, the playing of solitaire, or individual tea, and has a trim appearance.

This realistic, gaily painted cocktail tray with glasses is very jolly proof that there is something new under the sun

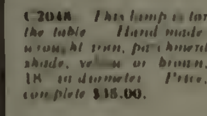
The custom of the last few years of placing small tables or tabourettes at the ends of sofas and lounges—a nice one it is—is responsible for some the daintiest pieces of furniture we have to-day. These small tables are very convenient and can now be had in any form and at any price. One of the most interesting of these that I have seen is built for games of chess, dominoes, cards, etc., in console shape. It has a folding leaf that conceals the green beige facing, with hollowed spaces in the wooden rim for beverage glasses which form a part of the fluted edge when the leaves are folded together.

Checkered oilcloth makes a sanitary card table cover, but is made smarter by the great bouquet painted in the middle of it

Apropos of consoles, I recently saw the most superb example of this type in modern work that I have ever seen. Made in Boston, of the finest light mahogany with a satinwood top, it ranks high with even the best old ones. The top surface was beautifully decorated with hand-painted rose garlands that were kept well to the centre, leaving some free spaces to give a happy sense of balance. On the face of the frame, that is, underneath the top, was a running garland of leaves in rare gray-gold, which was also the color of the down curving acanthus leaves on the round, tapering legs. It was a work of art and fully worth the price asked.

Another interesting table for flowers stands about eight inches higher than usual, and is about a foot square. Its height is relieved by urn-shaped designs set under the top. The slender, square legs taper gradually to spade feet.

This mahogany tête-à-tête coffee and liqueur table is as trim as it is convenient. Although very new it is sure of success

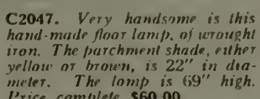


C2048. *This lamp is for the table. Hand made wrought iron, parchment shade, yellow or brown, 18" in diameter. Price, complete* **$15.00.**

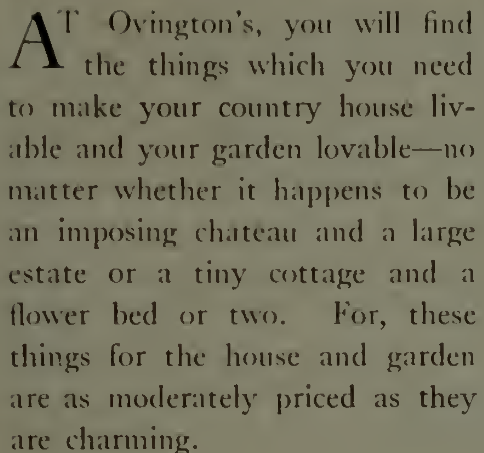
C396. *For the birds' morning bath you cannot find anything more attractive for your garden than this specimen of fine gray terra cotta 21" in diameter on a stand [illegible]" high. Price,* **$20.00.**

C36. *Ready to perch on your porch rail or on your porch roof or on a pole in the garden, a little bird will tell you about the weather. [illegible] he is a gorgeous scarlet Tanager weathervane, 11" high and 15" long,* **$7.50.**

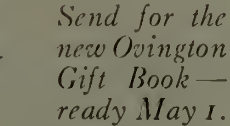
C36. *Monsieur le Chanticleer is the chicken in the straw to show which way the wind blows. Made of metol, you can have the weathervane either as a white Leghorn ar a Rhode Island Red—16½" high—for only* **$7.50.**



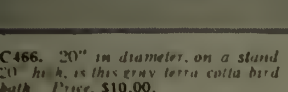
C2047. *Very handsome is this hand-made floor lamp, of wrought iron. The parchment shade, either yellow or brown, is 22" in diameter. The lomp is 69" high. Price, camplete,* **$60.00.**



AT Ovington's, you will find the things which you need to make your country house livable and your garden lovable—no matter whether it happens to be an imposing chateau and a large estate or a tiny cottage and a flower bed or two. For, these things for the house and garden are as moderately priced as they are charming.



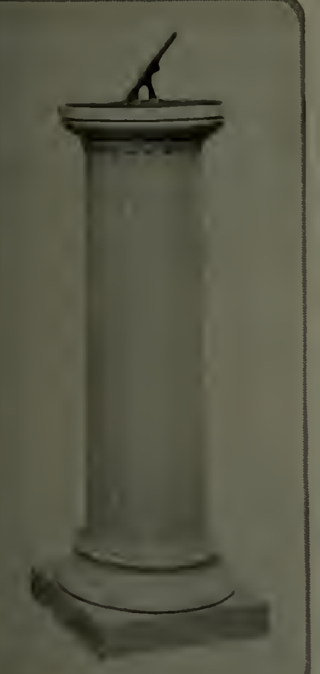
Send for the new Ovington Gift Book—ready May 1.



C466. *20" in diameter, on a stand 20" high, is this gray terra cotta bird bath. Price,* **$10.00.**

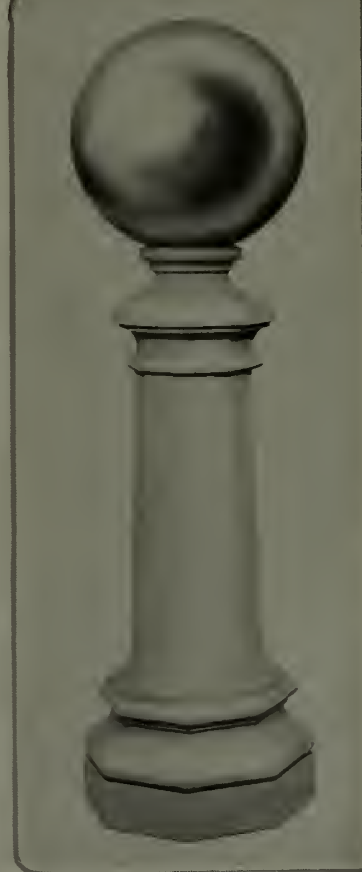
OVINGTON'S

312-314 Fifth Ave., New York



C405. *Every real garden should have its sun dial. This one is of bronze* (**$10.00**), *mounted on a gray terra cotta pedestal, 36" high,* **$25.00.** *Complete,* **$30.00.**

C476. *An exquisite bench of carved Carrara marble fits beautifully in a rich setting of green verdure. This splendid garden piece is 17" high and 39½" long; and its price is only* **$30.00.**



C192. *Gray terra catta pedestal far a gazing ball; 36" high; price,* **$27.50.** *A 14" silvered gazing ball is* **$10.00.** *Complete,* **$35.00.** *Very distinctive in the garden.*

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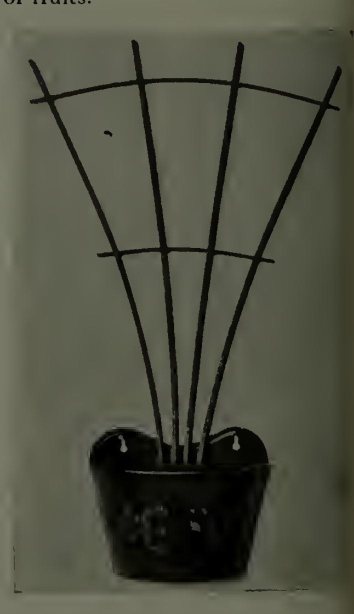
Some Porch Things

IT IS remarkable how appreciative the American public has become of wrought-iron decorations and, what is still more pleasing, how well this work is being used. Of the many good small things in the market, the wall bracket seen at the top of the column is especially commendable. The scroll is gracefully wrought and tinted a soft gray-green that will blend with any wall to which it may be fixed. It costs $12.50.

Interesting too is the amber glass bowl in its black wrought-iron stand seen in the third picture. This charming piece will be excellent for porch use to hold either flowers or fruits.

While not iron, the painted tin wall bracket with trellis shown here is a practical as well as a dainty bit that should find a hearty welcome on many a veranda, since it may be used with or without the trellis and for either cut or growing flowers. Painted with warm-colored flowers on a green ground it sells for $4.75.



Fully as important as a table, is a dog basket for the porch. At last has appeared one large enough for a good-sized animal to find comfort.

Both the pets ensconced in the one shown here are full grown, hence you may judge the size. It comes in any finish.

J. C. M.

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for the Summer home in town or country contribute an attractive note to the display on the Fourth Floor. Included are Settees, Chairs, Tea Wagons; Tea, Telephone and Card Tables; Desks; Book and Magazine Stands; Serving and Breakfast Trays; Muffin Stands and Sandwich Trays; Window Boxes, etc., all moderately priced.

Many of the pieces mentioned may also be obtained in solid mahogany, or in black lacquer with Chinese decoration.

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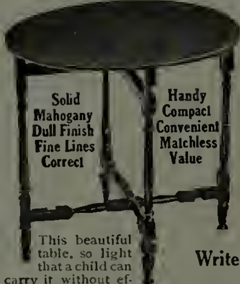
Priscilla Foldaway Table



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Some New Old Things for Country Houses

HAVE you a key box, as your grandmother had? If not, it's quite time you had one, for they are now to be had, as the one seen here will attest, in very interesting and decorative guises. Painted, of course, and made with or without locks, but of such construction as to make them formidable-looking—and for this, as in most other instances, appearance is half the battle. This one is capacious enough to suit all purposes and sells at $5.

Fully as attractive for the smaller country house is the quaint porcelain-faced clock with gay flowered decorations, weights, etc., that is reminiscent of olden days. This will fit in nicely with early American furnishings and the plainer types so popular to-day. This one costs $10 and is a steady time keeper.

Note the relief panel showing sleeping birds. It is one of a pair; the other shows the birds awake and twittering; these are done by the famous sculptor, Thorwaldsen. Of dull black pottery and framed by the same dull material, the fine modeling of the birds is intensified by the curious but highly decorative background of gold leaf broken by fine black lines, that makes it seem a mosaic of gold. These panels are ideal for

overmantel use; measuring 9 x 26 inches, they sell at 27 cents each. They may be had singly but cannot be duplicated. The hand wrought leather magazine cover and marker are very good.

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	Natural	Stained	Enameled or Two Shade Effect
Arcadian—Side Chair on left	$7.25	$8.50	$9.25
" —Settee	17.00	19.25	21.00
Elysian —Arm Chair	10.50	12.00	13.25

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ROUND RUGS

Diameter	Price
24 inches	$1.80
30 "	2.65
3 feet	3.25
4 "	6.95
5 "	10.25
6 "	13.50
7 "	18 00
8 "	25.50
9 "	31.00

OVAL RUGS

Size	Price
24 x 36 inches	$3.00
27 x 54 "	4.85
30 x 36 "	3.95
30 x 60 "	6.85
36 x 42 "	4.55
36 x 72 "	9.80
4 x 7 feet	12.00
6 x 9 "	24.00
8 x 10 "	32.00
9 x 12 "	47.50

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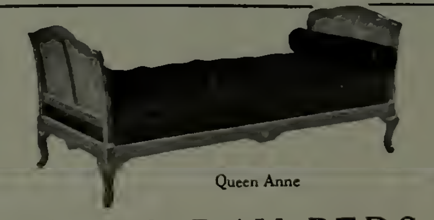

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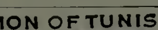

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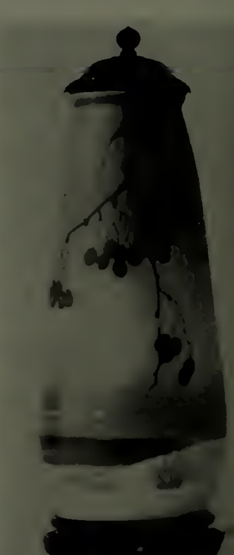
Some Decorative Novelties

NOVELTIES for the house are usually interesting, though not always such that one would wish to use them as permanent decorations, and when one is found that combines both these qualities, it is an added pleasure to the home lover to adapt it to his use. The various articles shown here are all distinctly worth while in this respect, and it gives me considerable pleasure to introduce them to our readers.

Of these, the most remarkable are the lower two. Here we see the Royal Copenhagen porcelain vase converted into lamps of the ultra-modern, ultra-American type. To those who know and appreciate this exquisite art, it will seem as though something royal had stepped down. Yet it is quite the reverse, for by merely introducing electricity inside these fine though somewhat cold porcelains, they seem to live; the water moves, the ship sails, and the whole takes on a warmth unbelievable; the same feeling is sensed in the landscapes, and as lamps they really serve very well in places requiring only a little light. As will be seen, both pedestal and capital are carved teak, and set off the vases charmingly.



The dainty little shade at the top of the column is the work of a young artist who promises to make a mark in the business of lighting and shading. It is of silk embroidery, gold braid, and fringe, made large enough to be used as a droplight, suspended by a silk or a velvet wound cord. Properly made, it has a white silk bottom to spread the light downward, and sells for the small sum of $12. This lamp with a slight change in shape is fitted to a slender but firm upright for floor use. The top is a trifle more peaked and instead of a flat bottom there is a down curving one with 6 flat faces to spread the light for reading. It is very good looking.

On the score of beauty, the lacquered mirror speaks for itself, and it is also very practical. It sells at $24.50.

J. C. M.

MISS SWIFT

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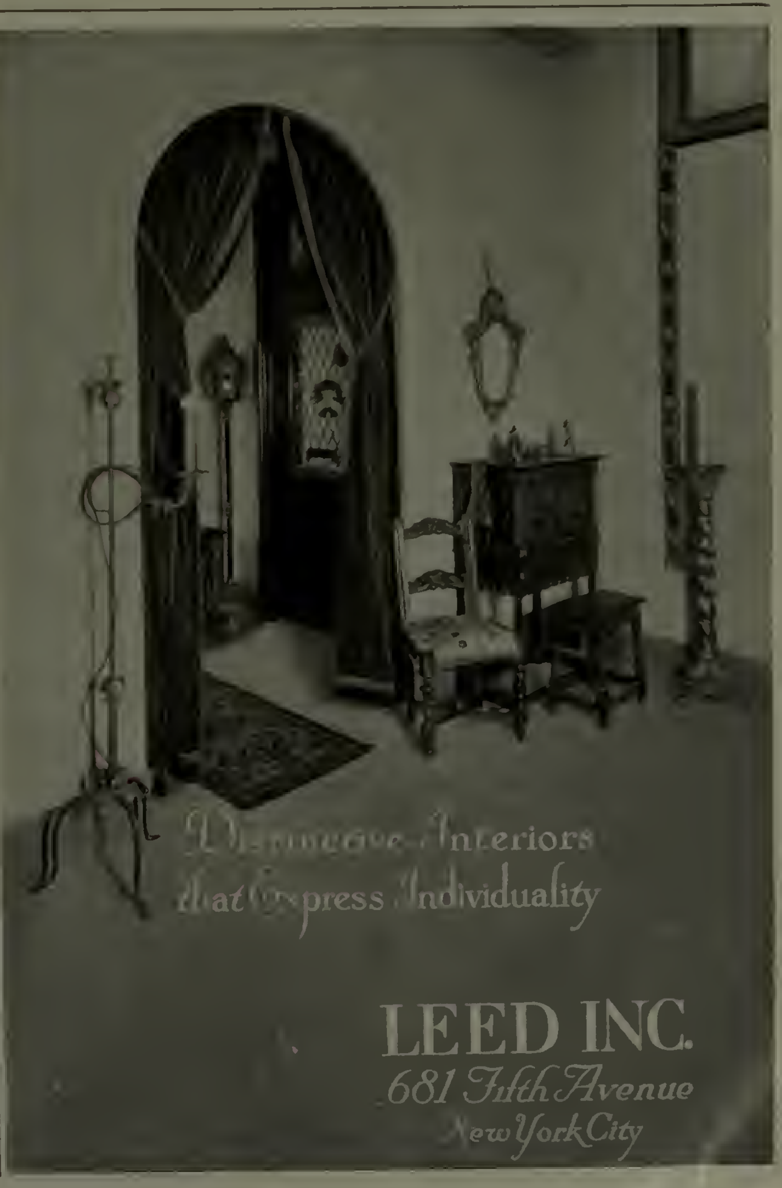

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When you have the house-warming in your new "Home of Redwood," with what pride you will tell your guests the entire house is built of California Redwood—from the famous "big trees" of California, the oldest living things in the world.

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MODERN FISHING FOR TROUT

HIRTY years ago, on the Neversink River, I met Progressive Piscator. He was sloshing carelessly down the stream, chucking a heavy line, to the leader of which was strung a giddy fly and a hook baited with a wiggling worm. He was clothed in a ragged business suit and on his head was a tattered straw hat of the farmer variety.

"I always give 'em a double hand-out," he said. "If they don't want a fly there's a wiggler right next door. That's the way to do it and it lifts 'em every day."

Progressive's creel was heavy; there was no question but that he lifted them. Those were the days of plain, old-fashioned fishing, but those days have gone, just as Progressive's big straw hat has gone, and his ragged business suit.

Last June I ran across P. Piscator, Esq., the angling veteran. He was clothed in a natty sportsman's rig. He was sneaking up against the current, almost as if he were the shadow of an angler. He was using a dry fly, flicking it back and forth in the air. In appearance, in dextrous up-stream approach of his quarry, in every detail of his craft, he was no more like the Piscator of the days when I first knew him than a modern golf expert on a crack course is like a villager of Queen Elizabeth's day, in ragged smock, playing skittles before his hovel.

Progressive slipped ashore and showed me the fly that he had been using. He opened a seal leather case, with tiny compartments, celluloid covered, and my eyes gloated over the dainty devices. These so simulated natural insects that if you lifted one you could almost imagine that you could hear the wings flutter. Progressive is a member of an angler's club. During the fall months he practises fly casting on the lake in Central Park.

"A dry Wickham's Fancy, or a Whirling Dun, dropped so that it hits the water with the wings full cocked—that's what lifts the big ones," he said. "Deer's fat is the best floater for leaders, and I spray my flies with an oil that I have imported from England."

He pulled from one of the numerous pockets of his natty fishing coat a device which looked like a minute perfume atomizer. With this instrument Progressive sprays his flies, thus causing them to float.

In the last twenty years fly fishing for trout has become as technical as modern surgery. It is, indeed, rather difficult to write concerning the modern craft of fly fishing without peppering the pages with terms which are unknown to many sportsmen. Yet, notwithstanding the changes which have taken place, and the growing technique of the craft, I will be so bold as to give a little instruction to the man who has not time to practise fly casting in parks nor to master the intricacies of the art as practised by experts. And although fly fishing is very different from what it was a score of years ago, yet it is possible for the novice to master the modern methods, to the extent at least that on his next trouting holiday he can, if the conditions are favorable, take a fair number of the educated fish of our Eastern streams.

But it should be acknowledged by those who desire to catch a decent creel of trout in waters of civilization that trout to-day are altogether unlike the trout of my boyhood, and that modern methods must be followed. And in most of our streams at the present day we have the European brown trout. A fish whose ancestors have been familiar with every angling device, the brown trout for some 2,000 years has been completing its education.

I know a duck puddle in a brook in the Catskill Mountains. This tiny pond is within a hundred feet of a highway where strings of automobiles pass, day and night. Children sail their boats on the puddle and fling in sticks and stones. During the summer the bit of water is almost as much frequented by trouty enemies as if it were in a city park. Yet that puddle holds many large brown trout, and when the conditions are right a modern fly fisherman can take not one but half a dozen or more magnificent fish. With ancient methods the fly fisherman would never see even a hint of a trout.

As it were, let me jump right into the water of modern angling with the fly for brown trout. For if brown trout of fair size and in fair numbers can be taken by the angler, he will have no

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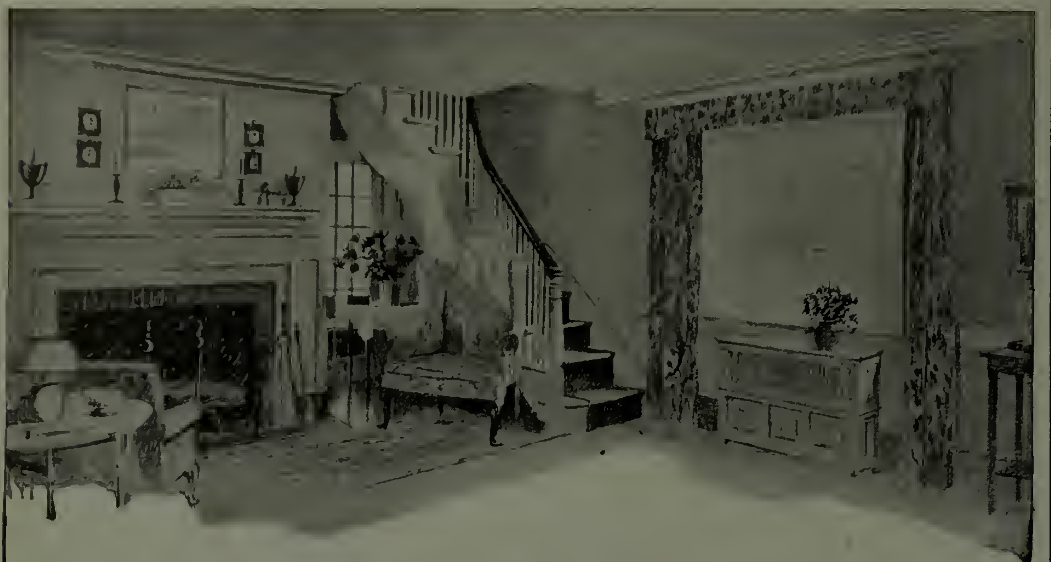

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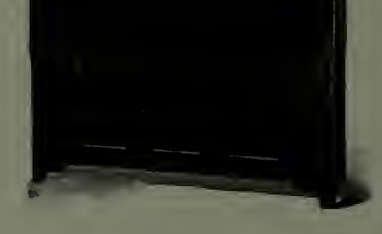

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difficulty in taking on the fly any of the varieties of our native American trout. And the angler who cannot take brown trout of fair size and in fair numbers on a fly is under a great handicap in the race for sport when he swings his rod over almost any American river.

By no means, however, does the modern fly fisherman *jump* into the river. He slips in as quietly as a muskrat slips from a tuft of grass into a mill pond. The silent approach, as silent as is humanly possible, is what must be mastered by the angler who desires to take many brown trout. Nor is this difficult. Haste is not necessary, and the object of a silent approach will be attained if the feet are moved slowly and slid forward carefully. And it must be remembered that any shock to submerged stones will convey the sound to a considerable distance and frighten the fish. Of course, in heavy riffs, trout will be but slightly disturbed by shocks against submerged rocks. But everywhere and at all times the silent approach is of immense advantage.

Up-stream fly fishing—fishing against the current—is the only method that proves successful in a campaign against the brown trout. The reason is clear. Fish do not have eyes in their tails, and trout always lie with their heads against the current. In approaching a trout from its tail end, the sportsman is in exactly the same relation to his quarry as if he were stalking from its rear a deer or moose. But fish do not scent their enemies, so in stalking fish from below, the angler is in even better relation to his quarry than the hunter is when he is at the rear of his game.

The silent approach and up-stream fishing can be mastered in a few hours by any one, and adherence to the additional instruction herein will enable any one to take brown trout in much fished waters and under many conditions of stream and weather.

Difficulties in the use of the dry fly need not deter those who wish to make a trial of this delightful lure. Even a fishing tyro can flick the fly back and forth in the air until it is dry, and flies are now dressed so that they will float with but little drying. Nor is there need that the angler who wishes to use the dry fly should have an enormous assortment of flies. Many dry-fly experts do carry an army of winged lures, but the short list given below will take brown trout and will take them in numbers, if fish are rising to the fly. These flies should be dressed dry-fly fashion—that is when buying them the dealer should be told that dry flies are desired. The flies absolutely necessary are Cahill, Queen of the Waters, Beaverkill, Whirling Dun, and Wickham's Fancy. If a larger assortment of dry flies is desired, the following can be added: Soldier Palmer, Gray Hackle, Black Gnat, Hare's Ear, Evening Dun, Jenny Spinner, and Iron Blue Dun.

As to sizes, the dry-fly angler should have an assortment of flies dressed on both number twelve and number ten hooks. For high water and unusual conditions, and for late in the evening, a few dressed on number eight hooks should be added.

In dry-fly fishing, a long cast is not necessary; indeed a long cast is generally altogether useless. But the fisherman should attempt to flutter his fly to the surface of the water so that it will make the minimum of disturbance. This is not difficult. It is only necessary to watch carefully the falling fly. If it makes a visible spat as it falls, too much energy has been put into the forward cast. With the next trial, the fisherman should use less arm power. A little attention riveted on the fly will in a short time bring a neat and light cast.

Dry-fly experts speak of the "drag" of fly and leader. By this is meant that the current gains a grip on the leader and the fly is dragged too quickly along the surface. A dry fly should float downward toward the angler and without this drag. Still, a free rising trout will frequently take a dry fly with such quickness that the leader has no opportunity to develop the warning drag. Let the dry-fly novice not trouble himself much concerning drags and the higher technique of the craft. He is to drop his lure as lightly as possible before him and to retrieve his line for another cast, after the fly has floated toward him a short distance. What this distance should be depends upon the length of cast. At first he should retrieve before the fly has drifted more than a yard at most.

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For those who do not care to master the art of presenting the fly dry, let it be said at once that many skilled anglers affirm that ordinary wet-fly fishing will take as many and as large brown trout as the dry-fly method. And when using the wet-fly there are numerous advantages. One of these is that, unlike his dry fly brother, the wet fly angler can present his flies quite indifferently up and across the current. He can also present the lure both on the surface and below. When not rising to the surface, trout will frequently take a deeply sunken fly.

The wet-fly fisherman should follow the modern mode and fish up the water. He should make short casts in front of him, and he should also fish the water diagonally above and in turn toward both shores. Indeed, in fishing with the wet fly, the object is to cover as much water as possible, before the angler slips stealthily forward a few yards to his next stand.

Flies for wet fly fishing should be dressed for that purpose, and dealers sell flies which are so constructed. The list already given is an excellent list for the wet-fly angler. But for wet-fly fishing the Coachman should be added. Used wet, the Coachman is so productive a lure that there are some anglers who seldom make up a cast without including it.

When fishing with the wet fly two flies should be used. The tail, fly or stretcher, is the lower fly on the leader. The Coachman should always be strung on the leader as the stretcher fly. It is difficult to say why the Coachman is more killing in this position than when used as the dropper, or second fly, but it is certain that this is the case.

In a short article it is impossible to cover the technique of modern fly fishing. But I have given as clearly as I can the principles which underlie the art. In brief, these principles are up-stream angling, with dry or wet fly; the silent approach; a short, light cast; and, when using wet flies, the Coachman as a stretcher.

And now a word as to the strike. The modern angler does not hang his hopes for hooking his fish on any element of chance. Except by accident, trout do not hook themselves. When a trout takes into its mouth something that is not recognized as food, the error is soon corrected. The something is rejected, and almost instantly. Those of us who have thrown to trout in ponds bits of matches, wadded colored paper, and scraps of tinsel have observed that trout take these deceptions into their mouths, but that the deceptions are almost immediately ejected, and with a force which propels the objects to the distance of a few inches. The lesson conveyed to the experimenter is that although by accident a trout may hook by itself, unless at the offer of a rising fish the angler retrieves his line, and retrieves it with considerable promptness, he will lose nearly all of the trout which a prompt strike would bring to net.

Promptly hitting the rising fish is not easy, particularly when using the dry fly. However, let the fly fishing novice remember what is, perhaps, the greatest aid for achieving a prompt strike. It is this: he should always make a recovery of line, even if his intuition tells him that he is too late. After he has become conscious that a fish has risen to the lure, the tyro will always find it possible to swing his rod back smartly. At first he will frequently be too late, but the determination never to omit the strike will soon cause him to retrieve in time.

Let me repeat, for it is of immense importance: when conscious that a trout has risen, even if some seconds before, the rod should be swung back smartly. This should never be omitted. Though delayed, the act will train the eye and hand, until before long the angler who is too slow, but always strikes, will be the angler who generally does hit his rising fish.

As to playing a hooked trout, the important rule is never to let a big fish get down stream from the angler. Every effort should be made to keep below a big fellow. And no attempt to use the net should be made until a large trout is completely exhausted. Not until the trout is gasping inertly on the surface should the angler slip the landing net under his prize. And do not allow a trout to gasp away its life in the creel. One quick blow at the back of the head with the handle of a heavy jackknife will be a merciful ending for a fish which is so worthy of a painless passing toward the frying pan.

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TO BUILD a log cabin for oneself in the midst of a virgin forest, through whose long aisles of pines few but the Indians, the prospector, and an occasional cowboy have ever passed, is an experience which but few are permitted to enjoy in these days. It was my privilege to help in the erection of such a cabin in the heart of the Laguna Mountains about sixty miles east of San Diego, Cal., during the fall of 1914.

The opening by the Forest Service of a magnificent tract of country comprising some 4,000 acres, covered for the most part with splendid forests of pine and mountain oak, as a sort of national park, prompted its erection as a place of rest and entertainment for ourselves and occasional guests.

Putting up the walls. The trees used were straight young pines about forty feet in height

From the felling of the first tree to the hanging of the kettle on the old-fashioned iron crane built into the three-foot fireplace, the cabin was completed without outside help, and though the work was often hard and our muscles stiff and tired, we enjoyed it thoroughly.

The trees used were straight young pines averaging about forty feet in height. They were selected by the local forest ranger, under the approved methods of forestry which carefully removes only such trees as can not grow to perfect maturity. In marking them, the ranger used a peculiar hatchet having the raised letters U. S. on the head, with which he stamped each tree close to the ground. This mark must show on the stump after the tree is removed.

The openings for doors and windows were cut out after the logs were in place and the roof on

It was interesting to count the rings, which indicate the age of a tree; some of them I found were so nearly my own age that it seemed almost like cutting down my own brothers. By the difference in the width of the rings I could easily identify the seven dry years, of which old Californians often tell.

The cabin is 12 x 18 feet inside and the logs were cut three feet longer than these dimensions to allow for the corners. About fifty were r

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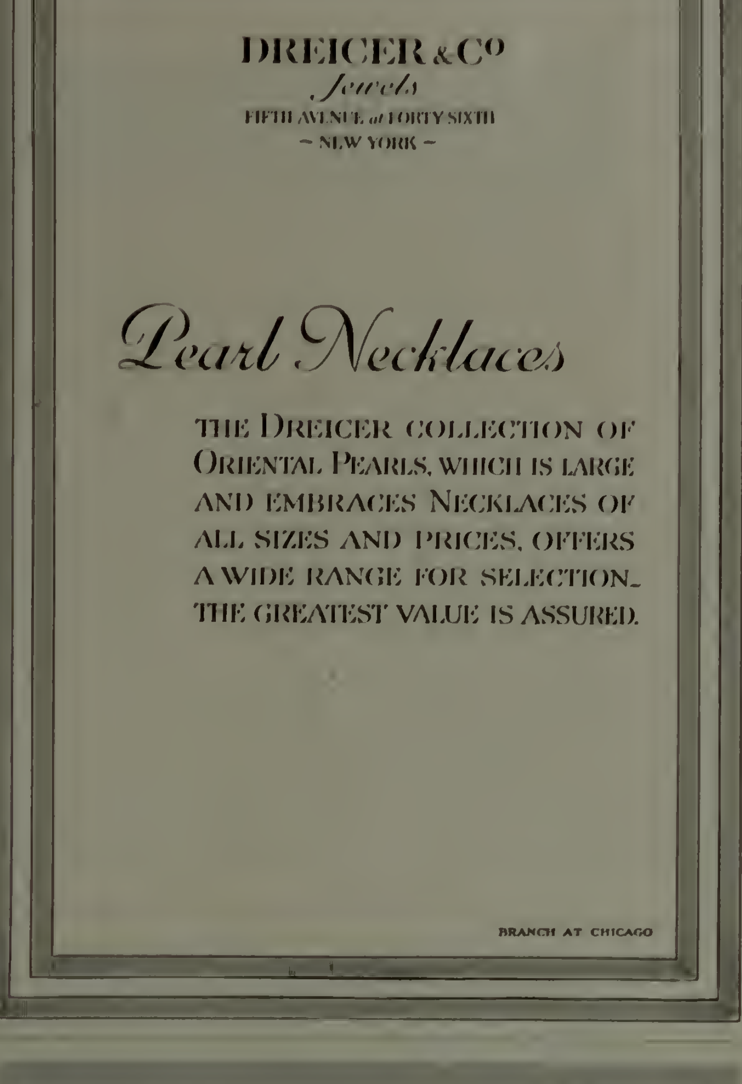

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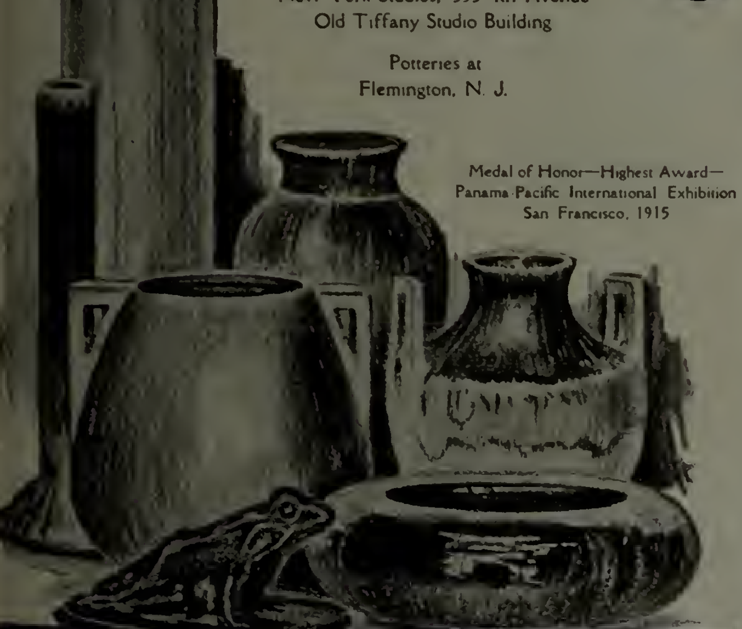

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Indiana Limestone column over 30 feet long and 4 feet in diameter being turned on a lathe.

quired to complete the cabin. Those intended for floor joists were hewed flat on the upper side and put in place with the bottom logs. No broad ax could be found in San Diego, so a large hand ax was used for this work.

We were, however, fortunate enough to secure two old-fashioned cant hooks, which we found indispensable in rolling the logs into place. The logs were first rolled to approximate place with the inside faces perpendicular and then the lower log was carefully notched with an ax until the upper one came down to within a half to one and a half inches of the log below. This space was necessary to hold the chinking of adobe with which all crevices were filled later.

Owing to the difficulty of finding a suitable tree for making shakes, the roof was made of inch boards and two-ply roll roofing brought from San Diego. For rafters we used some dry pine tops which had been left from trees cut a year or so before. These were easily peeled of their bark and were much lighter and stiffer than green timber. Their weather stained, worm eaten surfaces together with the rough, irregular

The finished cabin with its big stone chimney

ends which were not recut but used at the eaves just as we found them, helped to give the effect of age and primitive simplicity.

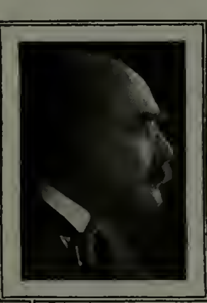
The openings for doors and windows were cut out after the logs were all in place and the roof on. Frames of 2 x 6 pine were slipped into place, and large spikes driven through these into the ends of the logs, thus making all secure.

An immense stone chimney with a splendid fireplace having an arch three feet wide and a mantel six feet across, the latter made from one single slab of stone, gave the cabin its final touch of comfort. The mortar used in building the chimney as well as for the chinking between the logs was made from adobe found near-by. The fireplace and chimney were later pointed with cement and the hearth made of the same material.

Two double beds are arranged so as to fold up against the wall and the addition of a curtain divides the cabin into two rooms. A tiny kitchen was built on in the rear, using waste pieces of logs and tree tops not large enough for the main building.

From this cozy rendezvous we have made many delightful saddle trips with gun or camera, and we hope to take many more. Imagine, if you can, the pleasure of coming home after a day in the open to roast a wild duck or mountain quail before the blazing log fire and, after satisfying the wants of the inner man, to rest in a comfortable home-made chair, before the same splendid fire and dream dreams as you watch the embers!

Irving Lee Palmer.



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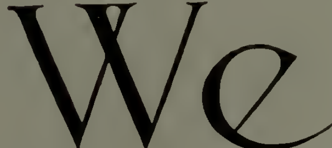

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Flying, a Modern Sport

LINDSAY GLEN
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THE BUSINESS OF FLYING

WHEN Mrs. Harry Payne Whitney flew from Palm Beach to Miami, a distance of 75 miles, it started the green-eyed monster among the young and daring women, and flying now bids fair to be added to the list of permanent sports this summer on Long Island.

If we must fly we must dress the part smartly, up to the minute in correctness and beyond in preparedness. There are two sorts of clothes needed by the birdwoman. The regulation aviator's outfit, very mannish in cut and with absolutely no frills at all, beside which there should be the practical sport suit for the passenger.

A woman looks fetching in her rôle of aviatrix. Her innate spirit of coquetry will not allow her to throw her looks entirely to the wind even if she is up in the clouds. She endeavors to give the practical and somewhat burdensome clothes of the aviator a very feminine touch. She wears, while driving the machine, practically the same outfit as the birdman. The leather coat is short and mannish in lines and has large pockets, those modern privileges to women—the coat is strongly reinforced and snuggly belted and lined with a soft warm flannel. Flying above the clouds, even in summer, is a chilly sport I am told. This suit has leather breeches which are long and closely fitted over the ankles. The boots are clumsy looking affairs only because they are made to wear over the ordinary low boot and may be removed on descending. They are built of soft leather, lined with fleece, without heel and are laced over a flexible canvas tongue. The feet and hands suffer most from the cold while flying. "Cold feet" is a sad thing for the welfare of the aviator. Gloves are in tan suede or cape with a knitted glove in a gray wool as lining. These inner gloves have a woven wristlet which pulls up far under the cuff of the coat. The cuff is belted with a smart strap.

The helmet, of the same soft leather as the suit, fits securely down over the ears and neck and many have a curtain which may be pulled down over the face in which there are goggles made of isinglass which protects the eyes while flying. This helmet also has flaps which may be turned back from the ears in case the hearing should need to be more keen.

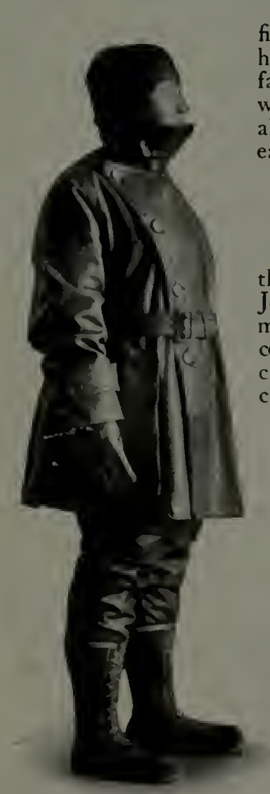
JERSEY CLOTH SUIT

There is another suit which is very popular with the aviator as well as to the sportswoman, made of Jersey cloth either in an open skirt or a one piece model. These suits come in a combination of colors: such as dark blue and green, purple and canary, or a combination of various colors. In that case the coat is of a plain color with the collar and cuffs combining all the colors of the skirt. Among the belongings of the birdwoman is the long full coat of tussor which she may wear in her machine if desired or don just as she is landing.

If flying is to become the popular mode of traveling in the future, woman must add one more costume to her complete wardrobe.

If she is merely a passenger for the out and back trip she will be glad to add to the trunk outfit a stunning fleece lined overcoat which is built on the lines of the trench coat, gives her a smart military appearance and adds real comfort while traveling.

Boots and leather breeches, like those of the pilot, may be worn by the passenger, but are not essential, as the modern aeroplane carries its observer in a boat-like car in which the lower part of the body is sheltered much as it is in the driving seat of an automobile.



The correct aviation suit for woman, in soft tan leather. Helmet and gloves in color and material to match suit

THE WAR-TIME SPORTSMAN

THE sportsman in war time shows the training and outdoor exercise which has kept him in fit physical condition in time of peace may be of great value in time of war. This busy attention to work or pleasure is more noticeable in America where anything which looks like idleness is stigmatized as treason. A modern sport and one which has gripped the soul of man in a strange way is aviation. The main traveled road never quite appealed to the spirit of the real sportsman, so the idea of the untrammeled freedom of the air is of keen and constant excitement.

Driving one's own plane and flying at will in any direction makes for a glorious and appealing sport, and, in war time, constitutes a most useful branch of the service. Whether he flies for fun or for duty the young aviator must have suitable togs.

Leather suits are the most serviceable for all weather, as, even in the hot days, the great heights where the bird man's ambition takes him will be found cold. A short leather coat in tan, lined with a green flannel and worn belted has large flap pockets and is reinforced over the chest and under the side widths and sleeves. The breeches are loose and quite long and tied at the ankles with tapes. Heavy fleece lined boots in soft kid are worn over the tan low shoes. Some aviators prefer the calf-skin boots and snug leather puttees.

The helmet is also of the same soft tan leather and fits over the head, ears, and neck with a strap fastened under the chin. This keeps the helmet in place even in a high wind. Isinglass goggles are either worn separately or built in a piece which comes down well over the eyes. The gloves are in a tan or black kid, with or without gauntlets, and some of the gloves are warmly lined and have wristlets which pull up over the arm. The aviator's clothes are made more for comfort and utility than for beauty.

THE ONE-PIECE AVIATION SUIT

An innovation in aviation suits is the one-piece model in tan leather. The breeches are long and tying at the ankle, the collar and cuffs are fitted with small straps to secure a more snug fit if desired. The warm weather suit for flying is made of jersey cloth and is found most comfortable. Some of the models are one piece effect, which gives the aviator a strange harlequin look. Comfort and neatness seem the two salient points to observe in planning a birdman's outfit.

Khaki suits built on military lines in either wool or cotton are also worn by the aviator. As no sportsman is without a sweater this garment is an integral part of the sport's belongings. The sweaters are seen in striped wool effects, many have plain rolling collars and knitted bands for cuffs. A popular model is in black and red with a black collar and cuffs and bands and plain red sleeves. This sweater is of the slip-on model. Another new model is in a coat effect in gray or tan. Helmets in Khaki with heavily welded seams have glasses built in the curtain which may be let down over the face and fastened with snaps to protect the eyes in swift flight.

The birdman's outfit is in a transition state. He is adjusting his wardrobe to the necessities which occur in each flight. New suggestions are continually appealing to him. A long coat in silk tussor is part of the aviator's small kit as something may go wrong and descent become imperative, then it is that the careful aviator finds laurels more easily won if he can appear in a spotless and well-cut throw-over coat.

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An aviator just after landing. His suit is of leather, which is the most serviceable material for flying

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A charmingly capable housekeeper tells me she prepares for a spring invasion by selecting some good recipes and putting them in a linen envelope marked: "Tried and not found wanting."

FOR THE MEAT DISH

Roulade of Lamb Braised with Carrots:

Procure a tender shoulder of lamb, remove blade bone as well as shank bones. Season inside with teaspoon salt, three saltspoons pepper, one saltspoon grated nutmeg, and half teaspoon ground mixed spice. Finely chop two ounces raw, lean veal, place it in mortar with two tablespoons bread crumbs, half bean chopped garlic, half teaspoon chopped parsley, one egg yolk. Season with three saltspoons salt and one saltspoon pepper, then thoroughly pound to a smooth pulp. Moisten with two tablespoons cream, mix well, then evenly spread this force meat all over inside of shoulder. Roll up and tie firmly with string. Heat two tablespoons lard in braising pan, add the roulade, and cook on fire until a light brown all around. Add eighteen scraped raw, new carrots, one onion with two cloves stuck in it. Tie in a bunch two branches parsley, one branch chevril, a sprig of thyme, and a bay leaf, add to the pan, pour in one gill white wine, and let reduce until nearly dry; then pour in one pint broth and two gills demiglacé. Season with half teaspoon salt and three saltspoons pepper. Cover pan, boil for ten minutes, then set in oven for one hour. Remove, dress lamb on a dish, and untie it. Lift up bouquet and onion, skim fat from surface of gravy, boil ten minutes. Pour the contents of pan over the roulade and serve.

Another delicious recipe was Entrecôtes, Sauce Poivrade, which appealed hugely.

ENTRECÔTES, SAUCE POIVRADE

Neatly trim and flatten two one-and-a-quarter-pound cuts sirloin of beef. Mix on a plate a tablespoon oil, teaspoon salt, and half teaspoon pepper, and repeatedly turn steaks in the seasoning; arrange on a broiler, and broil for eight minutes on each side. Remove, dress on a hot dish, pour a poivrade sauce, as below, over and serve.

SAUCE POIVRADE

Finely chop a medium-sized onion, one carrot, and fry in a saucepan with a level tablespoon butter to a nice golden color, then add half ounce

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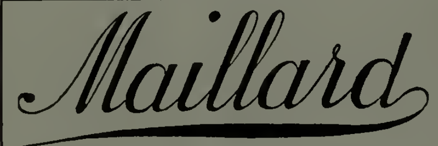

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finely minced raw ham, one saltspoon thyme, half sprig bay leaf, one saltspoon marjoram, three cloves, and a teaspoon freshly crushed black peppers. Moisten with a half gill tarragon vinegar, one gill hot water, and reduce to one half the quantity. Then add one gill demiglacé and a saltspoon cayenne pepper, gently stir for one minute, then reduce for five minutes. Strain through a cheesecloth into a bowl and use as required.

A dish which appeals, even to a man who is up in the air much of the time is:

CHÂTEAUBRIAND WITH OLIVES

Trim a little of the fat from a two-pound piece tenderloin of beef, place in a coarse towel and neatly flatten with a cleaver to the thickness of one and one half inches. Mix on a plate a tablespoon oil, teaspoon salt and half teaspoon pepper, repeatedly turn the filet in the seasoning, arrange on broiler, and broil on a slow fire for eight minutes on each side. Remove, sprinkle a little salt all around, place on a tin, pour over a tablespoon melted butter and squeeze the juice of half a lemon over; set in oven for eight minutes, remove, dress on a hot dish, pour over an olive sauce, as below, sprinkle a little chopped parsley on top, and serve.

OLIVE SAUCE

Carefully stone twenty-four small olives and place in a saucepan with two tablespoons sherry, one gill demiglacé, a half gill tomato sauce, half teaspoon freshly chopped parsley, and a saltspoon cayenne pepper. Mix well, let boil ten minutes, lightly mixing occasionally, and use as required.

Two alluring recipes for cucumbers appeared among the tempting menus:

CUCUMBERS BECHAMEL

Peel three good-sized fresh cucumbers. Cut them into quarters, lengthwise, remove the seeds, then cut them into half inch pieces. Mix in a small saucepan one tablespoon butter with one and a half tablespoons flour, pour in a gill milk and a half gill cream, mix until it comes to a boil, add cucumbers, and keep hot on a corner of the range. To be served with pot roast. Chopped mushrooms may be used instead of cucumbers, then it is called Mushroom Bechamel sauce.

The second cucumber recipe was:

CUCUMBERS ROMAINE

Peel two good sized sound cucumbers, cut in halves, remove spongy parts, finely slice, place in a quart cold water, with a teaspoon salt, for thirty minutes, and drain thoroughly on a sieve. Lightly butter a baking dish, sprinkle a tablespoon grated Parmesan or Swiss cheese, and arrange a layer of half the quantity of cucumbers; season with three saltspoons each salt and pepper, a saltspoon grated nutmeg, and dredge a tablespoon Parmesan cheese over all. Divide a half ounce butter in very little bits on top, place balance of cucumbers in layer on top, season with two saltspoons salt and one salt spoon pepper. Sprinkle with a light tablespoon Parmesan cheese, arrange again a few bits of butter on top of all, pour one and a half gills tomato sauce all around; set to bake in oven for forty-five minutes, remove, and serve.

AN EMERGENCY SHELF

This shelf had neat little rows of fascinating glass jars filled with things to be served quickly when haste was necessary. A whole French capon, roasted, in aspic; a tin of chicken liver pates; a large bottle of "financier," which will give the proper fillip to any meat course; a few cans of vegetables; Miss North's peach chutney; tomato catsup; a jar of pimentos, which brought to mind that famous dish—a pimento and cheese roast.

Put two cups of cooked lima beans with a quarter of a pound of American cheese and three canned pimentos through a meat chopper; add to them enough bread crumbs to form all into a soft ball. Add one beaten egg, salt, pepper, and a little sugar. Form the mass into a roll, put into a roasting pan and cook, basting occasionally with a little butter and water. When done turn on to a hot platter and serve with a smooth tomato sauce.

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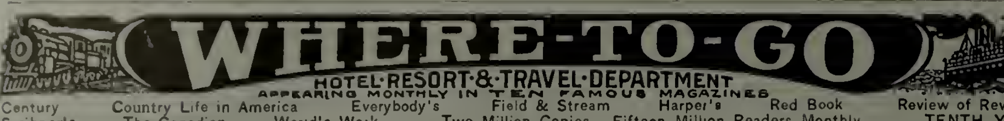

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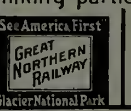

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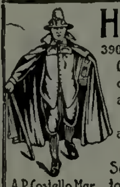

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A NEW WAY TO PLAY THE CHICKEN GAME

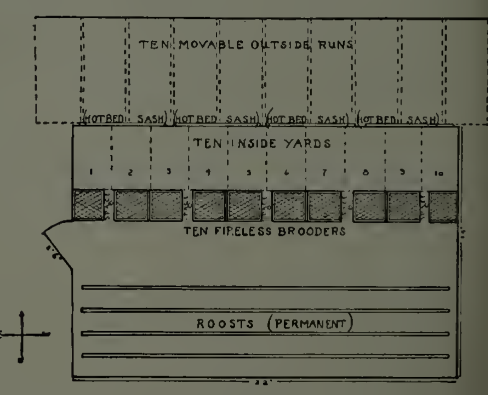
IN THE Middle West there is a woman who conducts a successful chicken business along entirely new lines. I made her acquaintance early in November through a poultry advertisement in the local newspapers that read as follows:

"For Sale—200 choice pullets, guaranteed laying. Telephone——."

This looked interesting; it was the only advertisement of laying hens that had appeared for a long time, the few breeders who possessed laying stock considering it too valuable to dispose of at this time when fresh eggs were bringing 50 cents per dozen.

I learned by calling up the number given that the pullets were White Leghorns, the price $1.50 apiece, each one guaranteed to be in healthy condition and laying. When I visited the plant I found, in place of the customary poultry house, a well roofed shed fourteen feet wide by twenty two feet long, boarded up on three sides. The long side facing the south was open and covered with poultry netting. At the north end about six feet of space was taken up by roosts. There were no windows, the open side facing the south giving ample light and air. There was a deep bed of straw for scratching, and sixteen nest boxes were fastened at various heights on the two side walls. The place consists of but one acre, but the chickens have free range over neighboring woods and pastures.

The proprietress asked me to stand quietly aside while she gathered the chickens so that I might make my selection from the full flock. With a small pail of feed in her hand she stepped out into the open yard and sounded the dinner gong by beating on the pail with a small rod.



Floor plan of the poultry shed, showing arrangement of brooders and runs

From far and near came the Leghorn pullets, many sailing in on the wing, and every one answering the call promptly. In less than five minutes they were all in the shed and the door was closed. This impressed me as being a most remarkable feat of poultry management. I was told that the flock could be gathered in this way at any time of the day, and I found this to be true on subsequent visits to this poultry plant. All of the pullets were so tame that any one of them could be picked up and examined without raising a commotion, the highest tribute that could be paid to the manner in which this poultry woman had reared her flock. There were no cockerels or old stock among them.

It is a new poultry game that this woman is playing, and she very kindly permitted me to copy the figures from her ledger when it was closed for the season, in December.

The start is made in April with 500 day-old chicks from choice stock. White Leghorns are chosen for three reasons: they are a popular breed, they cost less to feed, and they lay well at an early age. The chicks are contracted for in advance, from local breeders. Home-made fireless brooders are in readiness in the shed, and consist of a simple hover, twenty inches square, that stands on a board platform or floor, two inches larger all around than the hover. Over the hover is placed a frame constructed of boards on three sides, the fourth side being a wire-covered door on hinges, arranged to swing up. The top of the cover is of wire netting and fits closely to the top of the hover. This cover is twenty-two inches square (inside measurement)

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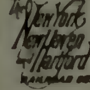

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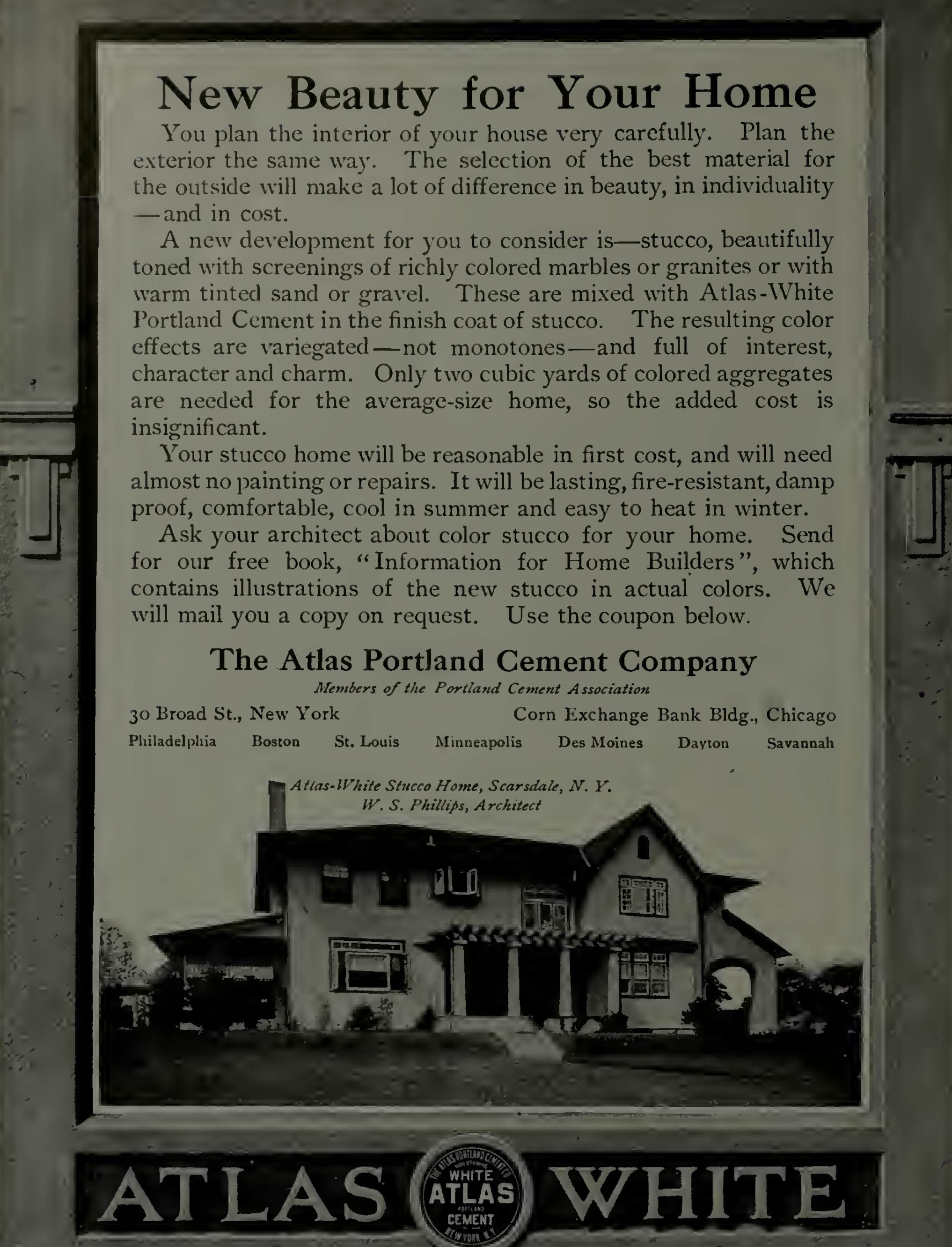

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so that there is a one-inch air space all around the hover. The cover, the floor, and the hover are all separate, a good arrangement for easy cleaning and airing.

Each brooder holds fifty chicks, and the accompanying diagram shows how they are placed for economy of space. For each little flock there is a small wire yard with removable top, and in this yard is placed the drinking water and scratching litter.

The south front of the shed is fitted with four hot-bed sash over the netting. These sash are used only while the chicks are very young. After four or five weeks they are taken down and ten long, narrow wire cages are placed outside the shed. The chicks are allowed the use of these outside yards as soon as they seem to want more space.

After every rain the runs are pulled aside and the ground is plowed up with a hand cultivator. This keeps the runways clean and free from odor. The proprietress does this plowing herself and recommends it highly as a lung and heart strengthening exercise as well as a cure for round shoulders.

When the chicks become too large for the hovers, blocks are added to the legs of the hover and strips of a corresponding width are put on the covers to raise the brooder to a comfortable height. All of the daily work of caring for the chicks is done under cover of the shed, an advantage of special importance during a prolonged rainy spell.

As soon as the sex can be distinguished, which is quite early with Leghorns, the cockerels are sorted out and placed in special small coops where they are fed on fattening mashes and soaked grains so that they may reach a desirable broiler size as soon as possible. The small inside yards are taken away and the pullets are given the freedom of the whole shed. They are not long in finding and using the roosts.

The ledger shows that the sale of cockerels commences early in June, and before the middle of July every cockerel has been disposed of at 35 cents a pound, contracts for the whole lot being made with the largest hotels in the near-by city, while prices are at the top notch. Many of the cockerels are fine ones but none are held over, for this poultry woman believes in cancellation.

As soon as the pullets are able to look out for themselves they have free range and are allowed to grow without being forced for extra early eggs. That is to say, they are fed rather sparingly. This promotes a hardy constitution and full growth. Too early maturity is undesirable and would defeat the purpose of the game.

The egg forcing commences with September and by the time that eggs are scarce and prices soaring, the pullets are laying steadily. It is at this time that laying stock is much wanted; there is little competition, and the sale of the pullets is an easy and quick process. It takes about six weeks to dispose of all the stock. The purchaser is given the privilege of selecting the birds that suit his taste, but no reduction in price is made for any quantity, no free crates or baskets are furnished, and no shipping charges are paid or birds delivered. Some local fanciers of high repute take advantage of this sale to acquire some fine pullets to add to their their own stock and assist in filling orders.

The eggs that are laid during this period form quite an item in balancing the feed bill, for egg prices are high in November, and if there are indications of higher prices the eggs are kept without risk for they are all infertile. However, the egg profits are secondary, the main object being to dispose of all the laying stock while the demand is greatest.

The accounts are balanced in December, and this poultry woman forgets all poultry cares and troubles for four months. By April she has renewed energy and enthusiasm to go at the game afresh. This four months' rest is a clever thought and is no doubt responsible for much of the success and profit. From the following figures taken off the ledger it will be seen that there was a profit of $376.90 for the eight months' work.

216 cockerels	$ 96.42	
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Feed and grit	145.72	
Advertising	2.80	
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Profit		$376.90

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Grass and clover cut with a lawn mower constituted the green food while the chicks were confined to the runs.

It is evident that the work of this poultry woman is mostly of the brain variety that covers carefully planned housing, judicious feeding, and quick disposal. A noteworthy fact is that 474 out of the 500 chicks bought are accounted for on the ledger, showing that a loss of only 26 chicks was sustained.

P. B. Ruggles.

THE COÖPERATIVE BEEF RING AND THE SUMMER MEAT SUPPLY

NLESS the family is of unusual size or there is a number of tenants or resident farm laborers to consume it promptly, the problem of obtaining fresh meat of high quality, regularly and often, is a serious one on the farm. For the average farm cannot provide facilities for freezing carcases and keeping them for more than a week or so at a time, especially in summer, and a steer or even a sheep represents more meat than most families can consume before it spoils. But there is a way to meet the difficulty, and a very simple one, as we have found; all that it requires is a little community team work.

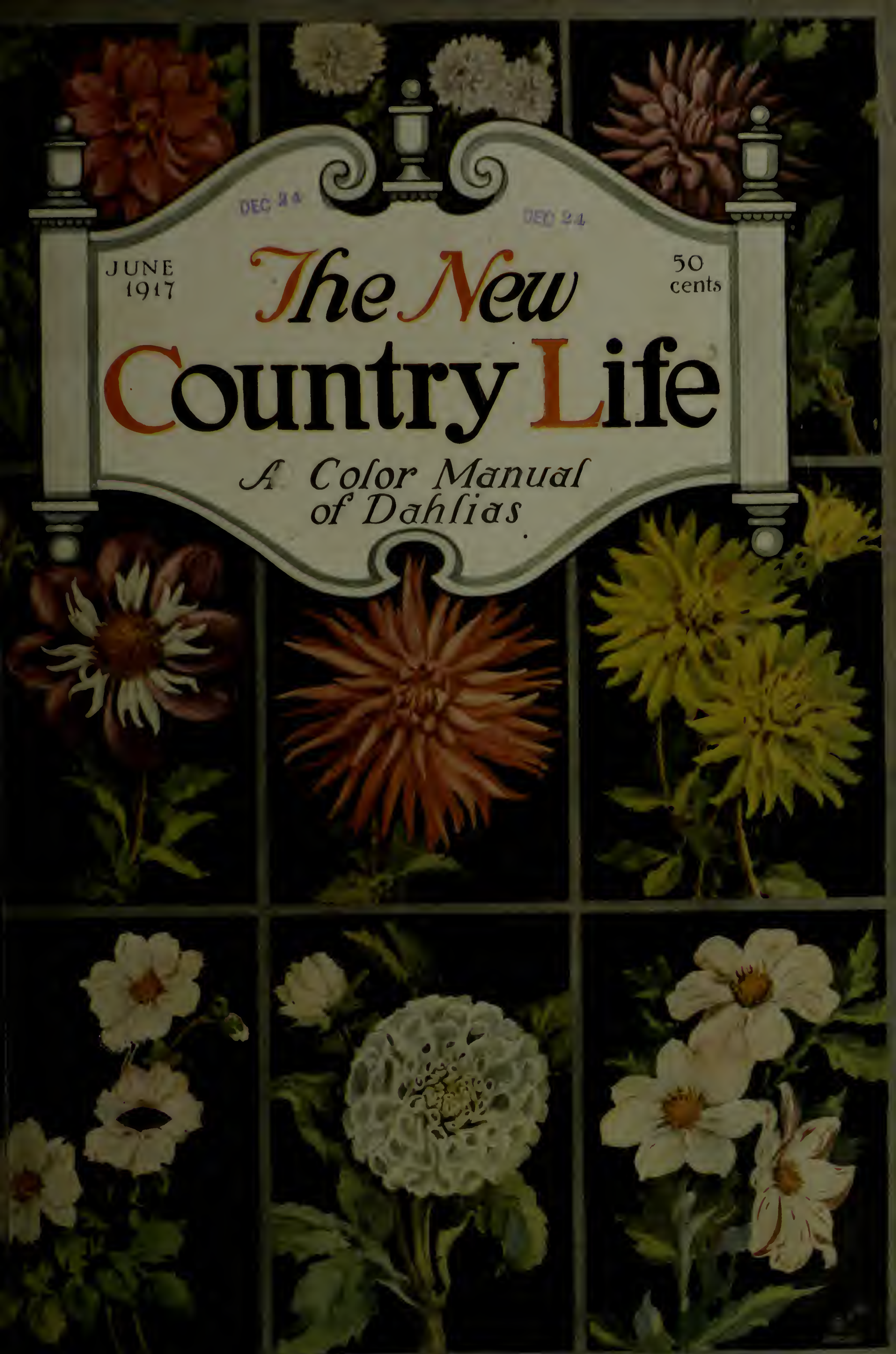
What I refer to is a coöperative beef ring such as we belong to. It provides us with about twenty pounds of fresh beef every week or two throughout the summer, at the very low price of 8 cents a pound; and it enables each of a group of neighboring farmers to slaughter one or a few head of yearling steers that he has raised, and dispose of the meat more profitably and much more easily than through the usual channels of local butcher, near-by city, or wholesale cattle buyer. The week before we started our ring I bought ten pounds of mixed beef from a farmer who had killed a yearling independently, and I had to pay 14 cents a pound. Since then I have saved 6 cents on every pound bought and have obtained better meat into the bargain.

The operation of our ring, and, I suppose of all similar groups, is very simple. Each of our eight members raises a yearling steer and plans to have it in good condition so that it will dress about 170 or 200 pounds on or about a certain date, when it is to be slaughtered. The schedule of dates is arranged well in advance so that each man can feed and manage his steer intelligently for the best results.

On the afternoon of the scheduled day—usually a Friday—the ring meets at the home of the member whose turn it is to furnish a steer. It does not take long to dress and cut up the carcass, since each member has had considerable experience in the work, and has, in addition, the help of the rest. The division of the carcass is into eight approximately equal pieces—four from the fore quarters and four from the hind quarters. The owner of the animal gets a hind quarter cut, but the following week he gets a section of the fore quarter; thus each member gets alternately fore- and hind-quarter meat, with fairness and benefit to all.

One member, previously elected secretary, keeps an account of the number of pounds received each week by each member. At the end of the killing season the member who furnished the lightest animal pays 8 cents a pound for the difference between what he furnished and what he received. Frequently the members are such good judges of cutting and dividing the carcases that the final difference between the portions of the eight members is scarcely more than half a pound.

P. C. Henry.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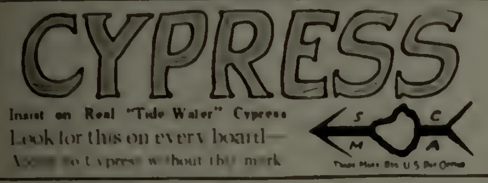

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Made in short time in all styles to harmonize with American ground.

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Write the Readers' Service for information regarding Live Stock

DISTRICT OF COLUMBIA

Indian Spring Farm For Sale

In suburbs of Washington, D. C. Thirty minutes by auto to City over macadam roads. Magnificent site for gentleman's country home. First class agricultural land, valuable timber boundary, borders on large stream. The spring is one of the finest in Southern Maryland. Water was at one time bottled. Farm house and outbuildings. One-hundred and seventy acres, surveyed for subdivision. Adjoining land held at twice the price. A rare bargain. For immediate sale $25,000.00.

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MODERN COUNTRY HOME

FOR SALE OR EXCHANGE—Magnificent modern country home, 10 acres, 15 rooms, gas, electricity, sewerage, fine water supply, 3 bathrooms, hot-water heat, servants' quarters, individual phones; garage, stable, barn, chicken-houses, in first class condition; garden, asparagus, strawberry beds, young orchard, all fruits, flower beds, beautiful shade, overlooking Washington, 30 minutes U. S. Treasury by electric cars, 18 minutes automobile, 10 minutes steam road. Price $[illegible], terms if desired.

O. B. ZANTZINGER, Washington, D. C.

MISCELLANEOUS

Money-Making Farms

15 states, $10 an acre up; stock, tools, and crops often included to settle quickly. Write for Big Illustrated Catalogue.

Strout Farm Agency
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If— you have not read the best dog story ever written—or if your boy has not—buy "Bob, Son of Battle" at your nearest bookstore and you will.

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Doubleday, Page & Company
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"THE LOVELIEST CABINET WOOD IN ALL THE WORLD"

NATIVE TO AMERICA. PLENTIFUL. BEAUTIFUL. WORKABLE. TRY IT

RED GUM

Enjoy Beauty? Write for Samples *Wish Knowledge? Write for Booklet*

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1306 Bank of Commerce Bldg
MEMPHIS, TENN.

The Readers' Service gives information about Dogs and Kennel Accessories

POSITIONS WANTED

By experienced estate superintendents, farm managers, head gardeners, etc.

Purchasing Agent for Gentleman's Country Estate

Lady of experience, competent to assume full charge. Any discounts or commissions received, will be allowed to estate. Address, Box No. 837, care of Country Life, Garden City, N. Y.

Gardener Open for Engagement

Age 33, married, no family. Thoroughly experienced in all branches, 20 years' experience on private estates, 6 years' Canadian experience, first class reference. Nationality, English. H. Phipps, 159 Ballantyne Avenue, Stratford, Ont., Canada.

WANTED

Position as farm manager. Have had considerable experience on a dairy farm where the principal crops grown were potatoes, hay, cabbage, corn, oats, and fruit. Graduate of Cornell Agricultural College. Best references. Box 838, care of Country Life, Garden City, N. Y.

Position Wanted—For landscape gardener, florist and horticulturist. First class greenhouse man. Position preferred gentleman's suburban or country estate near Chicago or Milwaukee. Advertiser now in prison, be released June 26th, 1917. Address Rev. A. J. Soldan, Chaplain U. S. Prison, Leavenworth, Kansas.

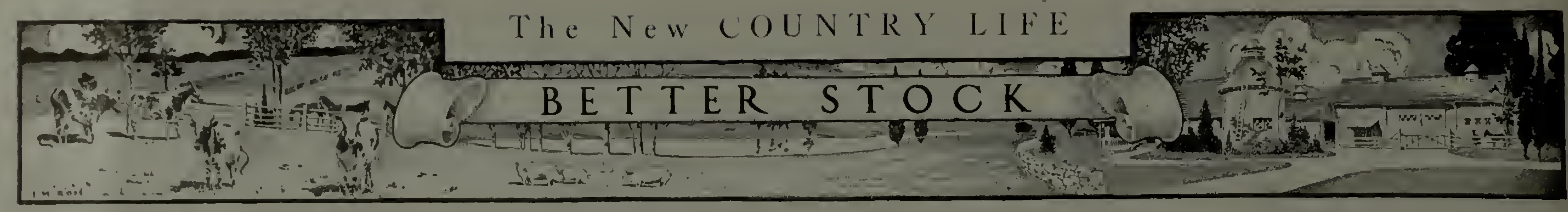
WANTED

Positions for my Dairyman and Farm Manager. Both married. Can recommend either of them very highly as to honesty, sobriety and being fully capable to assume full charge of either Farm or Dairy. Large proposition preferred, or one where there would be a chance of advancement.

CAPT. R. I. LAW, Hotel Southland, Norfolk, Va.

Superintendent of Country Estate

seeks position, has been employed for the past eleven years on one of finest estates on Long Island. *Practical* knowledge of all branches of estate work. Specialist with poultry and dairy stock, would develop new estate under owner's instructions, very highest written and personal references. Married, age 39, English. None but first class position with good wages considered, where absolute integrity and real service will be appreciated. Interview at your convenience. Address F. H. Box 839, care of Country Life Garden City, N. Y.



NEWS *of the* BREEDS *and the* BREEDERS

JUNE SALES

Guernseys — Waukesha County Guernsey Breeders' Association, Waukesha, Wis., June 7th.

Ayrshires — New England Ayrshire Club, Springfield, Mass., June 14th.

This sale, to be held in the Coliseum of the Eastern States Exposition which housed the National Dairy Show last October, promises to be one of the choicest Ayrshire sales ever held in this country. The offering will include forty representative imported animals, a consignment from Canada, and others from some of the best herds throughout New England. All animals will be absolutely sound and tuberculin tested. Catalogues giving further details can be obtained from Mr. A. W. Sagendorph, Spencer, Mass.

Holstein-Friesians—Sale to follow the Annual Meeting of the Association, Fair Grounds, Worcester, Mass., June 7th and 8th.

Brown Swiss—First American Consignment Sale, Pottstown, Pa., June 26th. This sale will be conducted by a group of Eastern breeders and will include animals consigned by many of the best known men in the work, from some of the finest herds in the country.

A HOLSTEIN CLAIMANT *for* HIGH HONORS

ORMSBY JANE SEGIS AGGIE 150943 is candidate for the title of "the greatest producing cow in the world." Her claims are based on the following facts: she is the world's champion producer of milk and butter combined, over all ages and breeds in the short-time division; she is world's champion over all ages and breeds for the production of butter for 30, 60, 90, and 100 days; she is the world's champion four-year-old for the production of both milk and butter for 30, 60, 90, and 100 days; and she is the only cow of any breed that has ever made two 7-day butter records above 40 pounds. She made her first bid for fame in December, 1915, when she hung up the following figures:

	BUTTER (80 PER CENT. FAT)	MILK	AVERAGE PER CENT. FAT
7 days	44.42 lbs.	721.4 lbs.	4.93 per cent.
30 days	183.16 lbs.	3,241.0 lbs.	4.52 per cent.
60 days	360.31 lbs.	6,231.7 lbs.	4.63 per cent.
90 days	509.08 lbs.	9,188.7 lbs.	4.43 per cent.
100 days	565.61 lbs.	10,151.7 lbs.	4.46 per cent.

These entitled her to seventeen world's records, as follows:

Over all ages and breeds for butter production for 7, 30, 60, 90, 100, and 120 days (her 100-day record exceeding the performance of any other cow for 120 days). Also for butter production in the senior four-year-old class for 7, 30, 60, 90, 100, and 120 days, and in the four-year-old class for milk production for 30, 60, 90, 100, and 120 days.

In the year following the completion of this test her 7-day record was beaten no less than four times by other Holsteins, while one cow has in 120 days beaten her performance for 100. About thirteen months later, however, she freshened again at the age of six years, one month, and proceeded to increase her previous figures for both milk and butter, producing in her best seven days 46.33 pounds of butter from 879.4 pounds milk, which gives her a world's record for milk and butter combined, no other cow that has produced more than 40 pounds of butter in seven days having approached her figures for milk. Ormsby Jane Segis Aaggie was bred by Ernest M. Johnson, Richfield Springs, N. Y., and has been developed by her present owner, Oliver Cabaña, Jr., Elma Centre, N. Y. M. S. PRESCOTT.

TO THE BOYS AND FARM OWNERS OF NEW YORK STATE

ON MAY 1, 1917, there were 14,686 fewer farm laborers in New York than on May 1, 1916, and a greatly increased acreage of planted crops. Altogether there is an estimated need for 52,000 hired men for the coming season. A Farm Cadet Bureau has been organized under the State Military Training Commission to bring together farm and estate owners who need help, and all those boys from sixteen to twenty years of age who by state law are required to take a specified amount of military training each week or, as an alternative, to volunteer to do farm work during the summer. The Bureau is organizing camps, finding out how much and what kind of labor is needed on every farm in every community, and enrolling and distributing the boys who volunteer for service. Here is a definite, practical, vital way for citizens and future citizens to render patriotic service to the state, and no less to the nation.

BOYS

You must (unless especially exempted) do military service *or* farm work. The latter fulfils the requirements, benefits the farming industry, gives you a vigorous, strength-building summer, and a chance to make money in proportion to your skill and industry. Later you may be needed for army work; now is your chance to prepare for it and really to help your state, your country, and yourself—at home.

FARMERS

Many of you want and need help, but the mature, experienced labor that you would prefer is *not available*. You can serve your country and increase your farming by taking this labor that is offered you, even though it calls for a little extra training and directing, and perhaps some patience and forbearance. Readers of COUNTRY LIFE who are dedicating hundreds of acres to the cause, here is another way really to help.

Details of this work, its methods and progress, can be obtained from the offices of the Bureau, 68 William Street, New York City, or from the Editor of THE NEW COUNTRY LIFE.

Ormsby Jane Segis Aagie 150943, Mr. Oliver Cabaña's Holstein claimant for the title of world's champion producing cow, whose records, given in the text, supply convincing support of her contention

A Coming Sheep Sale The projected pure-bred sheep sale, of which mention was made in these columns two months ago, is now practically assured. Representatives of the leading sheep breeders' associations have formed an organization with Mr. C. A. Tyler, Secretary of the Hampshire Breeders' Association, as President, selected the Ohio State Fair Grounds at Columbus, and Aug. 7th and 8th as the place and time of the sale, and are now working out the remaining details. Until a secretary has been appointed and his name announced, information about the Associated Pure-bred Sheep Sale, as it is to be called, can be obtained by addressing Mr. Tyler at 36 Woodland Avenue, Detroit, Mich.

An Awakening In Schoharie County Schoharie County, long known as the leading hop section of New York State, is going out of the hop industry and taking up dairying. To encourage greater activity among the farmers in breeding and raising better animals, the Schoharie County Breeders' Association was recently organized. Already it has secured the coöperation of local banks to the extent that they have agreed to lend money to farm boys with which to buy pure-bred calves. It is thus going to give special attention to the interesting and educating of young and coming farmers in the value of better stock.

The Holstein Association Meeting The annual meeting of the Holstein-Friesian Association of America will be held June 6th, not at Syracuse as in recent years, but at Springfield, Mass. The annual banquet will take place that evening and the meeting of the board of directors the night before, June 5th. On the 7th and 8th a sale of Holsteins will be held at the Worcester Fair grounds. A feature of the meeting will be an address by Prof. E. V. McCullom of the University of Wisconsin.

Leasing A Bull The sales prices and selling values of pure-bred sires are matters of fairly general knowledge; the rental value of such an animal is a somewhat more unusual figure, but one none the less significant. To illustrate, Mr. Frank Graham Thompson, owner of Brookmead Farm, Devon, Pa., has leased the Guernsey bull Anton's May King for one year, from the Delaware State College at Newark, for the sum of $1,500. Mr. Thompson owns a number of cows of May Rose breeding, and the bull's sire and dam were both by May Rose King, so there are admirable opportunities offered for the intensification of blood lines.

The Limiting of Sales Progressive Shropshire breeders have adopted the rather unusual policy of limiting the number of animals that they are willing to sell to any one buyer. They feel, and rightly, that in view of the limited supply of good sheep, this practice will distribute the available stock in the greatest number of places and prove the best possible means for meeting the increased need for more and better animals that is sure to come within the next few years. To illustrate, an Indiana breeder recently sent half a dozen individuals into Kansas, ten into Ohio, and an equally small number out to Montana. From the standpoint of the nation at large and the sheep industry in

general, they will accomplish far more than if sold in one bunch to one breeder.

What Good Grades Can Do Few dairymen or breeders who can own pure-bred cattle will care to do otherwise, but those who cannot invest in registered stock, two performances recently completed by grade Guernseys in the herd of Mr. H. D. Parker, of Greeley, Colo., supply plenty of reason for being satisfied with grade cows, *providing* they are of the right type and quality.

The first cow, Sue, produced 50,134 pounds of milk carrying 2,169 pounds of fat in the four years

Edith, a grade Guernsey owned by Mr. H. D. Parker of Colorado, whose record of 34,141 pounds of milk, 1,535 pounds of butter fat for three consecutive years is enough to make many a pure-bred jealous

between Jan. 1, 1913, and Jan. 1, 1917, and averaged 12,533 pounds of milk, 542 pounds of fat, for each twelve-month period. The second animal, Edith, in the three years between Jan. 1, 1914, and Jan. 1, 1917, gave 34,141 pounds of milk, 1,535 pounds of fat. The average production per cow in Mr. Parker's herd of seventy-five grade Guernseys was, last year, 7,421 pounds of milk, 340 of fat, the cows in milk the whole year averaged 10,179 and 447 pounds of milk and fat respectively.

A New Shorthorn Breeder A 1,200-acre tract of the Elmendorf Farm, Lexington, Ky., formerly owned by the late J. B. Haggin, has been purchased from his estate by Mr. A. K. Macomber, a son-in-law of the late L. V. Harkness, former owner of the not far distant Walnut Hall Farm. Mr. Macomber is interested in Thoroughbred and trotting horses but plans to devote the farm chiefly to the raising of Shorthorns, starting with a herd bought from the Harkness estate and a number of animals obtained from Elmendorf.

Information Bureau for Duroc-Jersey Breeders The National Duroc-Jersey Record Association with headquarters at Peoria, Ill., has established a Service Department in connection with the office of Mr. R. L. Hill its "field secretary" at Columbia, Mo. All persons desiring information about hogs and hog raising in general or Durocs in particular are invited to make use of this Department, and to send their inquiries either to Mr. Hill or to the home office in Illinois.

Large Scale Success with Duroc-Jerseys Among the Duroc-Jersey breeders of the Southwest, one of the most prominent and popular, not to say successful, is Mr. W. S. Bell, of Crowell, Tex., farmer, banker, owner of a grain elevator and an opera house, and member of the State Legislature. At the Fort Worth Fat Stock Show in March, he exhibited four carloads or 195 head of pure-bred Durocs, bred and raised by him, with which he took first for carloads averaging 175 to 225 pounds, first and third for carloads averaging 225 pounds and over, and the championship for carloads of fifty hogs. The champion fifty hogs weighed 19,520 (an average of 391) pounds and sold for $3,142.72 or 16 cents a pound; they were twelve to fourteen months old and were raised on a permanent pasture of sorghum, Bermuda grass, and rye, wheat, or oats until time for finishing. Such success is not new to Mr. Bell, however; in 1916 he won five out of seven carload premiums, and in the last four years has won thirteen. He admits that Durocs for market are his hobby, but refuses to see why a hobby should not be

(*Continued on page 18*)

Brown Swiss Cattle

The First American Consignment Sale of

40 HEAD

Selected from the Choice Breeding Herds of

Theodore N. Vail **T. Coleman Dupont** **C. M. Marshall**
Frank Freemyer **Hull Brothers** **Dr. C. N. Dixon**

POTTSTOWN, PA.
Tuesday June 26, 1917 at 1 P. M.

The offerings will comprise 38 females and two males, all good individuals and bred for production.

This is the first sale of its kind ever staged in this country and offers all lovers of good Swiss cattle or those who contemplate the purchasing of foundation dairy stock, an opportunity to buy the best American bred animals.

For the information of those who are not acquainted with the splendid qualities of the Brown Swiss breed, the following information will be of interest.

1. Brown Swiss milk is the nearest perfect for human consumption. 2. A Brown Swiss cow holds the record over all breeds for the largest production of milk and butter at a public test away from home. 3. The Brown Swiss cows of Switzerland average over 6,000 pounds of milk per year, while all dairy cows in the United States average less than 4,000 pounds. 4. A Brown Swiss cow showed the greatest net profit in a test for economical production at the University of Wisconsin, 35 cows competing; all dairy breeds were represented.

A dinner for all visiting breeders will be served at the Merchants Hotel of Pottstown, Monday evening, June 25th. This is the occasion of a general get-together rally of Brown Swiss men and all those who are prospective Brown Swiss breeders. This sale offers a splendid opportunity for estate owners to purchase foundation stock. Pottstown is 40 miles from Philadelphia and may be reached by the Philadelphia & Reading and Pennsylvania Lines. Excellent service from Philadelphia. For catalogue and other information, address

WILLIAM S. DUNN, Sales Manager
90 West Broadway ***Phone Barclay 6092*** **New York City**

A Pet Goat Wanted

The animal to be trained for driving and to be perfectly safe around children. This goat is for a boy of six years who wishes to purchase with the goat a small carriage and harness. Address all communications to

Box No. 835, care of Country Life, Garden City, L. I., N. Y.

WELL-BRED PONIES AT WAR PRICES

Strong, sweet-tempered, for children or country place, saddle cart, or garden, from 30 to 56 inches high.

April hatched Pullets for winter layers, Barred Rock or Silver Campine.

Belgian or New Zealand Hares of delicately bred stock that are cheaper than chickens to raise and epicurean to eat

LONGLANDS FARM, **Grosse Ile, Mich. (Near Detroit)**
B. C. A. SMITH, Supt.

J. Victor Feather

The Live Stock Photographer

Expert on JERSEYS, AYRSHIRES GUERNSEYS, HOLSTEINS

Stock Farm and Estate Photographer. Everything pertaining to country life

Write at once for terms and open dates

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GLEN COVE NEW YORK

WALTER G. CHARD, M. A.

FARM ADVISER

Scientific training; Practical experience. Both are needed to avoid mistakes in planning:

FARM BUILDINGS
COUNTRY ESTATES
SELECTION OF LIVE STOCK

Experience ranges from small Wisconsin homesteader farms to big Eastern Estates; from Poultry Plants to Residence; from Fox Terriers to Draft Stallions. Owns and operates large dairy farm.

New York City Office *or* **Meadowood Farms**
Architect's Building, 101 Park Ave. **Cazenovia, N. Y.**

What They Are

HOLSTEINS

The Holstein Breeders represented on this page are recommended by Country Life. For information concerning the Holstein breed, address

COUNTRY LIFE READERS' SERVICE DEPARTMENT
GARDEN CITY NEW YORK

Where to Buy Them

Twenty Centuries of Holstein Progress

Twenty centuries of careful breeding and expert development have produced and preserved **the magnificent size, vigor and vitality of the purebred Holstein-Friesian cattle.** They are such big, handsome, healthy and kind looking creatures that they are the most attractive of all dairy breeds on the gentleman's estate. To the owner who takes pride in showing his animals, they are a source of continual pleasure, for their great characteristic virtues have not been sacrificed for the abnormal production of butterfat. Then, too, their economic and large production of milk and butter insures a sound financial basis for the dairy.

HOLSTEIN-FRIESIAN ASSOCIATION OF AMERICA
F. L. HOUGHTON, *Sec'y.* 61-H AMERICAN BUILDING, BRATTLEBORO, VERMONT

THE BEST IS CHEAPEST

OUR KIND of PURE-BRED HOLSTEINS will put your farm on a paying basis.

We have bred and developed as many of the cows producing over 40 lb. butter in a week as all other establishments in the world combined.

OUR SADIE VALE FAMILY
stands on the top-most pinnacle of popularity
OUR HERD SIRE

KING KORNDYKE SADIE VALE 86215
is recognized as
THE LEADING SIRE OF HIS GENERATION

Send for proof of this statement and information concerning his get and other relatives in our herd. QUENTIN McADAM
BROTHERTOWN FARMS, 23 South Street, UTICA, N. Y.

VANDERKAMP FARMS

HOME OF
JUDGE SEGIS

Son of the Great King Segis whose sons sired World's Champion 50 lb., 46 lb. and 40 lh. cows.

JUDGE SEGIS is the only sire of the breed at 5 years of age to bave a Jr. 3 year old and a 21 lb. yearling daughter. He has now 24 daughters, one Jr. 4 year old 3385, one 2 year old 2855 and a yearling 2214.

Judge Segis

WE HAVE A NICE LOT OF BULL CALVES 2-5 MONTHS OLD FOR SALE from good A.R.O. DAMS at prices low enough so that you you can afford to raise one to serviceable age.

Write us for description and prices

HERD TUBERCULIN TESTED ANNUALLY AND FREE FROM DISEASE
F. C. SOULE & SONS SYRACUSE, N. Y.

GRAYFIELD FARM

GREENWICH, N. Y.

Has at the head of its herd one of the choicest sons of Pontiac Korndyke. Sons and daughters for sale.

HARRY C. GRAY GREENWICH, N. Y.

BROAD MEADOWS FARMS

PAWLING, N. Y.

200 Holsteins The new home of "Pietje 22d's Son" a bull we believe second to none. Now has 29 A.R.O. daughters. Four 30-lb. to 34-lb.

Other herd sires "King Pontiac Lyons DeKol" and "Sir Pieter Lyons." Write us.

PAUL T. BRADY, *Owner* HENRY E. LEE, *Herdsman*

LORENZO FARM

CAZENOVIA, N. Y.

Inquiries asked for A. R. O. Cattle.

CHAS. S. FAIRCHILD

MEADOWOOD FARMS

PUREBRED
HOLSTEIN-FRIESIAN DAIRY HERD
High class stock at reasonable prices
W. G. CHARD, Prop., A. L. SHEPHERD, Mgr.
Cazenovia, New York

The National Guaranty Sale

WORCESTER, MASS., JUNE 7-8, 1917

150=Pure Bred Holsteins—150

THE CHOICEST LOT OF CATTLE EVER OFFERED FOR SALE

Last year in our first sale at Detroit, Michigan, 140 Holsteins were sold for $155,090, an average of $1,107.78.

This year we have a higher class of cattle, the best selections that could be made from the herds of over 40 leading breeders from a dozen states.

FACTS WORTHY OF STUDY

In the National Guaranty Sale the following will be sold:

- 14 cows with records of 30 to 38 lb.
- 32 daughters of 30 to 46.84-lb. cows.
- 18 sons of 30 to 46.33-lb. bulls.
- 3 sons or daughters of 40 to 46-lb. cows.
- 15 head sired by sons of 40-lb. cows.
- 15 head sired by 5 different bulls, that have 40-lb. to 50-lb. daughters.

More 30-lb. cows and their sons and daughters than were ever sold in any other sale.

More sons and daughters of 40-lb. cows than were ever sold in any other sale.

Never before has a son or a daughter of a 46-lb. cow, or an animal whose two nearest dams averaged over 42 lb. been sold at either private or public sale. We have a daughter of the world's-record 46-84-lb. 4-year-old—the second highest record cow of the breed, and a son of Ormsby Jane Segis Aaggie (46.33 lb. at 6 years; 44.42 lb. at 4½ years), the world's champion milk-and-butter producer. This young bull is sired by the $25,000 bull, Rag Apple Korndyke 8th (sire of the world's record 2-year-old, and a son of a former world's champion). *He is the most outstanding youngster ever offered for sale.* He will make a fortune for the lucky purchaser, as he represents *an absolutely exclusive combination.*

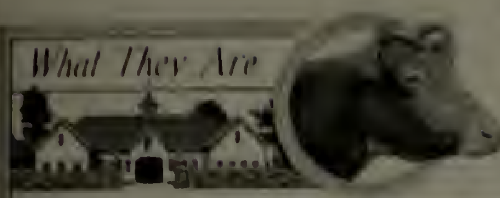
All the great sires are well represented in the sale.

The offerings have been personally inspected by the Sale Director, and not a single poor individual has been accepted.

A 60-day guarantee against tuberculosis covers all offerings in this sale. The catalogue is now ready. It is illustrated profusely, and is Sent Only on Request. Address

H. A. MOYER, *Sale Director*, SYRACUSE, NEW YORK
THE NATIONAL HOLSTEIN-FRIESIAN SALE COMPANY OF NEW ENGLAND

Catalogue and Publicity by E. M. Hastings Company, Lacona, N. Y.



GUERNSEYS

The Guernsey Breeders represented on this page are recommended by Country Life. For information concerning the Guernsey breed, address

Country Life Readers' Service Department
Garden City New York

Langwater Farms
GUERNSEYS

The Kind Langwater Produces

Langwater Dairymaid sold for $6,1[illegible] at sale on October 1[illegible], 1916—the highest price ever paid for a Guernsey Cow. Her blood is being continued at Langwater Farm through her son, Langwater Steadfast.

75 head of Langwater Guernseys sold, October [illegible]th at auction made an average of [illegible]75, establishing a record in the dairy world.

Bull calves of this blood for sale

For particulars apply

William Grant, Supt. North Easton, Mass.

Sunnybrook Guernseys

[illegible] National Show [illegible] Sunnybrook

A distinct family of high producing animals of correct type.

A. R. Records average 5[illegible] lbs. fat, with increases in progress

A few choice animals usually for sale

Herd regularly tuberculin tested

CHARLES D. CLEVELAND
Box 21 Eatontown, New Jersey

Harbor Hill Guernseys

Clarence H. Mackay, *Owner*

A Healthy Herd of High Producers

Young Bulls of A. R. Breeding, for sale. For pedigrees and prices address

C. H. HECHLER, Supt., Roslyn, New York

PASTEUR LABORATORIES **Rat Virus**

For the destruction of RATS, MICE, and MOLES, by a special virus [illegible] disease peculiar to these animals. Harmless to human beings, [illegible] animals, poultry or game. Not a poison. [illegible] INTRODUCED BY US TEN YEARS AGO. If your dealer cannot supply you, order from us.

PASTEUR LABORATORIES OF AMERICA
New York, 366 W. 11th St. Chicago, 17 N. La Salle St.
Laboratoire des Vaccins Pasteur [illegible] l'Etranger and Institut Pasteur, Paris Biological Products

The Mixter Farm
300 Guernsey Females

Yeoman's King of the May, 17053 Sire Yeoman A. R.

Dam Florham Daisy, A. R. Full Sister to King of the May

Young bulls for sale at reasonable rates. It will pay you to visit our herd.

J. S. CLARK, Supt., Hardwick, Massachusetts

The Oaks Farm Guernseys

Senior Herd Sire
MAY KING OF LINDA VISTA, 17946
Junior Herd Sire
DON IAGO OF LINDA VISTA, 28387

Nuggets Primrose, 48835

The Leading Two-year-old Milk Record of the Breed
15,436.10 lbs. Milk 705.56 lbs. Fat

Several Bull Calves and a few Young Heifers of choice breeding for sale

THE OAKS FARM, COHASSET, MASS.
C. W. BARRON, Owner Address W. S. KERR, Manager

Guernseys

represent in the dairy world a combination of

Productiveness and Prolificacy, Beauty and Vigor, Quality and Ruggedness

and for their owners

Profit and Pleasure

Write for free illustrated descriptive booklets

THE AMERICAN GUERNSEY CATTLE CLUB
BOX C. L. PETERBORO, N. H.

Edgemont Farms

Offers yearling Guernsey herd bull of May Rose breeding—his dam, two granddams, and four great granddams all A. R. and the records of the seven average 729 lbs. fat—also few females. Write for particulars and prices.

T. E. HYDE, Bloomsburg, Pa.

Woodland Farms

Herd sires, King Masher 11084, King Masher 8th, 20973. We have for sale bull calves out of A. R. cows. For further particulars inquire of

W. B. JONES, Supt.
Drawer O. White Plains, N. Y.

The above photograph shows the prize winning Get of Sire Group exhibited at the National Dairy Show of 1916

Upland Farms offers bull calves sired by show winning bulls of distinctive breedings.

We have a few females for sale from time to time

Our herd won more prizes at the National Dairy Show than all the other Guernsey Breeders of New England.

Ribbons won at the 1916 Show Circuit

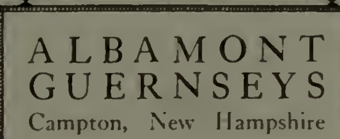
UPLAND FARMS
IPSWICH MASS.
Benj. F. Barnes, Mgr. F. P. Frazier & Son, Proprietors

BEAVER RIDGE FARM GUERNSEYS

HERD BULL:
Modele's Jolly Lad 20552 Grandson of King of the May and Masher's Sequel. Dam, Imp. Modele 26628—626.66 fat.

Pearl Rose of the Glen 47414 12,378.8 lbs. milk, 711.43 lbs. fat. The third highest producing two year old in the United States.

HENRY W. HOWE, *Owner* WM. H. SANDERS, *Manager*
Bedford Hills (Westchester County), New York



ALBAMONT GUERNSEYS
Campton, New Hampshire

Home of Albamont Ever-bearing Strawberries

100 Strong, Hardy Plants, either Superb or Progressive, sent post paid on receipt of $2 cash with order.

Gerar Guernseys

Herd founded 1890. *A. R. Work started* 1912

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(*Continued from page 13*)

profitable — which he finds that properly managed Duroc-Jerseys certainly are.

Another representative Duroc-Jersey breeder, and also a money-making rancher, is Mr. D. Schilling of Chicago, erstwhile saddle-horse enthusiast but now a breeder of Hereford cattle and Mammoth jacks as well as hogs. On his J. O. D. Ranch at Aroya, Colo., Mr. Schilling handles between three and four thousand hogs each year, the outstanding individuals being kept in the breeding herd, and the rest sent to market. When he first went in for Durocs he purchased registered animals, and he has kept the herd registered ever since, with gratifying results. In the last nine months he has put a new top on the Denver market three times; on April 19th he topped it by 30 cents, and the Chicago market by 10 cents. The methods that have brought such results are thus summarized by Mr. Schilling:

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New Ayrshire Records From J. W. Clise's Willowmoor Farm, Redmond, Wash., comes the news of a unique performance in dairy cattle annals, namely the making by twin cows, Willowmoor Blush and Willowmoor Bloom, of two year's records that averaged 14,509 pounds of milk and 671.95 pounds of fat.

Another good Ayrshire record finished about the same time but on the other edge of the continent, is that of 16,209 pounds of milk, 615 pounds of fat, made by Stonehouse Minnie at Mr. H. J. Chisholm's Strathglass Farm, Port Chester, N. Y.

CALIFORNIA STOCK NOTES

THE holding of an annual live-stock show in Los Angeles, Cal., is in a fair way of being arranged for. A number of leading citizens have subscribed to its support.

THAT pure-bred cattle are coming into their own in California is shown by some recent purchases. Mr. J. V. De Leavaga, a prominent attorney, has just purchased some registered Jersey cows for his ranch; and Mr. William Dimond, member of a large shipping corporation, has been purchasing Holsteins for his ranch. Many shipments of registered cattle, sheep, swine, and mules are being made to the Hawaiian Islands, Mr Aubrey Robinson of Makaweli being especially active along these lines. Also many sales of California animals are being made to South American points.

THE Blackhawk Stock Farm of Burlinghame, Cal., is preparing to move to its new and larger breeding site at Diablo, Contra Costa County, at the base of the mountains. Upward of $150,000 has been spent in developing this ranch, which is now well known for its Shire horses and its dogs. At the new ranch, Shorthorn cattle, Berkshire and Mulefoot hogs, and Cornish Game and Black Minorca poultry will be added to the breeding stock.

PROBABLY the biggest California Holstein sale on record will be held June 5th, 6th, and 7th at Vina, Tehama County, when the Leland Stanford herd, numbering 400 head, will be dispersed.

MARK REQUA, one of Oakland's prominent men of affairs, paid $1,500 for the boar Star Leader bought from the University Farm at Davis, Cal. The boar won Junior Championship at the Panama-Pacific International Exposition.

THE well known Charles C. Moore Ranch, situated in what is known as Anderson Valley in the extreme northern part of the Sacramento Valley, will respond to the call of the United States Department of Agriculture for increased crops this year by growing a second crop of grain and forage sorghums upon 400 acres now in barley. The owner of this ranch was president of the Panama-Pacific International Exposition.

MR. E. A. Gammon, a highly successful pear grower of Hood, Sacramento County, has just purchased from the D. O. Lively Stock Farm, a pure-bred herd of Hampshire sheep.

ITEMS OF INTEREST

THE Broad Meadows herd of Holsteins, at Pawling, N. Y., owned by Mr. Paul T. Brady, has recently been increased by the purchase from the Riverview Fruit and Stock Farms, Hartwick Seminary, of the following: Butter Boy Buttercup Lady Perfection, Lady Buttercup Segis, Soldine Aaggie Korndyke, Topsy, Korndyke Lass 2d, Lady Buttercup Korndyke, and three other individuals.

THE news that Maple Farm of Midlothian, Tinley Park, Ill., the estate of the late Charles D. Eltinger and the home of a splendid Guernsey herd, was recently bought by Mr. E. V. Maltby of the Chicago Board of Trade, calls to mind the additional information that Mr. Walter A. Cook, formerly Manager of Mr. Eltinger's farm but for the last two years Agricultural Agent for Hartford County, Connecticut, has lately resigned to become superintendent of Dr. B. A. Cheney's Falcon Flight Farms, Litchfield, Conn. This is also a Guernsey establishment in which the dairy, as well as all the other farm activities, are on a strictly business basis.

NORWOOD FARM, the estate of Mr. Mortimer L. Schiff at Oyster Bay, Long Island, suffered the loss of its main cow barn, horse barn, hay barn, implement sheds, and herdsman's cottage by fire early in March. None of the horses was destroyed and but one of the valuable herd of Guernseys was lost; this was a young bull calf which died from exposure.

FLINTSTONE BELL BOY, a stalwart grandson of Doris Clay, who holds the world's record for milk production among Milking Shorthorns, has been placed beside the well known bull Waterloo Clay, at the head of the large herd on Mr. F. G. Crane's Flintstone Farm, Dalton, Mass.

HAWTHORN FARM, Lake County, Ill., owned by Samuel Insull, has purchased of Walhalla Farms of Middleburgh, N. Y., the Brown Swiss herd bull Octavius. He was sold by

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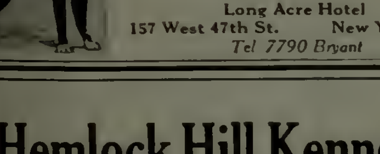

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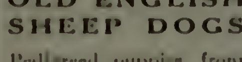

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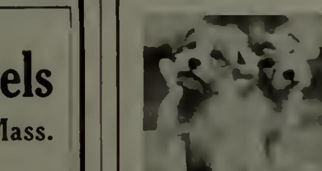

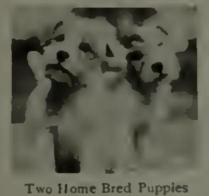

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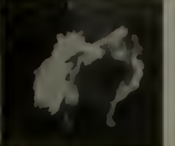

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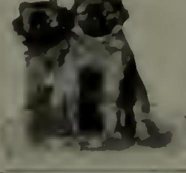

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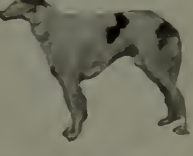

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(Continued from page 19)

horse breeding, had the temerity to exhibit a Hackney stallion with a full tail in a large class of docked entries, and the judges threw their inborn prejudices to the winds to the extent of awarding the horse second prize. This marks the initial recognition of long-tailed Hackneys in English horse-show history, although breeders of other varieties, such as race horses, heavy carriage and coach horses, hunters and "bloodline" saddle horses, have, for many years, frowned upon the pernicious custom of amputating tails. Inasmuch as the Prince of Wales has given a fillip to the new idea, we shall doubtless see in the near future many long-tailed or, perhaps, bang-tailed Hackneys in competition.

The brutal disfiguration of riding and driving horses has been in vogue since the time of Charles II, and specifically dates from Lord Cadogan's suggestion to that "Merry Monarch" which resulted in the chopping off of tails of dragoon mounts to prevent the splashing of gold-laced uniforms and, incidentally (or primarily) to harmonize the equine caudal appendage with the short wigs and pig-tails of the bèribboned cavaliers in the court of the Stuarts.

Next came the turning of bob-tails into plug-tails, by cutting away all the hair from the last two or three inches of the stump. To balance this disfigurement of the hind quarters, some monster then devised the additional barbarity of cropping horses' ears. Coach horses were frequently so mutilated during the halcyon days of the "flying" mails (1815-1840) when there were as many as half a hundred coaches on the Great North Road—literally a coach about every hundred yards down Barnet way, where 194 went clattering by the cosy old inns. The horses were largely of the blooded type, and many a four-mile "stage" was negotiated inside of twelve minutes.

The docking of riding nags and carriage high-steppers has become common in recent years, and even heavy draught horses have been deprived of their tails with the object of giving them the short, chunky appearance deemed acceptable by some crack-brained horse "copers" and tricky grooms. As a matter of fact, docking is ridiculous, aside from the looks of the thing, in that any animal with a cropped tail is as inefficient as a ship without a rudder.

Gray Horses In the Army Another distinct departure from the general order of things at the London Show, which will no doubt also find its reflection at the New York National and other exhibitions in this country, was the judicial approval of a gray saddle horse as suitable for military purposes. Again it was an entry made by the king's son—the powerfully built Hackney, Findon Gray Shales—and again second prize was awarded.

It has long been customary totally to ignore animals of gray or white tint for army use because they are too easily distinguished by enemy marksmen. Under present war conditions, when many miles intervene 'twixt gunners and their quarry, it does not much matter what color horses may be.

The Present War Needs The wholesale slaughter of army horses in Europe, and the scientific methods of warfare adopted, have necessitated several changes in the character of horses called for. At first light cavalry mounts were assembled; then medium-weight horses were wanted for the rapid movement of artillery; of late mostly heavy weight draught horses and mules have been requisitioned to haul immense loads in the rear of contending armies. Thus, what are known in our Western markets as "chunks" have been shipped in vast numbers, including many grays and steel roans.

The Canadian army remount authorities seem to stick to horses of light racy or hunting pattern, judging from information recently given out by Colonel Sir Adam Beck, prominent exhibitor of hunters at English, Canadian, and American shows since 1894, and director of army mounts when the war broke out. He recommends the placing of thoroughbred and hunter sires at remount depots throughout Canada, the permitting of free stallion service to farmers' mares of trotting and coaching types, the taking of offspring (unbroken) when three years old at a uniform price of $200, and the advising of farmers by competent military inspectors as to whether or not their colts, at two years old, are developing into likely prospects for army use. This last provision would give farmers the chance to train

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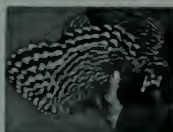

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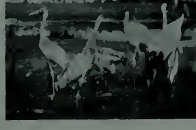

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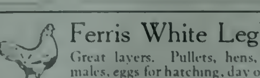
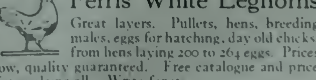

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Sea Warfare

is Kipling's picture of the other seven-eighths, so far as it concerns the great drama in the North Sea. Unforgettable scenes these, of men and boats and things not in the dispatches. In three parts: "The Fringes of the Fleet," "Tales of 'The Trade'" and "Destroyers at Jutland." Five new Kipling poems included. (Net, $1.25.)

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By **Ernesta Drinker Bullitt**

Von Bissing, was her dinner partner.

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Countess Von Bernstorff asked her to tea.

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their colts, if not of army stamp, for ordinary riding and driving purposes.

Canada having been practically denuded of army remount prospects, the light horse situation there has become alarming, and something must be done quickly to encourage farmers to breed the needed stock.

Hackney Breeders' Opportunity It needs no prophet to see that Hackney breeders can take the whip hand in producing for army purposes, if they can be awakened to the actual situation. They have foundation stock of the chunky, ride-and-drive pattern, that can pull moderately heavy loads without apparent effort, and trot away with them. Their stallions give size, bulk, and character, aside from action (which may or may not be desired) and their mares being of good length and width and set on short legs, are ideal breeding machines for supplying medium weight military horses adaptable to about every purpose. There should be found upward of 5,000 Hackney mares and about 2,000 Hackney stallions of all ages in the United States to-day, and probably many more can be imported from England if buyers here are quick enough to gather them in—always provided that English army authorities have not already claimed everything in sight as well as *in utero*.

Another Retirement to Private Life The recent relegation to stud of the world-famed Hackney pony stallion, Irvington Model, who was purchased about two seasons ago for $3,000 from his breeder, Mr. W. D. Henry of Sewickley, Pa., by Mr. James Cox Brady, owner of Hamilton Farms, Gladstone, N.J., marks the close of a series of competitive trials between imported and American bred ponies such as may never occur again in this country. It is well understood that quite a collection of England's best ponies have been drawn away from the mother country, and that nothing surpassing what is already here can now be bought from English breeders. This accounts for the widespread interest taken in the private distribution of Mr. Charles R. Hamilton's Fairview pony stud of Devon, Pa., the best of which stock will doubtless find new owners at tip-top figures during the current month, leaving perhaps only a few select specimens for the Hackney Day sale on June 1st.

JUDGES' decisions at the Brooklyn and Durland (New York) indoor horse shows involved several surprises that are likely to influence competition all summer. The almost total eclipse of the much heralded Kentucky saddle horses, Johnnie Jones and Jack Barrymore, was a lamentable setback for the advocates of the long-tailed registered riding horse. But after all, the former, though captivating and flashy, seemed more inclined to rack and single-foot than to walk, trot, and canter; while the latter, although a striking individual of pronounced substance and style, appeared stout enough to warrant Percheron-Arab or even "accident-out-of-pasture" ancestry in the sixth remove.

THE Association of American Horse Shows, of which the plans were outlined in the New Country Life for April, has just completed its incorporation. Its aims are, briefly, to create universal acceptance of show conditions, enforce uniform rulings, restrain balky exhibitors, chronic protesters, and self-appointed "arrangers," adjust dates, smooth out difficulties between authorities, and last, but by no means least, assign either amateur or professional judicial committees whose word will be accepted without question as final. If this last and seemingly Utopian project fails to achieve results, may the writer suggest an appeal to some of the prime old veterans whose nod is as good as their bond, and whose quarter century or more of experience fits them to pass upon the sensational pets of the younger brigade? Whatever comes, save us from the judges from over the water—this without the slightest thought of disparaging those same men who have done so much for American breeding and showing. This country has long discarded its swaddling clothes in the matter of horse, cattle, and dog breeding generally; if we have not also by this time produced a few judges with courage, conviction, ability, and inspiration we would better get out of the competitive field.

A. H. Godfrey.

THREE HUNDRED PEOPLE WITH DAHLIAS AS A HOBBY

JUST about two years ago, in fact in May, 1915, a little band of twelve dahlia enthusiasts met in New York City at the suggestion of Mr. Richard Vincent, Jr., of Whitemarsh, Md., and founded the American Dahlia Society, "for the purpose of stimulating interest in and promoting the culture of the dahlia; to establish a standard nomenclature; to test out new varieties and give them such recognition as they deserve; to study diseases of the dahlia and find remedies for them; to disseminate information relating to this flower; to secure uniformity in awarding prizes at flower shows; and to give exhibitions when deemed advisable."

To-day the Society has a membership of more than 300, and on its rolls are dahlia lovers from every walk of life, from nearly every state in the Union. A few from Canada, Holland, and other countries add proof to the broad interest which has been created.

The writer, who was one of the founders and also the first Secretary of the Society, has been amazed at the intensity of the enthusiasm that has been manifested in it since its inception. From the wealthy connoisseurs, having at their disposal unlimited acres and means, to the humble backyard gardener, the wave of interest has spread.

In the two years since its organization the Society has held two exhibitions, the first a four day show in September, 1915, at the American Museum of Natural History, New York City through the kindness of its trustees and in co-operation with the Horticultural Society of New York—and this less than four months after the Society was organized. There were at that time a total of 175 charter members.

In September, 1916, another exhibit was held in New York through the coöperation of the American Institute.

Both exhibits were very well attended—in fact the writer believes that the attendance was in each case the largest of any dahlia exhibition ever held in this country up to that time.

The Society has established a standard classification of dahlias, by which the broad groups of horticultural flower forms, into which the species divides, are defined by name. This has already been adopted by a number of the more progressive dahlia merchants and growers, thus eliminating considerable confusion which has heretofore existed.

For the testing of both old and new varieties and the elimination of incorrect and unnecessary names for dahlia varieties, as well as the weeding out of unworthy kinds that should always accompany nomenclatural work, trial grounds have been established at the New York Agricultural Experimental Station, Geneva, N. Y., in charge of Prof. F. H. Hall, Chairman of the Nomenclature Committee of the Society; and at St. Paul, Minn. in connection with the Department of Agriculture University of Minnesota, in charge of Le Ro[illegible] Cady.

Plans are under way for other trial grounds [illegible] the Government Experimental Farm, Arlington, Va.; and, through the kindness of a member another will be established at Berlin, N. J.

An affiliation plan has been introduced through which other societies may become attached to the American Dahlia Society, to help it in its work and to enjoy some of the results and benefits accruing from it; a quarterly bulletin is published in which the activities of the Society are reported to its members. A standard medal for presentation to prize winners has been adopted, certificates and a registration scheme for new varieties introduced, and a Standard of points for judging dahlias established. Annual meetings are held at the same time as the annual exhibition and usually there are several speakers of authority present.

Nevertheless, the Society feels that it is only beginning its work. Among other things it is proposed to publish a list of 6,400 names of dahlias as a ready reference and guide to all growers. Correspondence is being instituted with other dahlia societies all over the world. The dues of membership are $2 per year.

The present Secretary is Mr. J. Harrison D[illegible], 1426 Seventy-third Street, Brooklyn, N. Y.

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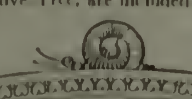

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You may be planning to redecorate or replenish your present residence or to decorate and furnish a new home this season and in this connection Mr. Marshall would be very glad to have you consult him for ideas and suggestions which he is prepared to 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.

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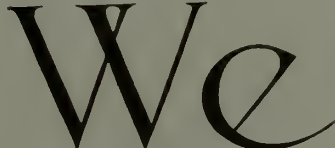

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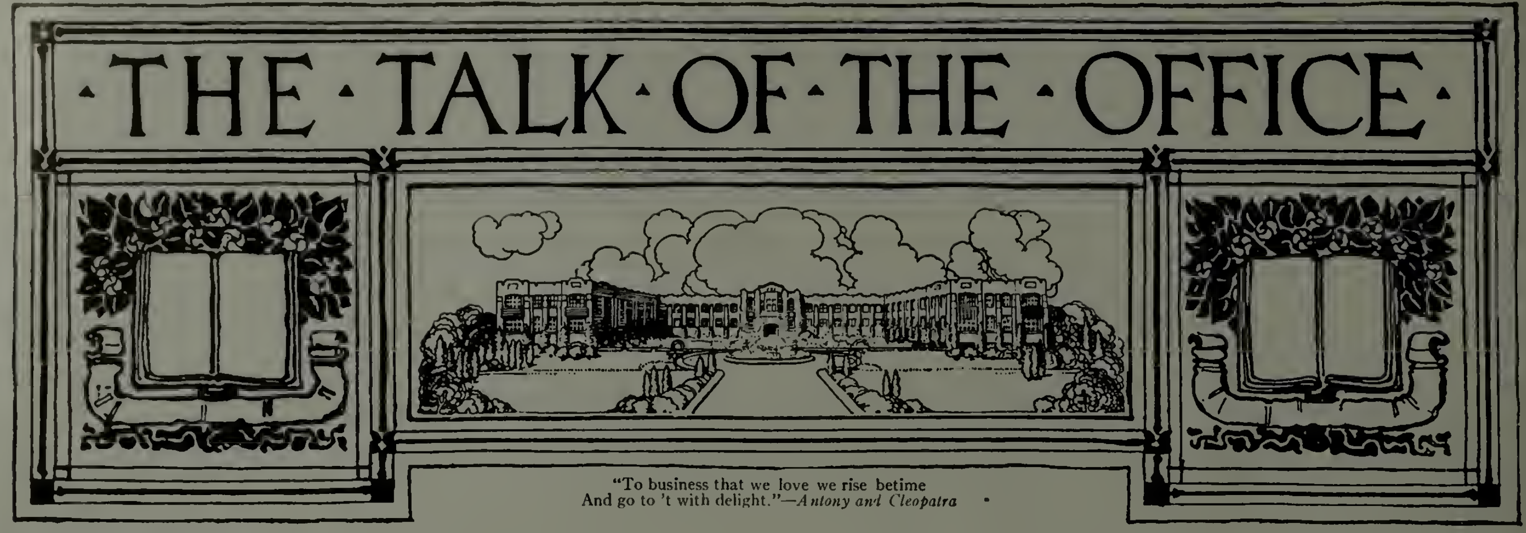

"To business that we love we rise betime
And go to 't with delight."—*Antony and Cleopatra*

FRANCIS R. BELLAMY
Author of "The Balance"

GETTING STARTED

Do readers of books, we often wonder, realize how difficult it is to get attention to the work of a new novelist, no matter how good? Thousands of new books are published each year, and each publisher insists in large type (if he can afford it) that his particular book is vastly superior to all the rest. It is not to be wondered at that the dazed reader is worried and indifferent. Yet a new author has got to make his way, and if he deserves attention, he will, in the end. Such a writer, in our opinion, is Mr. Francis R. Bellamy, and his novel, "The Balance," will yet take its place among American novels of a high order.

We could quickly tell you the story of "The Balance," which has a real idea at its base, but would that do any good? We should like to ask the readers of this page if they will not trust us to this extent: will you not go to your bookseller and look at the book and ask about it? We have two bookshops—one at the Pennsylvania Station in New York (32nd Street), and another in the Lord & Taylor store (38th Street & Fifth Avenue). We mention these two places specially only because our book people can tell you more about this book than the clerks of most bookstores can. Another place where the book is well appreciated is in the bookstore of Messrs. Marshall Field & Company, Chicago. Some one there (Miss Burns can tell you who) has a special interest in "The Balance." If you have no bookstore near you, send to us, or go to your library.

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JOSEPH CONRAD

If you like this author's books as the best literary authorities do, you will be glad to know of a new novel called "The Shadow Line." It is Conrad at his very best. In a leading article in The New York *Times*, a critic urges his readers to get this book because "the time is near when he shall come into his own." This we have always believed, and we are proud to say that in the last few years we have seen the sale of his books double, and the end is by no means in sight.

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has just published a new book of stories, "A Diversity of Creatures," the first for seven years, when that exquisite book, "Rewards and Fairies," was given to the world.

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THE PRESIDENT'S SPEECH

delivered on April 2nd, has been republished by Doubleday, Page & Company in a form which is suitable for keeping in one's library. In boards, 50 cents; limp leather, $1.00.

THE BOY SCOUTS

are fast becoming a most important element in our social life. The official Handbook for Boys is just going to press for the sixteenth time, and the new edition is 100,000 copies. The first publication was in 1910. Since then it has been revised and improved many times, and when this new printing is off press 865,400 copies will have been printed. It contains more than 500 pages, is strongly bound, covers every subject interesting to men and boys, and sells for 35 cents.

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What does a naval battle look like? Kipling, in "Sea Warfare," gives a graphic touch:—"When a lot of big guns loosed off together, the whole sea was lit up and you could see our destroyers running about like cockroaches on a tin plate." In "Sea Warfare" Kipling penetrates to the kernel of the English naval mind. Submarines, trawlers, destroyers, scouts, cruisers—he knows them all, and shows them in action. The men that run them are a breed apart—"double-jointed, extra-toed, with brazen bowels and no sort of nerves." They face death more readily than praise. The story of their dealings with the Boches is more thrilling than any fiction—and as Kipling says, "there might be worse things in this world for decent people to read than such records."

If you are interested in the Navy, ask your bookseller to show you "Sea Warfare."

O. HENRY AGAIN

As Professor Leacock has said, "These are O. Henry days." The large sales of O. Henry's volumes in England and Canada recently have led to the publication in London of Professor C. Alphonso Smith's "O. Henry Biography." The London *Times* in reviewing Professor Smith's book comments on O. Henry's universal appeal:

"We find him as acceptable to William James, who called him 'bully,' as to the shop-girl who, no doubt, called him a pragmatist."

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The publication of Mr. McFee's novel, "Casuals of the Sea," has been a peculiarly interesting adventure. If Mr. McFee had been among the haunts of literary folk last winter his head might well have been turned by the praises of the reviewers. But on board his refrigerating ship, cruising between Salonika and Port Said, keeping the troops of the Allies supplied with frozen mutton, he has had more urgent matters to think of. But the reviews have been of great interest to us. Hardly ever, in our knowledge, has a novel by an unknown writer met such generous applause.

The prize contest for the best essay about "Casuals of the Sea" brought in more contributions than we had expected. Nearly 300 essays reached us. They are now in the hands of the judges and the award will be made as soon as possible. Looking over these essays, this comment by one writer stuck in our mind:

"If Abraham Lincoln could have written a Romance, I think he would have written 'Casuals of the Sea,' or something very like it."

OUR NEW GARDEN AT THE PRESS

This department devotes itself to saying pleasant things about our own books and magazines, in the hope of interesting others in these productions which so greatly interest us. Occasionally, however, we must have a little respite, and such an occasion arises now to tell our readers and friends that we are just about to complete at Garden City an Evergreen Garden which we think is very interesting. It contains in all about one hundred and fifty different species and varieties. The design was suggested by a favorite garden friend and is modeled on the lines of a famous European garden. We think it, in its way, quite unique. It would be a pleasure if you would come and see it, and any questions which anybody wishes to ask about it will be cheerfully answered.

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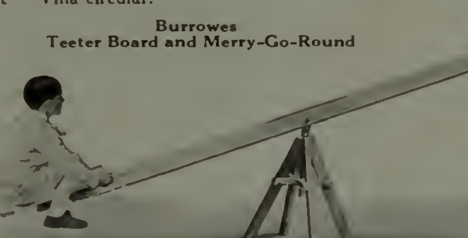

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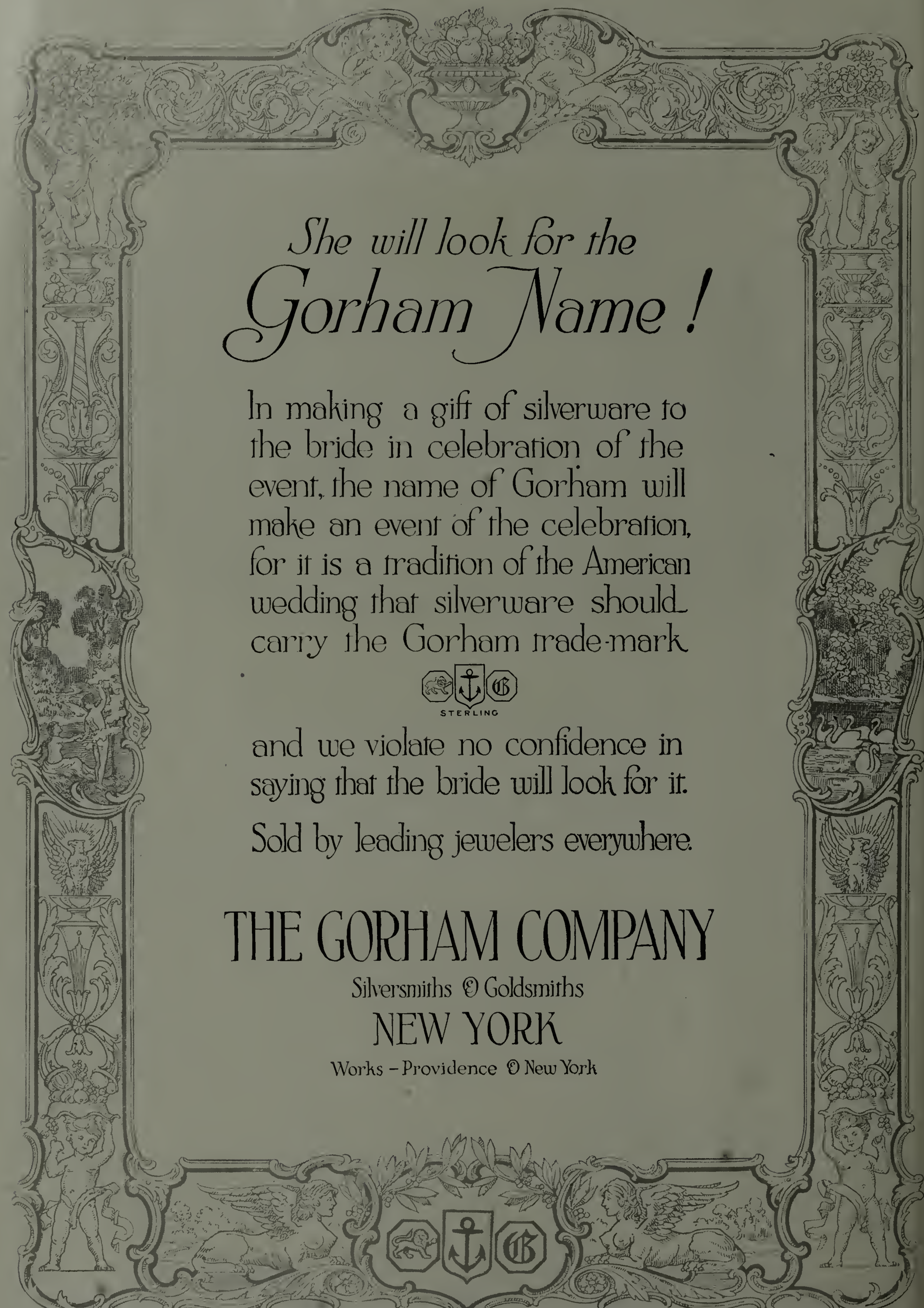
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The New Country Life

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Comet. An aster-flowered novelty which originated on the Pacific Coast

Conqueror. This incurved type is much admired by the English breeders

Countess of Lonsdale is perhaps the best known of the Cactus dahlias

H. Wearing. A typical Cactus type, with beautiful autumn coloring

Lawine. A most refined flower, and one that is highly prized for cutting

Gelber Prinz is a splendidly colored flower—a great German favorite

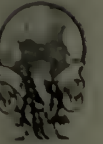
Marguerite Bouchon. At its best, this is probably the finest straight-petaled Cactus dahlia

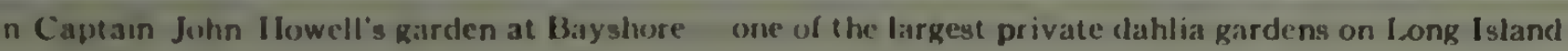
Miss Stredwick. Daintiest of flowers in striking colors, but often late

Marguerite Philips. An ideal exhibition flower of the utmost beauty and delicacy

The New
Country Life

Volume XXXII — June, 1917 — Number 2





In Captain John Howell's garden at Bayshore one of the largest private dahlia gardens on Long Island

A COLOR MANUAL *of* MODERN DAHLIAS

By F. H. HALL

Chairman, Committee on Nomenclature, American Dahlia Society; Vice-Director, New York Agricultural Experiment Station

Color Illustrations drawn by Jane Donald, Maud H. Purdy, Mary Eaton, and Herbert Brown

ANY Americans may not know it, but the fact is that we are indebted to Mexico for a wonderful group of most brilliant flowers. When the Spaniards first invaded that unfortunate land they passed, on her mountain sides, probably with little notice or none at all, some straggling plants with red, yellow, or purple blossoms, small hough bright, apparently little more promising than our roadside eed, the beggars' ticks, to which these Mexican plants are closely llied.

Who would have believed, then, that from these insignificant lossoms man could develop, in little more than a century and a uarter after he first really *saw* them, such wonderfully differing rms, such striking variations in size, and such colors and color ombinations as are at least suggested by the color plates which il- istrate this article? Yet the Mexican *acocotli*—the ancestors of ur beloved queen of autmn's open-air flowers, the dahlia—were so ghtly regarded by both natives and invaders that so far as we now no reference was made to them in all the literature of the rst century of Spanish occupation of Mexico, and only twice were they mentioned in nearly two centuries after Hernandez first called attention to them in 1615.

Not until 1789 did any of them reach Europe, but in that year Vicente Cervantes, Director of the Mexican Botanic Garden, sent seeds of *acocotli* to Abbé Cavanilles, Director of the Royal Gardens at Madrid. The seeds sprouted and the plants thrived. The brilliance of the flowers produced, and their lightness and grace, pleased the Abbé, and he continued the culture of the new garden ornaments.

A botanist as well as a flower lover, Cavanilles described the newcomer, calling it "dahlia" in honor of Andreas Dahl, a noted Swedish plant student, and *pinnata*, because its leaves are pinnate, or winged. He later named two other forms as *D. coccinea* and *D. rosea;* and several other species have since been found in Mexico and South America. Indeed, the botany of the group is very much involved, but horticulturists and florists have taken an easy way out of the confusion and have used for the whole collection of garden dahlias, as we have them to-day, Linnaeus's name for part of the group, *Dahlia variabilis*, the changeable dahlia. For changeable, in truth, the plants have proved to be!

America. A popular dahlia of the Cactus type, typically variegated and handsome

Pierrot. A most exquisite color combination—deep amber boldly tipped with pure white

Mrs. H. Randle. An exhibition flower of the Cactus type, beautiful, refined, and dependable

Rene Cayeux. "Cut and come again." One of our most reliable and popular reds

Snowdon is pure white, and assuredly "a gem of purest ray serene"

Richard Dean. It would be difficult to conceive of a flower more strikingly handsome

Alpha. Of the Cactus type, this dahlia is particularly useful for cut flowers.

Galathea. A typical hybrid Cactus of delicate beauty; good for cut flowers or for garden decoration

Attraction. This was one of the most admired types of the past season

George L. Stillman. A striking American creation, especially desirable for exhibition and garden purposes

Uncle Tom is well named, for it is one of our darkest dahlias. Very pleasing

Kalif. A typically massive flower from Germany. Individual blooms frequently measure nine inches across

Master Carl. A hybrid Cactus dahlia, broad petaled and substantial, and most wonderfully colored

Dr. H. H. Rusby. Colorado presents this beauty for garden and vase

Wodan. Massive, but lightened by beautiful coloring, shading from salmon rose to old gold

F. R. Austin. Of the Peony-flowered type, equally useful for garden decoration or for cut flowers

Dr. Peary. A wonderful dark flower, good in massive or lighter form

Geisha. Probably the best known of our modern dahlias. Striking and eminently satisfactory

In Mexico, the flowers were, and are in the wild to-day, single blossoms, small to medium in size, with from five to eight or more so-called petals. These are really floral rays, for the dahlia blossom is a compound one and each "petal" marks a separate flower in the head. Cavanilles had grown the plants only a year, though, when he noticed a tendency toward doubling; and since that time, change after change has marked the history of the flower—a series of surprises and of planned improvements that furnish the dahlia breeder with all the excitement of treasure hunting, all the delight that lies in creating new beauty.

The dahlia now shows blossoms an inch in diameter, single as in its ancient home in Mexico, or doubled to a perfection and regularity known in no other group. It also bears blooms three quarters of a foot across, single, semi-double, or fully double. These giants may have wide petals, rounded at the tips almost to perfect semicircles; or narrow, straight, and pointed florets that make star-like flowers—stars conventional with but few rays, or stars hundred-rayed like the twinkling beauties of the skies. On the other hand, the flowers, large or small, may be built from curled, twisted, interlaced ribbons or gracefully tubular petals of delicate beauty, making globes as intricate as the most perfect chrysanthemum. Still other shapes are shown, giving forms more diverse than those in any other group; and each of these different forms may display practically every color in the rainbow except blue, with all the hues, tints, shades, and combinations of these colors—without doubt our most brilliant floral gems. The dahlia is wider in color range than the chrysanthemum, brighter in some hues than the rose, vies with it in delicacy, and exceeds it in the number and striking effect of the color combinations. It also furnishes almost perfect duplicates, in form, size, and color, of some types of cosmos, daisy, poinsettia, clematis, anemone, zinnia, aster, water lily, cactus, peony, cineraria, and chrysanthemum, and adds to the wonderful collection some forms and colors peculiar to itself.

Nor is it the flowers alone that vary; for the plants may range from dwarfs a foot or so tall to giants that raise their heads twelve or fifteen feet above the soil. The foliage may be soft, yellowish green, possibly variegated with white, dark bottle green, or deep reddish bronze. It may be as coarse as leaves of beet or cabbage or as finely cut as those of ferns.

Some varieties produce only a few perfect blossoms late in October, though they are well worth the long season of waiting, for their beauty of color or perfection of form; other plants are a mass of color for three months or more through summer and fall. Many choice blossoms hide their loveliness beneath the foliage or modestly hang their heads, so that it needs the hand of a loving grower to bring them to light and reveal their beauties; with other varieties the plants flaunt their glories on long, rigid stems, far above the foliage, where they strike the eye from the very gate of the garden, though rods away.

Some dahlias, like many of the delicate, graceful, airy Singles, may hold their form and beauty for only a few hours after cutting; others remain perfect, fresh and glowing for days or even weeks, on the plant, in the vase, or made up in floral designs.

For every taste and for every use, then, the dahlia has something to offer. The amateur, growing the plants in rows through the garden or in scattered groups about its borders, finds the flowers a delight to the eye, and can be sure, from late July until frost, of gathering material for table bouquets and other home decoration. The landscape gardener can use the dahlia in many ways, because of the wonderful variety of its sizes, types, and colors, whether it be miniature Cactus, or Tom Thumb Singles for the closely massed bed, profuse-flowering Pompons or Collarettes for borders, the individual specimen or group of brilliant Cactus, or the back row luxuriance of some graceful Peony-flowered dahlia, tall-growing Show variety, or giant-blossomed Decorative. The commercial grower notes an increasing call for dahlias in many markets, and finds tens or even hundreds of acres none too large to meet the demand. Progressive florists and floral designers, in a time when other outdoor flowers are scarce and forced stock not yet on the market in quantity, find the formal types of dahlias indispensable for many purposes; and they are beginning to use the newer, more graceful forms in dozens of ways to beautify the social functions of autumn. The exhibitor, dating back to the time of the Show dahlia craze in England before the '50's, has made this flower a hobby, and exhibition dahlias and dahlia exhibitions have probably attracted more attention than the show flowers and shows of any other floral group. The displays of the first half century of dahlia history were noteworthy mainly for the almost mathematical regularity of the blooms which won the prizes, with range of color and brilliance as secondary considerations, but without the wide variety in size, type, and shape that prevails to-day—the wonderful color harmonies of the modern Cactus dahlias, the striking beauty of the giant Singles, or the graceful lightness and artistic appeal of the Peony-flowered creations of Holland. These new features make the recent dahlia shows, especially those of the past five years, a delight to the eye and a treat to every faculty, except the sense of smell, through which the flower lover secures pleasure. It may safely be said, we believe, that the dahlia is, *par excellence*, the exhibitor's flower; for displays of this wonderful group have a range in variety and kinds of attractiveness unapproached by those of any other flower. Rose shows are wonderful through the delicacy of coloring and the appealing fragrance of the widely varying types; sweet pea displays please thousands of admirers of these oddly shaped, brilliantly colored, and delightfully scented blossoms; and chrysanthemum exhibitions thrill the beholder, almost with awe, at the magnificence of these wonderful flowers; but at none of these displays will one hear such a question as is often voiced at the modern dahlia show: "But where are the dahlias?" So unlike are many of the newer types of this flower to each other and to the formal ball-shaped blossoms of the olden days, the stand-by of shows before 1880 and still the only type in many gardens, that the visitor, unacquainted with the dahlia changes of the past quarter century or so, cannot believe that all the widely different, beautiful flowers he sees are only dahlias.

Such a question as this, or the remark, "I never knew there were such dahlias," shows a most regrettable, but undeniable, ignorance of modern dahlias which it is hoped that this article and the illustrations which accompany it may do a little to lessen.

DEVELOPMENT *of the* DAHLIA

Shortly after their advent into Spain, seeds or tubers of dahlias were sent to England, but they gained no permanent foothold in that country until about 1804. Then enthusiasm for them soon became greater and progress in their development more rapid there than in either France or Germany, where they were introduced a few years earlier. The Singles were popular for a time, but the tendency of the blossoms toward doubling seemed to appeal most strongly to English flower lovers, and for nearly fifty years the one aim of breeders and exhibitors was to obtain flowers approaching nearest to perfect regularity. First came flat, broadly hemispherical forms, then true half-spheres, and finally globe-like blooms almost as perfect in outline as croquet balls, nearly as firm in some specimens, and about as attractive, to those with an artist's eye for lightness and grace. Brilliant, as shown on one of the plates, a reproduction from one of the illustrations in Hogg's "The Dahlia" (1853), represents the type of flower then popular. Indeed, this seems to be the only shape known, for the painter of Hogg's plates might have used one drawing for the form of each of the eight blossoms shown. Apparently they differ only in color. In each, the outline from the front is practically a perfect circle, every petal is like every other petal except in size, and each row of petals is as true to its line as though mechanically produced. Yet from 1820 to 1860 the enthusiasm in England for dahlias such as these almost equaled that of the earlier tulip craze of Holland. Each city and village of considerable size, and some that were hardly on the map, held an annual dahlia show; competition was intensely keen, and great sums (£200 in at least one instance) were paid for promising novelties. These were the Show dahlias, and the name still remains to indicate a present-day group. They are ball-shaped, double dahlias, with petals fully quilled, or at least with the edges rolled forward and inward. A purely artificial group of Shows was also made—"fancy" dahlias—to include the bi-colored, or multi-colored forms with lines, stripes, spots, or blotches of one color upon a ground of distinct color or tint, and also those forms tipped or bordered with a color lighter than the body of the flower. Where the tips were darker than the body color, however marked the contrast, the flower was still classed as a Show dahlia, not as a "fancy." These classes are not separated in the most recent American grouping of dahlia types, that of the American Dahlia Society, since the distinction between the two classes is arbitrary and meaningless.

Germania. Whether Duplex or Peony-flowered, its utility is not affected

Hampton Court. One of the most satisfactory of the old Peony-flowered dahlias

John Green. An English Peony-flowered type that is a strong rival of Geisha

John Wanamaker. If the pink were a little purer, this would be an ideal dahlia

King Edward. Not all admire the color of the flower, but it is admittedly striking

Mondscheibe. An excellent peony-flowered bloom from the German hybridists

Pennant. A most striking flower, enlivening the garden with its bright red and white.

Queen Wilhelmina. No queen could have a more charming namesake

P. W. Janssen. The plant displays splendidly the oddly colored blooms

Toward the close of the Show dahlia period, probably about 1850, and most likely from Germany, a small type of ball-shaped dahlia appeared, practically identical with the Show type in all respects except size, but in some cases more tightly quilled, and in color even more brilliant. They are borne on relatively longer, stiffer stems than the larger flowers, and the plants are usually more floriferous. The advent of these little gems, the Pompon, Bouquet, or Lilliputian dahlias, with their adaptability to garden decoration and to bouquet use, helped to prolong the period of dahlia popularity, but the formalism of the types, the stiffness and artificiality of the blooms, gradually ceased to appeal to any but a few exhibitors. Dahlia interest sank to a very low point from 1860 to 1870. A brief revival came with the introduction of two new single dahlias and the reintroduction of the old *D. coccinnea*, for these were brilliant and graceful; and for a time the English gardens and shows were gay with these attractive, strikingly colored, single flowers.

In the '70's, however, there came, how or from whence, biologically, no one knows, a new dahlia, which has in forty years done more to make the flower loved than all that had gone before. In 1872 Mons. J. T. Van den Berg of Dunkelaar, Holland, received from a friend in Mexico a miscellaneous lot of seeds and tubers. Most of these were rotten or otherwise useless, but among them was one dahlia tuber that produced a brilliant scarlet flower of a shape altogether different from any other dahlia known. In color, and somewhat in shape, the blossom resembled that of the showy cactus, *Cereus speciosissimus*, so this variety was called a "Cactus" dahlia, and the name is now applied to thousands of its descendants. Some botanists have given the new group a species name, *D. Juarezii*, from a president of Mexico, but other authorities believe the original form to be only a sport, or culture-induced mutation. As the illustrations of the type show, few of the blossoms now known by the name have any resemblance to cactus flowers; but it would be difficult, probably, to select another name more appropriate for a group of such diverse forms and colors. The French make a dozen types of Cactus dahlias based on form alone. Cactus dahlias are lighter, more graceful, more open than the Show type, and by their openness they give opportunity for the display of more varied color combinations. The petals at the centre of the blossoms, or the bases of all the petals, may show bright yellow, for example, the middle of the rays pink, and the tips a suffusion of pink and yellow, or pure white. In some cases, even, such a combination as this—only one of dozens similarly varied—may be made more striking by lines or splashes of brilliant scarlet or deep crimson.

The distinction between Cactus dahlias and the older types, however, lies in the outward, backward rolling of the edges of the petals. In the earlier varieties of the type this revolute rolling of the edges was not pronounced, the petals being flatter than in the true, or fluted, Cactus dahlias of to-day—more like the Cactus hybrids, Galathea or Master Carl. The English growers admired the long, narrow-petaled forms, however, and have consistently worked to secure the greatest length of ray, the closest roll of the edges, and the most pronounced incurving of the tubes, until they would seem to have reached the limit in such forms as Conqueror, Marguerite Philips, or Miss Stredwick. The French have developed star-shaped blossoms like Marguerite Bouchon, while the Germans have preferred the more massive blooms, typified by Wodan and Kalif. American growers have generally been content to profit by the work of foreign breeders of the Cactus type, but some splendid blossoms in this group have been produced on this side of the water, among them three somewhat distinct forms, Comet, Geo. L. Stillman, and Dahliamum.

Among the Show blossoms of the early days of dahlia history were some very broad flowers, with petals only slightly quilled or almost flat, less regular in the spiral arrangement of their florets, and otherwise imperfect in the eyes of the exhibition grower; and, as we have seen, among the Cactus dahlias were blossoms with petals broadening out and showing little of the revolute rolling of their edges. From these "degenerates," there has developed a rather nondescript assortment of forms—the Decoratives, which include some of the largest, most striking, most useful, and most beautiful flowers in the dahlia world. We formerly owed to France the best developed and the most attractive varieties in this group, but just now American breeders must be credited with wonderful blossoms classed here. It would hardly be just to say that Hortulanus Fiet, Delice, or Jeanne Charmet have been excelled in America; but Henry Maier, Albert Manda, Portola, and Minnie Burgle certainly prove that our breeders have nothing to learn from foreign originators of Decorative dahlias; and a dozen other varieties equally good might be added to the list.

The next form to be made prominent, if not originated, is that known as the Peony-flowered type. As with Cactus dahlias, the name does not seem appropriate, since the best Peony-flowered dahlias of the present period of exceeding great popularity for the type resemble only remotely any known peony. A much better name is one quite frequently used—art dahlias; for the true Peony-flowered dahlias are most artistic and pleasing in their graceful irregularity of form, and their harmonious colorings. Peony-flowered dahlias first gained recognition in Holland, and the honor of originating them surely belongs to that country; but when they were first introduced, some English, and even American, breeders claimed to have seen many flowers of that form among their seedlings, which they had thrown on the refuse pile as unworthy of propagation. But the type struck popular fancy, and, though less than twenty years old, probably stands first in public esteem to-day. These dahlias undoubtedly originated from crossing the Single and Cactus types, though many of those classed with them now are developments, in reverse direction, of Decorative dahlias or of the broader-petaled Cactus dahlias, without definite crossing with the older Singles. The flowers are semi-double, with at least part of the row of petals nearest the centre distinctly curled or twisted, and with more than one row beyond these of long, rathe narrow, graceful petals, flat, more or less rolled at the edges, or variously twisted in attractive spirals or curls. Probably the greater number of our best Peony-flowered dahlias have come from Holland, though breeders in every other country have striven tc "get on the band-wagon"; therefore the varieties of this type probably exceed in number the Cactus dahlias introduced since 1900 America has contributed her share, and is represented on the plate by Dr. H. H. Rusby, F. R. Austin, and John Wanamaker. Unfortunately, material was not available for illustrating the creation of one of the leading American breeders, who has added scores o names to the list of Peony-flowered dahlias. Many of the Ameri can varieties are noteworthy for their beautiful autumn-tint coloring.

About the same time that Holland was bringing out the Peony-flowered dahlia, America contributed an improved type of Single—the Century group, or Giant Singles, developed from the larg Decoratives and almost equaling them in size, but lighter, longer-stemmed, more floriferous, and with delicate colors rivaling thos of the best Cactus dahlias.

Midway between these Singles and the Peony-flowered type i the Duplex dahlia, with more than one row of petals, these being of the Single dahlia shapes and colors, and lacking the pleasing curls and twists that make the Peony-flowered dahlias so attractive. However, many breeders and dealers do not recognize th distinction between Peony-flowered and Duplex dahlias, and hav introduced dozens of degenerate Decoratives as Peony-flowered which, if listed at all, should appear only in the Duplex group This has been unfortunate for breeders of true Peony-flowere dahlias, for the flowers of Duplex type, though striking and useful, do not approach the twisted-petaled varieties in popular appreciation.

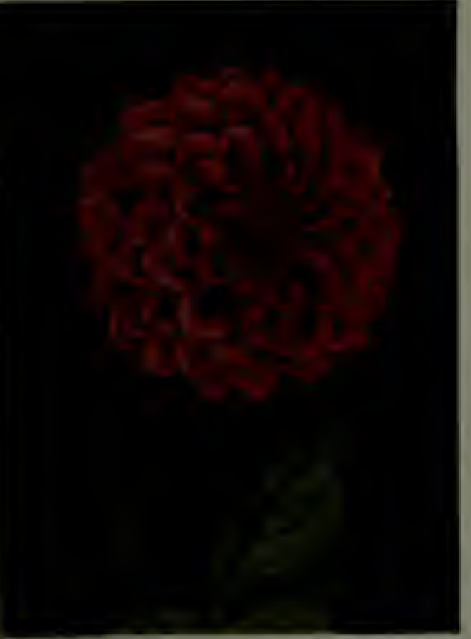
Latest of dahlia types to secure any general recognition is th Collarette, a French creation. These are essentially single dahlia which add to their beauty an inner row of small, slender petal usually contrasting strongly, or at least differing, in color from th broad outer petals which they separate from the open centre The change in form from the Singles is slight, but it is apparently accompanied by some change in texture or compositio which makes the life of the Collarettes as cut flowers longer tha that of the Singles. This, with the striking contrasts in color between the main petals and the collar, makes the Collarette a va uable addition to the list of vase flowers. They have become ve popular in France, and even in England, but have not yet foun great favor in America.

Still another contribution, hardly known outside of France, wher it originated, is the Gloria, Anemone-flowered, or Pincushion dahlia in which each disk floret of a Single dahlia becomes a small tubula

Albert Manda. America may well be proud of a Decorative like this

Delice. A leader in garden, in vase, and on the show bench

Henry Maier. The West contributes its share to dahlia progress



Le Colosse. A wonderful blossom of unique hue—one of the leaders for exhibition purposes

Papa Charmet. A most lustrous dark beauty, with grace as well

Mina Burgle. Mare Island, California, gives us this wonderful flower

Hortulanus Witte. Pure white, and almost as faultless as it is spotless

Le Grand Manitou is one of the very best of variegated Decoratives.

Jeanne Charmet. If limited to the possession of one dahlia, many would choose this

flower, usually distinct in color from the outer petals. Like the Collarettes, this type undoubtedly has many decorative possibilities.

Other type names occur frequently in dahlia literature: Star or Cosmos-flowered Singles have more than the eight petals of the typical single flower; Cactus Singles have long, graceful petals with revolute margins; Tom Thumbs and Mignons are Singles with dwarf plants, the former only about a foot tall; "Bedders" or bedding dahlias are floriferous dwarfs of any type, though frequently Decoratives; Miniature or Pompon Cactus refers to varieties in that group with very small flowers, borne on either dwarf or tall plants; Cockade or Zonal dahlias are large Singles or Collarettes with three bands of color between disk and tips; and Parisian Singles have a distinct picotee edging.

DISTRIBUTION *of the* DAHLIA

England, France, Germany, Holland, and America have already been noted as homes of dahlia interest, and these countries have furnished most of our new varieties; but the plants have a world-wide distribution, limited only by cultural requirements which are not severe. Wherever maize will grow, dahlias stand a good show

Potted dahlia cuttings set in coldframes to harden off before planting out. Cuttings should be trimmed to a joint below one or two pairs of good leaves

of success. We find them in South Africa and in Russia, in Argentina and in British Columbia. The Japanese delight in the beauties of the Cactus dahlias, and Australians show as great fondness for Holland's Peony-flowered creations as do Connecticut Yankees or Virginia's F. F. V's. Even India has grown dahlias until they have become wild, and Simla's glades, a mile above the sea, are glorious from early June well into the rainy season, with magnificent, large Singles of every tint and shade between pure white and deep maroon.

In the United States, proximity to water seems to insure the greatest success in dahlia culture, and the sea-coast states, from Maine to the Carolinas in the East, from Washington to southern California in the West, contain by far the greater number of dahlia growers. But inland states, as well, have many fine gardens, and splendid varieties have originated in Indiana and in Colorado. Few realize how extensive are the fields of dahlias found necessary by commercial growers to supply the demand for flowers and for stock. Possibly more dahlias are grown in gardens and small fields, for the number of these is legion, but farms of 40, 60, 75, 100, and 150 acres or more are known to the author, which are almost wholly devoted to the culture of this one plant. Nothing can be more enjoyable to the flower lover than an opportunity to visit one of these farms in September or early October, and growers are usually very glad to see company. Most of them make a special effort to have their collections in good condition, and elaborate displays of cut flowers prepared for show days or weeks which are widely advertised. Such farms are easily reached from Asheville, Washington, Baltimore, Philadelphia, New York, New Haven, Newport, Boston, Bar Harbor, Albany, Buffalo, Cleveland, Indianapolis, and Detroit. At least one splendid plantation is found at Denver; and on the Pacific Coast, Seattle, Portland, San Francisco, Sacramento, and Los Angeles are centres of large and rapidly growing dahlia interest.

CULTURE *of the* DAHLIA

Though corn has been given as a crop with whose range the dahlia corresponds quite closely, the cultural requirements of the plant are in some respects more like those of the potato. The dahlia is a perennial, but tender to frost, so that it cannot be grown as a perennial where the soil freezes, but must be treated as an annual. That is, the tubers must be dug in the fall, stored where they will not freeze or dry out, and planted again in late spring or early summer. In replanting, though, the whole clump must not be used, but only a single tuber, including enough of the collar or the stem to have at least one good bud. Unlike the potato, the dahlia tuber does not have eyes distributed over its whole surface, but only on a collar which shows above a more or less marked neck; or, with some varieties, on the base of the stem wholly above the tuber. Owing to this peculiarity, a tuber broken off at the neck will not produce a plant, although roots may form abundantly. In dividing the clumps, therefore, it is always best for the beginner to wait until the buds show, which will generally be as soon as the weather warms up in April. Many varieties will force buds before this time unless kept where it is very cool, while others may not sprout for weeks unless they are subjected to added heat and moisture. The planting of entire clumps has been a very common cause of dahlia failures, or allowing too many buds to develop when only one tuber is used; for where more than one or two stalks grow in a place, the plant runs to leaves, and few blossoms are produced. Some growers, by their own peculiar methods, developed to produce special results or to bring flowers at particular times, plant whole clumps or allow many shoots to a plant; but for one not an expert, the safe rule is to plant but one tuber in a place and allow but one shoot, or at most two, to grow from this tuber. Pull up all suckers that appear later. Any soil that will grow corn or potatoes will grow dahlias, but the chances of success are best on rather light, sandy soils, loamy enough or well enough supplied with manure to hold moisture, as the dahlia must be kept growing steadily and not allowed to stop growth because of drought. Dry soil or hot weather checks the development of the stems so that they become woody. This is fatal to flowering, as dahlia buds develop perfectly only on succulent, growing stems and branches. In order to have the necessary supply of moisture, the soil should be worked deeply—at least a foot deep, and a half more than that is better—preferably during the previous fall. When ready to plant, a trench should be dug at least six inches deep—or a wide hole where the hill system is used—and the tuber, with a good bud, placed *on its side* in the bottom of the trench or hole. If the ground is very poor in fertility, it may be well to dig a little deeper and place a small quantity of well rotted manure below the tuber, covering it with earth to prevent direct contact. An inch or two only of earth should be placed over the tuber at first, filling in as the plant grows.

This divided clump, or tuber, method of propagating the dahlia is probably the most common among amateurs; but commercial growers frequently use green plants for their own fields, and send them to their customers when the stock of tubers runs short. Many growers claim that these green plants give as many blossoms as do those grown in the field from tubers—a claim with which we are inclined to agree, provided the green plants are properly grown. The cuttings to produce these plants should be taken only from good, vigorous clumps which have not been used too long or for too many slips, and should be started early enough so that well grown, stocky plants can be furnished. The cuttings should be trimmed to a joint, below one or two pairs of good leaves, should be calloused and rooted in clean or sterilized sand, with good bottom heat; and the plants should be grown, after transplanting, under conditions that will make them hardy, stocky, and well rooted. Under such conditions the plants will undoubtedly give as good results as tubers the first year, if not better; no attention need be given to suckering them; and in most seasons they will develop satisfactory clumps of tubers to carry over winter.

The growth of dahlias from seed, except with the Singles, Collarettes, and possibly the Peony-flowered types, is too much of a gamble for the beginner. Some breeders are now sending out hand pollinated seed from selected varieties, which probably gives a littl

[illegible]. A most striking color combination that is shown by few flowers

Perle de Lyon. As a cutting flower, this dahlia occupies the highest rank

Souvenir de Gustav Doazon. For years the leader of the Decorative type dahlia

Merry Widow. A true Duplex type, and a flower of much value

Apple Blossom. A Duplex type, in color true to name, and most dainty and useful

Sensation. The tall plants make splendid specimens for terrace and porch decoration

A. D. Livoni. An old type, but always good—a clean pink flower

Brilliant. The ideal type before 1850. The artist dared not be as mechanical as the real flower

Caleb Powers. One of the most exquisitely blushed flowers in the Show type

better percentage of desirable flowers, but the usual proportion is not more than one plant worthy to hold for testing to a thousand discarded. Seeds started in the forcing house in March should give plants that blossom the same season.

Varieties from England, France, and Holland usually come to America as pot roots. These are produced from green plants started as above described (or made later in the season from cuttings from the growing plants), which are carried through the season and flowered in small pots. They produce clumps of tiny tubers, about the size of an acorn or a little larger, which can be easily handled, stored in quantity in small space, and mailed or sent by express at only a fraction of the cost for larger tubers. Started in April or early May, in the forcing house, such pot roots produce splendid plants in the field, and may even bring their buds to maturity if set in the field at the same time as the large tubers.

Dahlias are large plants and need much room; but varieties differ so much that specific directions as to distances between plants and rows can hardly be given. With the taller kinds, however, four feet between rows and three feet between plants in the row are perhaps good distances for the beginner to try. Some varieties

In Captain Howell's garden the dahlia supports consist of wires stretched from posts at either end of the row

will interlace their branches at these distances, but the collection thus spaced is not liable to become an impenetrable tangle, nor to show very much waste ground.

As to time of planting, authorities differ, but there can be no question that planting as early as it is safe to put in corn, say mid-May, has often proved unsatisfactory. Such early-started plants, especially if from well-developed buds, are liable to come into flower in July or August, when droughts are almost certain to occur. The extra demand for water for flower production cannot be met, so the whole plant is checked, the stems become woody, bud formation ceases, and the disappointed grower gets no flowers for six weeks or more, until fall rains come. Then frost soon takes the plants and the dahlia season is over—a failure. The only recourse in such cases, or whenever the plant becomes woody, is to prune heavily, even cut the plant down to the ground, and depend on the new shoots for the flowers. This often gives splendid results, since the roots force new growth rapidly.

On the whole, we believe it better to plant late, for a large part of the collection at least—that is two weeks, a month, or even six weeks after corn-planting time. The vigorous young plants, still small and not flowering, go through the midsummer drought and heat without becoming woody, and, with moisture from the late summer thunder storms, push along rapidly and give two months or more of bloom.

As to the treatment of the plants themselves, two distinct methods are used. If allowed to develop unrestricted, many varieties grow so large and produce such tender, heavy branches that they fall prostrate when the ground becomes soft after a heavy rain, or the branches break off and trail their beautiful blossoms in the dirt and mud. Such plants must be staked and tied. Many growers drive a long, stout stake beside each tuber as soon as possible after planting, so that there will be no danger of disturbing the roots or newly formed tubers. As the plants grow, the stems and branches are tied to the stakes with soft cord or raffia. Such stakes are expensive and decidedly unsightly unless painted green or some neutral color. A system of staking used by the author at the Experiment Station at Geneva, N. Y., proved very satisfactory last season, being both neat and inexpensive, and furnishing a strong, inconspicuous support for the plants which made tying up much easier than with the single, square stake. Ordinary plasterer's laths are used, particularly knotty or fragile ones being rejected, and one is driven with a slight outward inclination of the top, on each side of the plant, with flat sides facing. The tops are then forced together for about six inches of their length and fastened with a turn or two of small, tough wire, the ends of the wire being twisted together with pliers. This makes a support, vase-like in outline, which is surprisingly rigid and so shaped that the cords to hold the plant need only be passed about the support and tied. Two or three such cords serve to hold quite firmly both stems and branches.

By the other system, the plants are grown without staking, a necessary method in field culture. Distances in the row are reduced, so that the plants support one another to some extent; but the main point is to make them short and stocky. When two or three pairs of leaves are formed, the terminal bud between the top pair is pinched out. This checks, though it does not stop, upward growth of the plant, since the joints lengthen; but the stem thickens, the branches below become heavier and seem to attach themselves more firmly to the stem, so that they stand much heavier winds without splitting off. This process delays blossoming ten days or two weeks, and removes what is usually the largest blossom on the plant. By judicious disbudding, however, the blossoms on each of the first two side stems may be made large enough to suit all but the most advanced exhibition demands for size. With many varieties, particularly free-blooming kinds, very free disbudding is necessary to secure size and perfection of blossoms; and some growers hold that even Pompons, whose small size is a chief recommendation, are all the better for disbudding.

The cultivation of the soil for dahlias should be about like that for corn—constant stirring to conserve moisture, and, incidentally, to keep down weeds, until buds begin to set. Then avoid disturbing the plants as much as possible, using mulches of coarse material to hold the moisture.

If growth early in the season is not quite satisfactory, even with good moisture supply, it may be well to scatter about the plants a little nitrate of soda, with a moderate amount of acid phosphate, and work it in. Do not allow the fertilizer to touch the plants, even the leaves, to avoid burning. Just before the flowers form, wood ashes or some of the potash salts, similarly worked in about the plants, sometimes prove helpful. It is surprising, though, what a wealth of blossoms dahlias often give even on light, sandy loam soils without any commercial fertilizer. Too much fertilizer, particularly nitrogen, is harmful.

Water is a necessity for the dahlia, but *watering*, unless very judiciously done, is a bad practice. Refrain from it early in the season, except in case of killing drought, unless you are prepared to continue it indefinitely and increasingly. If the ground is deeply and properly fitted, and the tuber set where it should be, at least six inches below the surface, the dahlia will care for itself unless drought is severe. But if watering be begun, especially light watering which wets only the surface, the roots will come up, not go down, and the demand of the plant for artificial aid will become insatiable. If watering is necessary during an especially dry time, soak the ground thoroughly not oftener than twice a week. Sprinkling the tops of the plants, however, is often very beneficial.

In the fall, after frosts have killed the plants and they have stood a few days to secure all possible benefit from the developed food in the tops, the stems should be cut off close to the ground and the tubers dug, care being exercised to avoid breaking the necks. Injury to the body of the tuber, like a spade cut or fork puncture, is not serious, though such wounds occasionally serve as starting places for rot. If the weather will allow, let the clumps dry out in the field for a day or so, particularly the heavy-stemmed, succulent ones, then place them, top down, in some cool, dry place, like the corner of an unheated but frost-proof cellar. Put the smaller clumps at the bottom, where they will not dry out too fast, with the

Dreer's White. An excellent well known dahlia of hybrid Show type

Ethel Maule. Of the formal type, and a most beautiful and useful flower

W. W. Rawson. When well grown, a flower of very great beauty

Mrs. Saunders. Of the formal type, but exquisitely delicate in coloring

A bouquet of typical Show dahlias, which exhibit a wide range of coloring

Gold Medal. A fancy Show type flower with many excellent qualities

Pompon dahlias, as brilliant as gems in coloring, and perfect in form

Helvetia. This is the most brilliant and regularly marked of the bi-colored dahlias

A bouquet of Pompons. Many flower lovers prefer these small dahlias to the larger ones

larger ones above, and cover with heavy paper or, if the place is liable to become too dry, with sand or sifted coal ashes.

Dahlias, fortunately, suffer from few pests and practically no diseases. Shell-less snails or slugs are sometimes a nuisance in wet seasons, or where the dahlias are grown near grass. They eat the young sprouts and the buds on the tubers below ground, later rasp the stems so that they are practically girdled, and even make holes in the leaves. Free use of freshly slaked lime or of wood ashes about the plants protects them from the snails, but these materials soon lose their efficacy in wet weather. Capturing the pests by aid of a lantern or flashlight while they are at work in the evening is often the only remedy. Cutworms sometimes eat off the stems, but can usually be controlled by using poisoned bran baits among the plants. Perhaps most annoying of all dahlia pests are the tarnished plant bugs, which, when abundant, destroy the buds as fast as they form by piercing the tiny stems that support them, or cause one-sided blossoms by punctures at the base of the buds. But little can be done against these insects except to lessen their numbers as far as possible by burning all trash on or about the plantation in the fall. Spraying is of doubtful efficacy, but a good coating of bordeaux mixture sometimes partially protects the plants. Fortunately these pests usually disappear with the cooler nights.

CUTTING *and* KEEPING *the* FLOWERS

For satisfactory use in bouquets, dahlia flowers should be cut early in the morning, with the dew on, or late in the evening. Most varieties should be cut just before they are at their best on the plant, though buds will not open as perfectly as those of the rose after cutting. Single dahlias drop their petals very soon, and are not suitable for lasting bouquets, so when used for a dinner or evening reception should be cut at their best, shortly before the time of using. The stems of the cut flowers should be placed almost their entire length in cold water as soon as cut, preferably in the garden, and allowed to harden in a cool place. If the stems are not too soft and tender, as when grown on very vigorous plants in a moist season, the keeping quality of the flowers may be improved by removing most of the lower foliage on the cut stem, plunging the stem, as far up as the remaining leaves, in water as hot as the hand can bear comfortably, leaving for a short time, and then placing in cold water to which a teaspoonful or so of salt to the gallon has been added.

DAHLIA VARIETIES

So numerous are the varieties of dahlias and so impossible is it for one person or any limited number of persons to see, let alone to know, more than a small fraction of the number, that lists of the "best" dahlias, however selected, differ widely. The author has just compiled a list of dahlia names, taking only those found in American catalogues, mainly recent, which reaches the surprising number of 6,500 entries. Of these varieties he has seen probably one third, but has had opportunity really to study comparatively few of them and therefore hesitates to mention varieties. However full the list, better dahlias than are named are quite liable to be omitted, and some varieties included which might appeal to few tastes besides his own. Yet an article on dahlias without a list of varieties would be rather pointless; so those selected are named as at least worthy of consideration by any grower. For many of these selections the author has also the vote in various plebiscites and symposiums conducted by floricultural periodicals within the past few years, as well as a personal compilation from returns by twenty leading growers, which is included in Circular No. 43 of the New York Agricultural Experiment Station.

In choosing those for garden decoration, which class probably will appeal strongly to many readers of COUNTRY LIFE, some extensive English tests give reliable information, so far as it goes; for an English gentleman, Sir Reginald Cory, for two years devoted large areas on his magnificent estate to tests of hundreds of varieties sent by the leading growers of England and the Continent as best suited for decorative purposes. These displays were judged by a joint committee of the Royal Horticultural Society and National Dahlia Society, including many of the most expert dahlia growers and judges in England, and where their judgment falls upon varieties also known to be good in America, the selection should have much weight.

In this list the varieties are grouped primarily by color of flower, secondarily by type, and are arranged alphabetically in the type.

RECOMMENDED DAHLIA VARIETIES

Use* C	Use* E	Use* G	COLOR, TYPE, AND VARIETY
			White, Cream, and Light Yellow
			Cactus
	X		Aviateur Garros
X			Bergmann's Silber
X			Candeur
	X		Carrie Hammond
	X	X	Dahliamum
X		X	Flora
X		X	Lawine
	X		Marguerite Philips
	X		Mrs. C. G. Wyatt
X	X	X	Mrs. Douglas Fleming
X			Mrs. E. C. Murray
	X	X	Pius X.
X		X	Rheinkönig
X		X	Schwan
X		X	Snowdon
X			Snowstorm
			Peony-flowered
		X	Aphrodite
	X	X	Avalanche
X			Baron de Grancy
	X	X	Elsa
X			Fraicheur du Matin
	X		Lady Muriel Paget
	X	X	Mrs. Geo. Gordon
X	X	X	Mrs. Jas. Grosvenor (Emma Slocombe)
	X	X	Mrs. T. G. Baker
	X		Queen Augusta Victoria
X		X	Queen Wilhelmina
X		X	Riesen Edelweiss
		X	Snow Queen
	X	X	South Pole
	X		White Flag
		X	White Lady
			Duplex
		X	Frau Dr. Nebelthau
			Decorative
	X		Alaska
	X	X	Blanche Charmet
X		X	Corona
	X		Gigantea
X		X	Hortulanus Witte
X		X	Kaiserin Aug. Victoria
	X		Madonna
X		X	Mrs. Winters
	X		Nevada
	X		Oakland
X		X	Perle de Lyon
X	X	X	Purity (Mrs. Henrietta W. Struck)
			Show
X		X	Arabella
	X		Billy Sunday
	X		Crowhurst's White
X	X	X	Dreer's White
X		X	Foster Barnes
X			John Walker
	X	X	Mme. Heine Furtado
X	X		Mme. Henrietta Scalabre
X		X	Storm King
			Pompon
X		X	Snowclad
X		X	White Aster (Guiding Star)
			Single
X		X	Alba Superba
X		X	Rebecca Mayhew
	X	X	The Bride
X		X	White Star
			Collarette
X	X	X	Valentine
			Yellow and Orange
			Cactus
		X	Bridal Crown
X			Caradoc
X		X	Cockatoo
	X		Conservateur Lefebvre
	X		Dr. Roy Appleton
	X		Gelber Prinz
X			Genoveva
X		X	Glow
		X	Hon. Mrs. Greville
X	X		Ihis
	X		Lady Swaythling
	X		Mrs. Stephens
	X		Nantwich
X	X		Richard Box
	X		Scorpion
X			Sequoia
	X		Sovereignty
X	X		Success
		X	Thos. Parkin
			Peony-flowered
	X	X	Berch van Heemstede
X		X	Codsall Gem
	X	X	Dr. A. Kuyper
X	X	X	Dr. H. H. Rusby
X		X	Hohenstauffen
X	X	X	Jan Olieslagers
X	X	X	Mrs. J. C. Vaughan
		X	Offenbach
X	X	X	Osceola
	X		Pocahontas
			Decorative
	X		Albert Manda
X		X	Brentwood Yellow
	X		Henry Maier
X	X		Mary Garden
	X	X	Mme. Victor Vassier
	X		Meadow Gold
	X	X	Miss Adelaide M. Buttle
	X		Mrs. Nathaniel Slocombe
	X		Mrs. Richard Lohrmann
X		X	Orange King
	X	X	Stunner
X			Sulphur King
X	X	X	Sulphurea
X	X	X	Yellow Colosse
			Show
X	X		Chas. Lanier
X	X	X	Estelle Christy
X		X	Gracchus
		X	Magnificent
X			Mary D. Hallock (Queen Victoria)
	X		Miss Browning
	X		Miss Dodd
	X		Mrs. Saunders
X	X	X	Princess Victoria
X	X		Ronald
	X		Tom Jones
			Pompon
X	X		Catherine
X	X	X	Ideal
X	X		Little May
			Single
X		X	Blanche
		X	Contraste (bronzy foliage)
		X	Mildred
	X		New Haven
	X		Newport Cheer
X		X	St. George Improved
			Collarette
X		X	Buttercup
X		X	Goldsterne
			Autumn Tints
			(YELLOW AND ORANGE. SHADED, TINTED, OR SUFFUSED; AND AMBER, BUFF, APRICOT, TERRA COTTA, SALMON, ETC.)
			Cactus
	X		A. R. Perry
X			Annie of Tharaw
X		X	Auhurn Beauty
X		X	Aurora
	X	X	Beauport Peauty
X		X	Chevrefeuille
X			Clara G. Stredwick
X		X	Countess of Lonsdale
X			Country Girl
	X		Crepuscule
X			Dainty
X			Dr. Mene
	X	X	Duchess of Marlboro
	X	X	Edith Carter
X		X	Effective
X		X	Else
	X	X	Colden Eagle
X	X	X	Golden Gate
X			Coldland
	X		Johanneshurg
X	X		Master Carl
	X		Miss Stredwick
X		X	Miss Wilmott
X	X	X	Mrs. Clinton
X		X	Rev. T. W. Jamieson
X	X	X	Wolfang von Goethe
			Peony-flowered
		X	Amber Queen
	X	X	Beethoven
		X	Bettws
X	X	X	Copper
	X		Corot
X	X	X	Dr. Henry Sewall
	X	X	Hon. R. T. Borden
		X	Juliet
	X	X	Lady Norman
		X	Mevrouw J. Phillips
	X	X	Miantonomi
		X	P. W. Janssen
			Duplex
X	X	X	Sunsbine
			Decorative
	X	X	Ayesha
		X	Beatrice Slocomhe

*The X in lettered columns indicates whether the variety is suitable for cut flowers (C) exhibition (E), or garden decoration (G).

The Bride. This fine blossom rivals the calla lily in waxy whiteness

Wildfire Century decks the garden with great single blossoms on long stems

Rose-Pink Century. A beautiful example of the Giant Single type of dahlia

The Singles make charming bouquets, but they are short-lived when cut

White Star. These modified Singles are especially fine for massing

As cut flowers the Collarettes are striking, and in vases they outlast the Singles

Small Single dahlias. The top one is Mrs. Joyson Hicks; middle, Cardinal; bottom one, Lady Bountiful

Anemone-flowered dahlias are new to America, but they promise well

Typical Collarettes. Maurice Rivoire above, Gallia below. The contrast of colors is effective

RECOMMENDED DAHLIA VARIETIES—*Continued*

Use			COLOR, TYPE, AND VARIETY
C	E	G	
X		X	Camellia
X		X	Golden West
X	X	X	Hortulanus Viet
X	X	X	J. M. Goodrich
X	X	X	John R. Baldwin
X	X	X	Kupferberg Gold
X		X	Lucero
	X	X	Miss Edna L. Hathaway
X		X	Miss Minnie McCullough
		X	Ohan
	X	X	Santa Cruz
			Show
	X		Cream of the Valley
			Pompon
X		X	Ganymede
X		X	Kleine Domitea
X		X	Neatness
			Single
		X	Beach Bluff
	X	X	Color Card
X	X	X	Miss Ruth Thurston
		X	Ouida
			Pure Pinks
			(Blush to rose red)
			Cactus
X			Armandine Desleins
	X		Crystal
X		X	Erecta
X	X		Extase
	X		Fascination
X		X	Galathea
	X		Gwendoline Tucker
	X		H. L. Brousson
		X	Jeanne Hardy
X			Kriemhilde
X	X		Mme. Henri Cayeux
X	X	X	Marguerite Bouchon
	X		Mildred Slocombe
X	X		Mrs. C. H. Breck
	X		Mrs. H. Randle
X		X	Pink Pearl
		X	Stability
X		X	Sweet Brier
	X		The Quaker
			Peony-flowered
X		X	Blenheim
	X		Chief Seattle
	X		Garibaldi
X		X	Hampton Court
X	X	X	Loveliness
X		X	Mrs. Chas. L. Seybold
X	X	X	Mrs. Frederick Grinnell
X	X	X	Mrs. Warnaar
X	X	X	Mrs. Wm. Kerr
X		X	Paul Kruger
X		X	Porcupine
X	X	X	Queen Esther
	X	X	Titian
		X	Turner
X	X	X	Weber
			Duplex
X	X	X	Ruskin
			Decorative
X	X		Bertha von Suttner
X	X	X	Delice
	X		Immense
X	X		Imperator
X		X	Jean Wood
X	X	X	Jeanne Charmet
	X		Mlle. Helene Charvet
X		X	Mrs. J. Gardner Cassatt
		X	Mons. Caprion
		X	Nymphea
X		X	Sylvia
			Show
X		X	A. D. Livoni
X	X	X	Caleb Powers
X		X	Dorothy Peacock
	X		Grand Duke Alexis
		X	John Thorpe
X	X		Mme. Marika Anagnostaki
X		X	Mrs. Gladstone
	X	X	Mrs. Roosevelt
		X	Pink Bedder
X		X	Queen of the Belgians
	X	X	Rose
X		X	Souv. de Mme. Moreau
X		X	Triumphator
X		X	Virginia Maule
	X	X	Vivian
			Pompon
X		X	Allie Mourey
		X	Blush Gem
		X	Crusoe
			Single
		X	Blush Century
X		X	Fringed 20th Century
X	X	X	Newport Pink
			Shaded Pinks
			(Pinks showing purplish shade; also lilac, lavender, mauve, heliotrope, salmon pink)
			Cactus
	X	X	Arthur Pickard
X	X	X	Bianca
	X		Clincher
	X		Empress

Use			COLOR, TYPE, AND VARIETY
C	E	G	
	X		Etendard de Lyon
	X		Hoffnung
	X	X	Marjorie Field
	X	X	Mrs. Macmillan
	X	X	Mrs. T. W. Willis
	X		Prima Donna (Ger.)
X		X	Ruth Forbes
			Peony-flowered
	X		Andrew Carnegie
		X	Baroness de Turckheim
X	X	X	Chatenay
	X	X	Great Britain
X		X	H. Hornsveld
X		X	H. J. Lovinck
X		X	Ladysmith
	X	X	Mrs. W. E. Whineray
X	X	X	Norah Lindsay
X	X	X	Van Dyke (Dyck)
		X	Zeppelin
			Decorative
X	X	X	Francis A. Butts
X	X	X	Futurity
	X	X	Mme. Auguste Nonin
	X	X	Mme. D. Bijstein
X		X	Mrs. Helen Ladd Corbett
X	X	X	Sunburst
	X	X	The Millionaire
			Show
	X	X	Acquisition
X			Champion Rollo
X		X	David Johnson
X	X	X	Grand Duchess Marie
X	X		Mme. Le Mantenne
X	X		Margaret Bell
X	X	X	Maude Adams
X	X	X	W. W. Rawson
			Pompon
X			Alewine
		X	Dewdrop
X			Pure Love
X	X	X	Nerissa
			Single
	X		Beauty's Eye
	X		Imperialiano
		X	Kitty
			Dark Orange to Bright Red
			Cactus
	X		Basilisk
	X	X	Brisbane
	X		Chas. H. Curtis
X	X	X	Conqueror
X		X	Coronation
	X	X	F. W. Fellowes
		X	Gluckauf
X			Ignea
X	X	X	Kalif
X		X	Mabel Needs
X		X	Miss Lucy Ashwell
X		X	Mrs. H. R. Wirth
	X		Red Admiral
X		X	Reliable
	X	X	Sportsman
X		X	Standard Bearer
X		X	Thuringia
X		X	Vulkan
			Peony-flowered
	X	X	Balak
	X	X	Beacon
X		X	Lady Saville
X	X	X	Liberty
X		X	Poinsettia
X		X	Prairie Fire
			Duplex
X		X	Hortulanus Budde
			Decorative
X	X	X	Breezelawn
X			Catherine Duer
		X	Chanoine Ducrot
X		X	Easton
	X		Leviathan
X		X	Lyndhurst
		X	Manzanola
X	X	X	Miss Minnie (Mrs. Mina) Burgle
	X	X	Mrs. A. I. Dupont
	X	X	Mrs. Fleers
X		X	Oregon Beauty
	X	X	Sebastopol
	X	X	Souv. de Gustav Doazon
			Show
		X	Duchess
X			John Elitch
	X		Le Colosse
X		X	Leander
X		X	Merlin
X			Paul Burt
	X	X	Paul David
X		X	Red Hussar
X		X	Sunbeam
			Pompon
		X	Mars
			Single
		X	Ami Barillet (bronzy foliage)
		X	Brilliant
	X	X	Cardinal Century
X		X	Crawley Star
	X	X	Newport Star

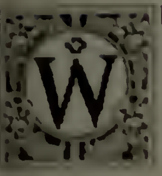
Use			COLOR, TYPE, AND VARIETY
C	E	G	
	X	X	Red Face
			Collarette
		X	Exposition de Lyon
			Dark Reds, Purple, and Maroon
			Cactus
		X	Advance
X		X	Amos Perry
	X		Australian
	X	X	Beloit
	X		Blaustrumpf
	X	X	Centurion
	X	X	Claudius
X		X	Conquest
X			Elsie Bonnell
X		X	Fernand Olivet
X		X	Floradora
X		X	Galliard
	X	X	Geo. L. Stillman
X	X		J. H. Jackson
X	X	X	John Riding
		X	Miss Hicks
	X		Mrs. Ferd. Jeffries
	X		Mrs. Fred Grinsted
		X	Mrs. Forester Paton
	X		Phoenix
X		X	Rother
	X		The Earl
	X		The Imp
	X	X	Tom Lundy
	X		Valiant
			Peony-flowered
X	X	X	Dr. Peary
		X	Dormouse
	X	X	King Edward
	X	X	Meyerbeer
	X	X	Mozart
			Duplex
		X	Big Chief
		X	Variegated Liszt
			Decorative
X		X	American Beauty
X			Black Beauty
	X		Boisduval
X			Clarabel
	X	X	D. M. Moore
X		X	Fire Rain
X	X	X	Giant or Royal Purple
X		X	Jack Rose
	X	X	Le Geant
X	X	X	Navajo
X	X	X	Papa Charmet
	X	X	Tenor Alvarez
	X	X	Ulysse
			Show
X		X	Ansonia
X		X	Black Hussar
	X	X	Cuban Giant
	X	X	Edw. Mawley
X	X	X	Gloire de Paris
	X	X	Sir Richard Wallace
X		X	Stradella
	X	X	Victor
			Pompon
		X	Bacchus
X	X	X	Belle of Springfield
X		X	Capt. Boyton
X	X	X	Darkest of All
X		X	Indian Chief
			Single
		X	Crimson King
	X	X	Crimson Shower
	X		Fringed Maroon Century
			Particolored, Ground White
			Cactus
X			Alpha
X		X	Leon Varigny
			Peony-flowered
	X		Electa
		X	Philadelphia
			Decorative
	X	X	Gov. Floyd
	X	X	Mme. Devinat
X	X	X	Mme. Louis Perrier
			Single
		X	Fern-leaf Beauty
X	X	X	Helvetia
X		X	Jennie Wren
		X	Union Jack
			Particolored, Ground Yellow or Orange
			Cactus
	X	X	Electric
	X		Fireworks
X		X	Gracie
	X	X	Jupiter
	X		Melody
X			Miss Dorothy Oliver
	X	X	Pierrot
X	X		Rev. Arthur T. Bridge
X		X	Wunderkind
			Peony-flowered
		X	Alecto
X	X	X	Geisha

Use			COLOR, TYPE, AND VARIETY
C	E	G	
X	X	X	John Green
X	X	X	Sunstar
			Decorative
		X	Chantecler
X	X	X	Fred Grinsted
	X	X	Kakudu
	X		Mons. Lenormand
	X	X	Source de Feu
	X		South Orange Surprise
			Show
	X		Buffalo Bill
	X	X	Duchess of Albany
X	X	X	Gold Medal
	X		John Bennett
X		X	Kaiser Wilhelm
X	X	X	Lucy Faucett
X		X	Peeress
	X		Rev. J. B. M. Camm
			Pompon
X		X	Cheerfulness
X		X	Kitty Barrett
X	X	X	Little Beeswing
X		X	Rosalie
			Single
	X	X	Mrs. Joynson Hicks
	X	X	Mikado
			Collarette
X		X	Cocarde Espagnole
X		X	Duchesse Melzi d'Eril
X	X	X	Gallia
		X	Prince of Orange
			Particolored, Ground Pink, etc.
			Cactus
X	X		America
X	X		Comet
X	X	X	Nashoon
			Decorative
	X	X	Le Grand Manitou
X		X	Maman Rozain
			Show
X	X		Ethel Schmidt
	X	X	Gen. Miles
X	X	X	Lottie Eckford
			Pompon
X		X	Highland Mary
			Single
		X	Florence Dare
	X	X	Eckford Century
	X	X	Lady Bountiful
			Collarette
X		X	Comtesse Ici Hardegg
X			Diadem
			Particolored, Ground Dark
			Cactus
		X	Firefly
X		X	Gen. Buller
	X		Magpie
X	X		Mrs. H. J. Jones
X	X	X	Nisi Prius
	X		Richard Dean
	X		Sea Gull
			Peony-flowered
X		X	Cleopatra
X	X	X	Pennant
			Duplex
X		X	Fregolia
	X	X	Fritzimann
			Decorative
		X	Beaute Lyonnaise
	X	X	Commandant Rivoire
X		X	Gaiety
X		X	Maid of Kent
		X	Minnie O'Brien
X	X	X	Morocco
			Show
	X	X	Flachard
X	X	X	Frank Smith
	X	X	Mrs. N. Halls
		X	Peacock
X		X	Queen Mab
			Pompon
X		X	Brunette
X		X	Little Herman
X		X	Montague Wootten
X		X	Tommy Keith
			Single
		X	Owen Thomas
X		X	Praxiteles
			Collarette
	X	X	Achievement
X		X	Comte Cheremeteff
		X	Doon
		X	Frogmore
X	X	X	Louie Blackman
X	X	X	Maurice Rivoire
X		X	Princess Louise
X	X	X	Regularity

The SETTERS—ENGLISH, IRISH, *and* SCOTCH

IN TWO PARTS—PART ONE

By WALTER A. DYER



WITHIN the past few months, particularly in connection with work on the subject of field trials, so many inquiries have come to my attention regarding the different varieties of setters that it has seemed to me desirable to prepare an article in which these different breeds or varieties may be compared as concisely as possible. That many interesting and important things must be omitted regarding the history, achievements, and points of the setters is unfortunate but inevitable, there is a compensating gain in ranging the main points in close proximity.

An ideal head. Mr Otto Pohl's imported Irish setter, Ch. Rheola Clanderrick

How many breeds or varieties of setters are there? Which variety is best for hunting? Why is the English setter the only one that figures to any extent in American field trials? What has become of the Gordon setter? What is a Laverack, a Llewellyn, a Belton? These are the questions that will shape the direction of this article.

In the first place let me say that there are, roughly, three varieties of setters extant in Great Britain and the United States—English, Irish, and Scotch. The proper name for the last is the black-and-tan or Gordon setter, but since the Duke of Gordon was a Scotchman, we may so designate the black-and-tan breed for convenience.

There was also a Welsh setter called the Llanidloes, but it is now practically extinct even in Wales. It had a hard, curly coat, usually white, with a lemon-colored patch or two about the head and ears. The head was longer and less refined than that of the English setter. The tail was curly, shorter than that of the English setter, and with very little fringe or feather. It was once considered a smart, handy dog, with a good nose and a moderate pace, not as handsome as the other setters, but the hardiest of them all. There was also a strain of black setters in Wales, now quite extinct. Naturally, these varieties do not figure in our present consideration.

Of the three main branches of the family, the English setter is far in the lead in respect to popularity and numbers. The English is the only setter to compete successfully with the pointers for field trial honors in this country, and the one with much the largest representation at the bench shows. The English setter is more extensively used by American sportsmen than is the Irish or Gordon, though there are ardent advocates of the other two breeds who deny that the English variety is in the slightest degree superior for practical field work.

The Setter, as painted by Reinagle, and published in John Scott's "Sportsman's Repository" in 1845, illustrating the earlier type

The Irish setter is easily the handsomest of the trio, and this has worked somewhat to his disadvantage, for it is in a measure responsible for the fact that in late years Irish setters have been bred fully as much for bench-show points as for working qualities.

The Gordon is larger and heavier than the other two, and in some respects better fitted to be a house dog and companion, but he has friends who insist that he is a better dog all around than the English setter, and worthier of the attention of both sportsman and fancier. He certainly has a look of greater hardihood.

So there we have them—English, Irish, Scotch—grand dogs all, dogs of endurance and nerve, gifted with wonderful powers of scent, remarkably intelligent, and capable of a high degree of education and training. And now a little more about their origin and characteristics.

All these setters undoubtedly had a common parentage, in which the old land spaniel had the principal part. They belong to the same family, possess the same traits, are trained alike, differing chiefly in appearance and in minor characteristics.

The spaniel was originally brought to England from Spain for hawking and finding game, but the breed's genealogy has been so split up as to be difficult to trace. One of these old spaniels of the larger type was probably taught to crouch when finding game, and was therefore termed a setting spaniel or setter. It was crossed with the Spanish pointer, and a distinct breed was developed from which our setters are derived.

Setters have been trained and used by sportsmen for centuries in England and on the Continent. The Duke of Northumberland, son of Queen Elizabeth's favorite, Robert Dudley, Earl of Leicester, has usually been credited with being one of the first to train setters in something like the modern manner. That was about 1550, when the birds were not shot, but caught in a net.

During the seventeenth century these dogs were very commonly trained, as described by Dr. John Caius, to follow their masters' directions, to point the game when found, and not to bark. They were called setting spaniels and setting dogs until about 1800, when nets went out of fashion.

An account of the breed in the "Sportsman's Cabinet," published in 1803, when pointers, by the way, were equally popular, describes a dog much like ours—timid, nervous, dreading punishment, affectionate, unusually intelligent, easily controlled, trustworthy, generally obedient, of reliable temper, and possessing a beautiful, soft

Ch. Babblehrook Joe, one of the best bird dogs in the field trial circuit. Winner of All American Championship stake, five firsts in All-Age Stakes, and other places in field trials. Owned by Mr. Edward D. Garr

Mr. C. H. Tyler's Willow Brook Drake Wind 'Em, one of the few English setters in this country bred by Mr. Llewellyn. Shortly after his importation he won third in the Connecticut Field Trials, and also special at the Boston show for the best placed field-trial dog

coat and an air of refinement and superiority. From that time to this the breed has been kept pretty free from crosses with pointers or other breeds.

The setter breed was probably pretty well developed between 1775 and 1800, and its improvement went steadily on in England until about 1875, when the famous Laveracks had become the standard type.

Good strains of setters were bred by various English and Scotch noblemen, but the man who did more than any other to improve the breed was Mr. Edward Laverack of Shropshire, a thorough sportsman, who bred setters for more than fifty years and made of them a life-time study. He started in 1825 with Ponto and Old Moll, purchased from the Rev. A. Harrison, who had bred a strain for thirty-five years previously. So superior were the Laverack dogs that they carried everything before them, on the bench and in the field, up to about 1870. Mr. Laverack developed a distinct type and Standard, and put the setter in its proper position as a field dog, in competition with the pointers. He died in 1877, and the best of our modern dogs are descendants of his. The English Setter Club, established in 1890, based its Standard on Mr. Laverack's.

He was followed by Mr. R. Purcell-Llewellyn, of Lincolnshire, who developed a strain that was half Laverack. It was a strain of unequal merit, but was widely advertised in this country and became very popular here, superseding our native-born setter to a large extent. A large number of so-called Llewellyn setters, some better than others, were imported into this country, and there are many Americans who still associate the name Llewellyn with all that is best in the English setter family. As a matter of fact, Llewellyn did little to improve the Laverack strain, but he increased and disseminated it, and perhaps strengthened it somewhat by the infusion of new blood.

During the last century there was some Laverack blood in this country, before the importation of the Llewellyns, and a good deal of cross breeding, producing what was known as the native or American setter. With the coming of the Llewellyns, however, the native setter was obliged to take a back seat in the field trials. On the show bench, Laveracks were first exhibited here in 1874, and won the lion's share of the honors for ten years.

Between 1884 and 1887 the Windholz and Blackstone kennels imported and bred some good dogs. Then came the rather reckless importation of so-called Llewellyns, and some ill-advised breeding. Conditions improved about 1882, however, and there was a return to the correct type about 1898, Dr. James E. Hair taking an active part in bringing the setter back. By 1900 many fine ones were being shown here. To-day we are always sure of a large entry of English setters at the shows, including, usually, many first-class dogs. For example, sixty-six English setters were entered in the New York show of 1917, as against thirty-nine Irish setters, and two Gordons.

But it is not only on the bench that the English setter has won acknowledged superiority; he is still the favorite with sportsmen, and is the only one of the setters to compete successfully with the pointers in the field trials. Since the days of Gladstone and Count Noble, in the '80's, there have been many famous field-trial winners among the English setters in America, including Count Noble's sons, Roderigo and Count Gladstone, IV. And their progeny is still famous. Indeed, a complete list of the really wonderful field-trial performers of the past thirty years would be too long to include here.

The terms Laverack, Llewellyn, and Belton are much misused and misunderstood. They are not distinct varieties, but are all English setters and are so classed in the shows. On the other hand, Llewellyn, a term now seldom used in England, is not a proper synonym for English setter. The origin of the term Laverack has already been explained; to-day, in this country, it is often erroneously applied to a setter of the bench-show type, with fine coat and head, and sometimes more notable for show points than for field qualities. Llewellyn is a term even more vaguely applied to English setters of the field-trial type, from the fact that many of our best field-trial dogs, of the Gladstone, Whitestone, and other strains, are largely descended from dogs that were imported as Llewellyns. Belton is merely a term used to describe a color, when the white is largely mixed with flecks of color, producing gray, blue, or lemon Beltons.

The question as to which of these types is the best is of long standing. It is largely a matter of viewpoint. Partly because of the differing points of view of sportsmen, field-trial followers, and show exhibitors, and partly because of the inaccurate use of the terms English setter, Llewellyn, etc., this controversy has already become so involved that further participation in it would be profitless.

It must be remembered, however, that the setter is primarily a shooting dog, and his utility should be kept in view by all classes of breeders. There appear to be two kinds of English setter judges—those who lay emphasis on the classic type of head, etc., and those who look for working points. It is rather important that these two views should be combined, for both features are desirable.

On this point I would like to quote from a letter from Mr. Elmer M. Simkins, secretary-treasurer of the English Setter Club of America. "Our club," he says, "is endeavoring to encourage the breeding of good-looking, high-class shooting dogs. I fully believe that if our Standard were strictly adhered to by all judges of English setters, it would soon be possible to place in the ring dogs that would not only make a very good showing, but that could be taken into the field and worked with great credit to themselves and their owners. As it is now, I venture to say that at least 60 per cent. of the great bench-show dogs are absolutely worthless in the field. At the same time, nine out of ten of the great field-trial dogs would cause ridicule if placed in a show ring."

Mr. Simkins also makes a plea for field-trial judging that shall lay less stress on speed and more upon bird-finding ability, adding that the past season has shown an improvement in this respect.

The English setter Standard calls for a long, lean head, with well-defined stop, a high, rounded skull, square, deep muzzle flews deep and square; eyes dark; neck long, muscular, and lean body not too long, chest deep, ribs well sprung, back level; legs strong, with muscular forearm, elbows well let down, feet well

athered between the toes, tail carried straight from the body, ith good feather beginning not too near the root; coat long, traight, and silky. The recognized colors are white and black, hite and liver, white and lemon or orange, white and tan, or tri-olor—black, white, and tan—ticked well on the legs and flanks, ith tan in the ears, over the eyes, and on the flews. One or two arge black patches are permissible, but flecking is preferred to atches. Nearly pure white setters are not uncommon, and even hose which are largely black. The orange and white and the Beltons appear to be the most popular among the fanciers.

The Irish setter, though more popular and numerous than the Gordon, is much less so than the English setter. He is unques-tionably the handsomest of the setters. His color and form appeal articularly to bench-show fanciers, and his general beauty and ngaging disposition are s ch as to attract owners who like medium-ized dogs as companions. But with all that, when properly bred nd trained, he is a shooting dog from the ground up.

The Irish setter's origin is obscure, not much being accurately nown about it prior to 1800. It was probably much the same as hat of the English setter, and the Irish variety may have been erived from a liver-and-white English setting spaniel. It was onsidered a branch of the English spaniel family, and used to e known in Ireland as an English setting spaniel. Some writers laim the Irish setter to be an unmixed descendant of the old panish land spaniel, with less pointer blood in its make-up than in the English setter. All that we know certainly is that these tters were common in Ireland early in the nineteenth century, nd were firmly established there as a distinct variety.

Whether the first Irish setters were red and white, liver and hite, or all red is not known, but there were both red dogs and d and white ones in Ireland before 1800. They are described as estnut red, with or without white, and with the nose and roof f the mouth black. One theory is that the red dog inhabited e north of Ireland and the red and white dog the midland and estern counties, and that they were later crossed. As late as 880 white was allowed, though all red was preferred. Now the cognized color is solid red, though some white is permitted.

In 1867 a noted English writer who signed his name "Stone-nge" published in "The Dogs of the British Islands" a descrip-on of the Irish setter that breeders have been trying hard to e up to ever since.

Twenty-five or thirty years ago the Irish setter was nearly as mmon here as the English setter, but his popularity, especially nong field-trial breeders, steadily declined, and they became less umerous in this country. Of late, however, they seem to have en coming back, at least as show dogs and companions, and to me extent as sporting dogs. In England the Irish setter is ill valued as a field dog; in Ireland he is the most highly esteemed all the varieties. The best of them there are said to be as good speed and nose as the best pointers and English setters. Here, owever, as with the show type of English setter, the breeders ave too often sought for show points rather than working ability, d many of our finest Irish setters are practically worthless the field. They are handsome, long, rangy animals, with classic ads, and fine coats of wonderful color, in whom bird sense has rgely given place to beauty, so that there is a comparatively all demand for them now except as show dogs and companions. ndoubtedly the bird sense is still in the blood, however, as the hievements of occasional specimens prove. Only prejudice, shion, and the chances of the game have kept them back. They serve to become more popular with sportsmen, and could be ought back to usefulness just as the pointer was.

In the early days of field trials the Irish setter was prominent both England and America. In England he is still a factor. this country Irish setters were frequent winners in the late o's and early '80's, and again in the early '90's. Now the honors e divided between the pointers and the English setters.

As a show dog the Irish setter was most prominent some twenty-e years ago, but is coming up again, and we now have some very e specimens of this type. More than twice as many were tered at the New York show this year as in 1916. The show ints are now pretty well fixed, and the variety has been brought a state of great uniformity as to type; it would seem desirable r breeders now to seek to develop working qualities.

But, taking the variety as a whole, beauty is by no means the

Mr. John J. Connolly's Gordon setter, Ch. Sir Robert C., first winners at New York in 1917. The Gordons are larger and heavier than either the English or Irish, and in some respects are better fitted to be house dogs and companions

Willow Brook Lingfield Rupert, another of Mr. Tyler's English setters, is the embodiment of style, as well as a hunting dog *par excellence*. Winner of first at Boston, first in Connecticut Field Trials, and first in Membership and in All-Age Stakes

only noteworthy quality of the Irish setter. He is staunch, hardy, and, when rightly trained, as good a dog for birds as there is. He takes readily to the water, is a good retriever, and is therefore invaluable for duck shooting. He has more dash and go than the Gordon, and in most respects is the equal of the English setter. In e durance, none can surpass him. He is speedy, but his nose is quicker than his feet. He often appears to be wilful and head-strong, requiring more patience in breaking than the English setter, but once broken his energy proves an asset. He develops somewhat later than the English setter, and is consequently slower to train up to his best form. As a field-trial dog he is perhaps not so easily controlled as his English cousin, but he is not impetuous like a terrier.

The outlines and conformation of the Irish setter are much the same as those of the English, with the exception of the head, which is somewhat different. The chief distinguishing feature is the color, and this is the Irish setter's crowning glory. It is called golden chestnut, deep red, and rich mahogany, but none of these terms adequately describes it. It is a wonderful sienna or red-brown, brilliant in the high lights with a golden tinge, shading almost, but not quite, to black—a color worthy of the brush of a Titian. No trace of pure black is allowed, but white on the throat, chest, or toes, a small star on the forehead, or a narrow streak or blaze of white on the nose or face does not disqualify.

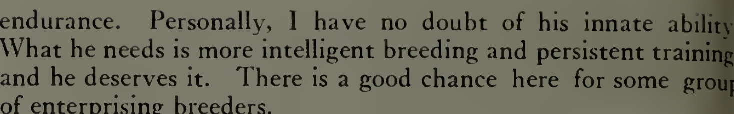
Otherwise the official Standard reads much like that of the English setter. It calls for a long, lean head; long legs; deep chest, not too broad; body long and lean, but slightly heavier than that of the English setter; coat flat and straight; fringe, long and silky.

The development of the black-and-tan or Gordon setter was due largely to the interest of a Scotchman, and the variety, as such, is not as old as either the English or the Irish. Early in the nineteenth century the Marquis of Huntley, later Duke of Richmond Gordon, owned a strain of setters which he used for work upon the moors. Their color, before 1820, was not estab-lished, but it is known that the strain differed in some respects

from the other English setters, especially the Laverack strain. There has been some controversy as to the color of the Duke of Gordon's dogs. It has been said that he favored the black and tan, but the evidence seems to point to the fact that most of his dogs before 1820 were black and white and that after that he owned as many tri-color dogs—black, white, and tan—as pure black-and-tan, with a conformation in general resembling that of the Irish setter.

While doubtless some of the later black-and-tan setters came from the Gordon strain, not all did, and the name is to that extent a misnomer, though it became almost universally applied to the setters of that color. The British Kennel Club has since dropped the name Gordon, and recognizes a separate variety, with points of its own, known in England as the black-and-tan setter. In this country we still call it the Gordon setter, and it is so classed in the American shows.

The Duke of Gordon did not, therefore, develo a modern



endurance. Personally, I have no doubt of his innate ability. What he needs is more intelligent breeding and persistent training, and he deserves it. There is a good chance here for some group of enterprising breeders.

In show judging, the Gordon's head is considered of great importance. It should be heavier and stronger than that of the English setter, with rounder skull, deeper and broader muzzle, more breadth between the ears, and heavier lips and flews. The forehead should be full, with a well-defined stop; the nose moderately long, broad across the top, and not snipy, with nostrils well distended; jaw neither overhung nor underhung. The eyes are large, lustrous, and intelligent, sometimes showing the haw. The ears are somewhat longer than those of the English setter.

The neck should be moderately long and strong, but not coarse. The body should be heavier and stouter than that of the English setter, but is judged on the same general lines. The shoulders should look strong but not loaded; hind quarters strong. The tail

Two typical Irish setters; at left Mr. Pohl's Ch. Pat-a-Belle on a point on quail; at right, Mr. Charles Esselstyn's Ch. Sheila O'Brien, a well-known bench show winner

variety to the same extent that Laverack did, but he deserves credit for conserving and bringing to notice setters of a distinct type. In 1836, shortly after his death, his dogs were sold and other breeders continued along the same lines, producing, at length, the Gordon setter as we know it.

For a time the name Gordon was given chiefly to a tri-color dog, mostly black, with some tan, and a little white. In 1872 Gordons were shown in England which were perhaps more like the English setter than those of to-day, but with heavier head, heavier ears, loaded shoulders, and thicker neck, and they were black and tan. By 1880 the variety seems to have become firmly established, with distinct characteristics. It made a good showing in field trials and on the bench, and in some quarters was highly esteemed for hunting.

The Gordon's bench-show career in this country has also been somewhat erratic. Philadelphia had a number of good dogs in the '80's. About 1890 an attempt was made to get a lighter-built dog to be called the American Gordon, but there was no real point to the effort and it failed. The dogs shown as American Gordons were never first-class.

The breed has not been favored with the attention of many large fanciers here. Dr. Dixon's fine kennels were broken up in 1896 and Mr. J. B. Blossom retired in 1900. Since then a few good dogs have been shown, but not many. For years the Gordon entries have been small.

As a gun dog the Gordon is said to possess neither the speed nor the endurance of the English or Irish varieties, in spite of his look of strength. Sportsmen consider him nervous and say that his color is not suitable for work in a rough country. He has therefore been turned into a fancy variety by his best friends, to an even greater extent than the Irish setter, and as such his heavier build perhaps has its advantages.

Nevertheless, there are those who still stoutly maintain that the Gordon can be made into the finest of bird dogs, that he possesses splendid intelligence, fine scenting power, strength, and

is somewhat shorter than that of the other setters, and simita shaped. The coat is stronger and not quite so long and fine a that of the English setter, straight, flat, slightly waved, but no curly. The Gordon has less feather than the English setter.

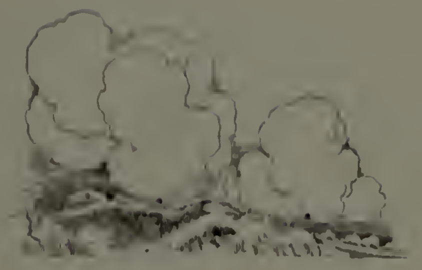
Color is perhaps the most important feature of all. It should b a pure raven or jet black, free from white or gray, with marking of a rich mahogany tan similar to those of the black-and-tan o Manchester terrier. There should be tan on the cheeks, ove the eyes, on the feet and pasterns, and the points of the shoulders bright and clearly defined and not penciled with black. Feathering on the forelegs and thighs should also be tan. Diffusion o color on the belly and elsewhere is objectionable, and there shoul be no trace of white on the chest or face.

Here we have, then, the three varieties of setters—Englisl Irish, Scotch. Their physical differences are easily distinguished their general similarity is equally noticeable. Which variety preferable, when judged simply by appearance and general cha acter, is all a matter of taste; there is no criterion by which an one of them may be considered decidedly better than any othe

But when it comes to working qualities, utilitarian value, spe ialized powers, the development of those abilities which distingui the bird dog, there is room for a most interesting difference opinion. We enter the field of actual experiment.

Just now the English setter has all the best of it. He is th favorite for field trial and for hunting. Why is this so? Does h deserve this ascendency? If so, is there any hope for his defeate rivals? These are subjects of interest not merely to setter fancie and sportsmen; they concern all dog lovers. The answer ma mean the doom or the return of the Gordon; it may mean a entirely different Standard for the English.

In searching the field for the answers to these questions, have sought and obtained opinions of several authorities. Arme with these, I plan to make a comparison of the three varieties setters the subject of an article of importance in the next numb of Country Life.



SOLITUDE

BEING LEAVES *from a* HERMIT'S LOG-BOOK

By ROBERT WADE

Illustrations by the Author

SEPTEMBER 30th. Being fair with a westerly breeze. This day begins my fourth week of solitude. I am lord of whatever I may survey. My possessions are a low line of dunes facing the sea, a few plum bushes, miles upon miles of marshland, and the road leading over the river to the quiet old sea town. My castle, a little bin originally built for a gunning shack. It is a tight little place, o good to be used for shotgun injustice upon the wild fowl.

Desolate, perhaps, is my island possession, but here where the eat arch of the sky bends to its own fourfold bounds, here where e winds sing and the sea alone answers, here Repose has settled nd Peace reigns supreme.

This has been a quiet, smoky day, and I spent it wandering about e marshes through hich the river winds, ue as the blue of sapire Three miles oad they are, glowing, immering, red-gold nd brown under the ooding calm of early tumn. I love them r their long reaches ing flat under warm ns; I love the smell nd the sounds of them, e rippling of their des, the rummelling of eir little streams, the ft whispering of their asses — and I love em for their great enness.

All last night there as a heavy surf, and nder a big moon the a drove his thunderg hosts against the sint strength of the land, nly to be shattered to a shower of moonlit ray and a swirl of riping silver foam. Beond this tumult the sea y unbroken. Not a ght, not a sail, nothing ut the white line of umbling surf and the ack of the moon. And nder the moon the unes lay still and white.

"The golden evening brightened in the west"

Far away the inland hills rose black, and at their base twinkled the lights of the town.

The enchantment of the moonlight here, mid flat sea and level marsh, mile upon mile, is irresistible, so that with Solitude I walked long, and a new day was begun when I at last turned homeward and reached my cabin, wonderfully at peace with this open, silent world.

To-day the sea is still high and under its blows, as under the blows of Thor's hammer, the island quivers. North and south, the coast is lost in white spray-smoke. Seaward, on the outer bar, the surf is nearly as heavy as here on the beach, and the air vibrates with the deep anthems of these antiphonal choirs.

Thus Time grows old, with warm days, with blue skies, and an ocean ever bright and sparkling; with solitary, quiet days holding within them the bigness of the everlasting hills and of the sea. I am learning here what the primitive peoples knew so well. I am learning to hear and to understand the voice which speaks from the clouds, from the winds, from the burning bush. It is a wondrous voice; it brings glad tidings of great joy which is for all people, but he who runs may not read its message; nor may he who serves other gods hear it. It takes time and quiet.

Four fishermen have been standing up and down the coast all day, their canvas now gleaming in the sunlight, now blue in shadow. They are still out there a few miles off shore, burning great flares either on their decks or in their rigging, and are very companionable.

October 4th. This day, cold with a strong wind from the northwest. There are no calm days now; always the

"The smoking dunes beat back the mighty rush of the North Atlantic"

wind sings. Most of my time to-day I spent in banking the house with grass, 'gainst the roaring blasts of winter, and in making a sundial with a broken oar and a red bottle for the noon mark. I didn't mark the hours—there are no hours here; time consists only of "the rising of the sun and the going down of the same." The evening and morning make the day, and in reckoning by that rhythmic swing, I feel conscious not so much of time as of eternity, and I like it.

Yesterday I picked nearly a quart of cranberries in a deserted and forlorn bed. They were spread over considerable territory, so that I hunted long for them, but I had great sport in the hunting; and they will make a bright spot in my rations, which are exceedingly plain.

The yellow glow of autumn is now deep in the sunlight. This afternoon when it lighted the western windows of my cabin and streamed a golden flood into it, it brought back to me days long since past. Days unreal, a dream of childhood; of golden skies and brown lands; and the dream brings a loneliness here in this solitude. Aye, "the thoughts of youth are long, long thoughts."

The day grew to a close mid towering clouds and a golden mist. The sea was still; the wind, which had sung all day, was hushed. Silently the great clouds rolled above, silently the glow deepened as the shadows of departing day crept on. A great peace settled over sea and marsh and river, into my soul; a peace as of Heaven—

> "Beneath whose contemplation
> Sink heart and voice oppressed"

The glow died, deeper and deeper grew the shadows, the mists crept over the land; night had come.

It was a wondrous moment, a moment such as comes often to him who dwells with Solitude; a moment when the spirit seems to have burst its bounds, to know the foundations of the earth, to join in the singing of the stars, to be of the Infinite. May it not be true actually? The sound of the wind crooning this moment about the house helps me to believe that it may.

November 15th.

> "The day is ending, the night is descending,
> The marsh is frozen, the river dead,
> Through clouds like ashes the red sun flashes
> On village windows that glimmer red."

November—and a bleak November it is. All day from out a leaden sky the north wind blows. It rustles the dune grass, now a sere yellow; it whistles through the naked plum bushes and keeps the sand steadily flying. No longer is the sea blue, but lighted only by white caps; it is as cold and cheerless as the sky.

Grayer and grayer grow the marshes, and the little pools which have shone so bright are frozen. Still the sand is golden, and the blue of the distant hills is clearer and more beautiful.

Every day now I go down the beach for firewood, bringing home as big a load as I can carry on my back, and lasting pleasure I get from a long cruise. It is made up of everything, that load: a bright vermilion lobster buoy, oak staves from some cask—heavy as lead but best of all driftwood for fires—and now and then a rare find, a piece of solid timber from some ship with all the romance of voyages of discovery, of the old buccaneers of the sea, in it.

Down the island some little way is a space behind two dunes where is a veritable museum of drift, and there I have found many valueless treasures. Legend tells of other finds; of bleached bones, of ancient coins and silver buckles, but with the exception of one penny, no such reminders of former visitors here have come to my hand.

While on one of these cruises the other day, I followed for a couple of miles an old road as it wound along between the dunes and the marshes. Its ruts were filled with sand, its twistings to avoid the cold tide were many. A forlorn road it was, lonely and desolate, its work done, left to its fate in the drifting sand.

But I like old roads, I have a fellow feeling for them, and so made friends with this one. And in return it gave me much from its store of simple treasures—the sight of a blazing red plum bush, a peep at the sea, a pool glowing in the sundown. Simple treasures indeed, but I love them for their very simplicity. I shall travel that road often and become better acquainted.

'Twas late in the afternoon when I came along it, homeward bound. In long streaks "the golden evening brightened in the west." Over the marshland, with its gleaming pools and river, the golden light shone. Unwarmed by the north wind, the dunes reflected it with a cold, hard glow. In black silhouette stood the Newbury Hills, accenting with the dots of farmhouses along their ridge, the cheerlessness of my wind-swept world and the white-capped sea.

Four stumpy coal barges, once tall ships, came around the Cape this afternoon, a big, sea-going tow-boat hauling them along by their noses. A sad fate is theirs, with their memories of lofty spars and bellying canvas, to be thus reduced. A sad fate indeed, but one which is constantly meted out through the whole realm of nature. "Survival of the fittest," we say, and give it never a thought unless perchance in the case of some once prosperous man fallen on evil days. Then we take heed. For my part I confess that I have less fellow feeling for a man whose horizon has been warped into the shape of a dollar sign, whose slogan is "Business" than I do for a green tree by the roadside, looking up to the sunshine and the stars, whispering to the winds.

January 1st. A bright day on which to begin the new year. Th

sunlight glitters over a white land; a biting north wind is dancing with the snow among the dunes.

November and December grew old with never a slack in the north wind till at last it began working around to the eastward. The bright sunlight gave place to an all permeating grayness. The fog stole in from the sea, shutting out the distant land. The whistler on the outer bar, for weeks silent, began to toot. Bit by bit the wind rose, bit by bit the sea made.

By noon of the day before Christmas, the whistler, as he rolled and he swung, wailed and whooped like a thing demented. The surf hammered and thundered on the beach, whipping the foam into thick masses and balls, to be driven inland by the racing wind. The air was thick with freezing spray and driving sand, with flying sand the dunes smoked.

From the beach to the outer bar, two miles away, the sea was a white smother, and through the gray atmosphere now and then a lone gull wheeled.

Unlighted by a sunset, the day grew to night, a fearsome night, wild and black and wet. The shutters rattled and banged. A swirling sleet beat upon the windows, threatening their destruction. Before the blasts the house quivered, and from out the darkness, like the wail of a lost soul, the voice of the whistler rode the gale. Above all, above the rattle of the house, above the shriek of the wind, rose the terrific thunder of the sea—a thunder to make one afraid of the darkness, a thunder to shake the very soul.

In the early evening when the chores were done and all made snug for the night, I pulled on oilskins and sou'wester, lighted a lantern, and started for town. For, fair or foul, this was Christmas Eve and I wished for a few bright things, maybe a bit of holly to hang in my window, even if I were to be the only one who would see it.

What darkness! Thick, impenetrable, shutting down and around and about me, and out of it the biting sleet and

> "The roll and roar of ocean
> And the sounding blast."

The wind was staggering. It blew out my lantern, it beat the breath from my body. Its shriek was as the shriek of a host of banshees. The tide driven high, flooded the marshes. Hard it was to hold the general direction, almost out of the question to keep to the road. The road seemed gone.

Occasional trees, bending, creaking, and wildly tossing their branches, alone marked the way. Under their lea, I stopped to regain my breath and to listen to the music of the gale. And music indeed it was, such as that heard at the laying of the foundations of the earth—the source, I think, of all our music. And full and deep it roared that night to the accompaniment of the thundering sea.

But such derision it howled at the weakness of my bit of humanity, such a buffeting it gave me, that I was glad when, the voyage over, I was back in my snug cabin, dry and warm.

So for three days the gale roared, a great, hoarse roar of conflict. Three days of sea thunder and flying whiteness. Three days when the island shook and quivered with the shock of battle, and the smoking dunes beat back the mighty rush of the North Atlantic. Then the wrath died.

The sea's roar has given place to a sullen murmur. Along the tops of the grim dunes, a battered but still unconquered line of battle, the north wind dances playfully with the snow.

Everywhere the fury of the sea is evident. Some of the dunes are all but swept away. The black timbers of some unfortunate ship, long since battered to pieces here, have been washed from the sand and stand like so many Druid stones, pointing toward the sun.

My cabin, in all this desolation, alone shows life. Ice- and snow-covered it is, almost beyond recognition, but from the chimney its thin blue colors still fly.

Now once more the Pleiades rise from out the sea and the great Way of the Kings stretches across the wonderful, glittering sky. Far away to the north, the light of Thor shimmers and shakes and beckons. The strife is o'er, the battle's done; and once more Solitude and I live quietly on this little island where Peace reigns supreme.

"Far away in the north the light of Thor shimmers and shakes and beckons"

The HOSPITABLE HALL

By AGNES ROWE FAIRMAN

Photographs by JOHN WALLACE GILLIES, the JOHNSTON-HEWITT STUDIO, and JACKSON & WHITMAN

S A rule we give too little thought to our entrance halls. For the hall is to the home what the manner of her greeting is to the woman you have just met—an indication of what one may expect to find on further acquaintance; a first impression by which one instantly, though perhaps unconsciously, forms an opinion—and first impressions are always hard to erase.

What, then, should be the character of this introduction, or welcome, to your home as sounded by the hall and its appointments? Aside from the obvious fact that the treatment should be in keeping with the general architectural plan and furnishing of the house, what may we call the fundamentals of a well-furnished hall as applied to homes of all styles, great and small?

First, there ought surely to be the attribute of dignity, to which end we must lay especial stress upon the formal grouping and symmetrical arrangement of hall furnishings. Second, there must be an equally insistent simplicity, whether of a modest or a monumental kind, since the hall is essentially a place to pass through, and its points of interest or beauty must, therefore, be comprehended at a glance, even though it happily be made so inviting as to tempt one to linger on the way. And, finally, there must be about the well-furnished hall an unmistakable note of hospitality. However unpretentious or imposing its architecture, a cordial reception must be suggested by its furnishings even before the spoken word of host or hostess bids one welcome to the home. With this in mind, we must see to it that our hall makes thoughtful provision for the comfort and convenience of even the casual visitor, so that where there is not an adjoining dressing room we shall include among its essential furnishings not only a well-lighted mirror but a table with a drawer to hold pincushions and other requisites for small emergencies, not forgetting the pad and pencil so often needed to write down a message or address.

Exactly what constitutes the appropriate furnishing of a hall depends, of course, first upon its size and shape; but, as at best it is seldom as well lighted as other rooms, light walls and woodwork are in any event advisable, whatever color is employed on the former being of some neutral tint that will not clash with adjoining rooms.

As for its movable furnishings, these come down to a question of formal tables and chairs, chests, settees or sofas, benches, mirrors, occasionally a highboy, or lowboy, or lacquered cabinet—in fact, any piece of furniture designed to stand flat against the wall. As for incidental decorations, we do well to make our chief ornaments the light fixtures, torchères, umbrella jars, fire-irons—if there be a hearth—jardinières, and other receptacles for plants and flowers, permitting the presence of little that serves not a primarily useful purpose, except, perhaps, the conventional pair of candlesticks on a console table, or a pair of Oriental porcelain jars, and some well-chosen decoration for the walls. Seldom can the latter be a collection of prints or pictures, with good results, but in many instances a portrait or a fine tapestry, a terra cotta bas-relief or one of the colorful Italian plaques, may be hung to fine advantage on an otherwise cold wall.

The things that we may use appropriately in the furnishing of our halls are few in kind, but the possibilities of using and combining them with real distinction are infinite, as suggested by the widely differing types of halls here shown. In each case the method of its furnishing, and the character of its decoration, have been intimately related to the architecture of the hall itself, and in this coöperation between architect and decorator lies much of the secret of their individual charm.

Walker & Gillette, architects

Could there be a finer welcome as one enters this famous Long Island house, modeled after an early Italian villa, than the judiciously massed plants, which follow on up the broad sweep of the stairs? Not even the severe dignity of the fawn-colored plaster walls, vaulted ceiling, rough-tiled floor of reddish-brown, toned with the bricks of the stairs, massive oak floors, and churchly windows can make this hall either cold or forbiddingly formal because of this simple decoration of living greens, together with the warm texture and coloring of the great tapestry panel

Lucy Abbot Throop, decorator

Trowbridge & Livingston, architects

A hall which eloquently bespeaks the distinction and refinement to be found throughout the furnishing of one of old Southampton's most artistic homes. Note especially the fine placement of the portrait above the Adam console table, and the Hepplewhite chair beneath the rare old eighteenth century clock. Both porcelains and rug [illegible] warm note of color

In this stately hall of Classic inspiration, the cold beauty of Italian marbles has been wonderfully offset by the rich coloring of the tapestry and plaques and by the warm-toned floor with its Oriental rug. A hall of chaste simplicity, palatial in its style of architecture and treatment, yet withal unusually inviting as the entrance to a private country home

An old-fashioned hall in an old-fashioned house, and furnished after the good old recipe which calls for light, neutral walls, white woodwork and stair treads, with a warm note of color supplied by the stair carpet, rugs, and upholsteries. The four small pictures at the far end detract from the dignity of the decorative plaque in the centre, and a fern or palm on the candle stand by the newel post would be a happy addition, but on the whole this hall speaks well for the charm and hospitality of the rest of the house

Lenygon & Morant, architects

John Russell Pope, architect

Nowhere in the house is there greater need for carefully balanced, symmetrical groupings of furniture than in the hall. Note especially (at left) the shape and size of both clock and chairs, and even the light fixtures, as related to each other and to the wall paneling which they are placed against. In the picture above, note the broad console cabinet, the narrow high-back chairs, and slender fixtures in relation to their respective wall spaces

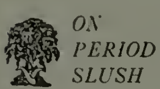
Walker & Gillette, architects

The hall in a charming Georgian house which is furnished entirely with antiques. Against a background of biscuit-colored walls the antique Chinese wall-paper inset in panels above the stairs, and again in the screen below, is wonderfully decorative, as is also the soft, rich coloring of the old Moreland painting in the mirror between the windows, and the needlework chair below it, at the right. The plain blue of the stair carpet, matching the dominant blue of the Chinese panels, is especially pleasing with the yellowish tone of the old Portland stone floor

Two other views of the hall shown at top of page. A fine pair of black Wedgewood urns, the rare old black and gold mirror above them, the wrought iron stair rail, and the clever placing of the little bas-relief in one of the wall panels, are other features worthy of special comment in a hall where architecture and furnishing have been made consistent and harmonious to the last detail

FROM A COUNTRY WINDOW

PERIOD STYLE in furniture and decoration has become a sort of shibboleth or fetish. People who lay great stress on their culture and artistic education rave over it. Sunday newspapers, in sections devoted ultimately to the display of special advertising, publish half-baked articles in which much misinformation about the period styles is set forth in flamboyant journalese. Hotels furnish and exploit "period" rooms, their "Italian Renaissance" and "Louis Quinze" apartments being about as appropriate and as justifiable as their "college" and "sportsmen's" rooms; and they get away with it. One is led to believe that the ideal modern home, for a family of culture, should contain a Louis XIV drawing-room, an Empire music room, a Georgian library, a Tudor diningroom, a Mission den, and Colonial bedrooms. If my lady can have a Japanese boudoir, so much the better.



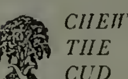
ON PERIOD SLUSH

She becomes conversant with the patter of the period cult; the flush of enthusiasm tinges her cheek. You should see her new Queen Anne highboy—just the thing for the William and Mary room. My dear, it's a dream! The man said it was genuine, and anyway it cost enough. And she has just bought a new Hiroshige for her boudoir. She adores Japanese prints; don't you? Now she's going to change her dining room. Chippendale has become so commonplace, you know. She thinks she will have it done in Jacobean. By the way, do you say Jaco*be*an or Ja*co*bean? And so on, *ad nauseam*.

Furniture, wall papers, rugs, bric-à-brac, everything may now be had in so-called period styles, if you have the price. Things that were never dreamed of forty years ago may be had in authentic period styles. You can get Elizabethan electric lighting fixtures that Sir Walter Raleigh would recognize as his own, telephone booths that reproduce the sedan chairs of Madame Pompadour's time, and even Martha Washington bridge tables. The manufacturers do their best to make it easy for us.

It is a sort of desecration—interior desecration, if you will. These styles, the survival of the fittest from out the artistic past, deserve greater respect. They should be lovingly employed by the hands of those who understand their significance. They cry aloud for consistency, harmony, and restraint, and we persist in making an anachronistic hodge-podge of them. When we cease thinking of the period styles as the fashionable thing, and view them in the light of an artistic heritage, we shall perhaps learn to use them with greater success in modern homes.

I ALWAYS HATED to milk. It is a tiresome, monotonous task, yet like most purely mechanical operations, once mastered, it affords regularly recurring opportunities for thought—and dreams!



CHEWING THE CUD

The cow herself is such stuff as reflection is made of. To ruminate, to chew the cud—how plain is the derived meaning. Such an automatic act as milking, since the very monotony of the repeated muscular contractions is conducive to a certain dreaminess which leaves the mind free to wander leisurely in pleasant speculative paths, should provide one of the best means to calm contemplation.

However, this desirable facility in these two ancient arts is not to be acquired at a single bound or, more properly, with a single squeeze. Many of us are so engrossed in our daily occupations of selling short, teaching school, driving nails, arguing cases, or making shells, that we are likely to be forgetful of the fact that the source of milk is ulterior to the shining glass bottle with its neat label of certified cleanliness.

Milking is, indeed, an art—and so is thinking! For the mastery of each is required an unusual degree of tenacity of purpose coupled with more than an average amount of vigor. While the veteran milker takes little heed of the rude interruptions of vindictive switchings, impatient side-steppings, and harmless punts of the pail, to the amateur these are all possible perils to be encountered. Cautiously he seats himself upon an unsteady, one-legged stool, compresses the slippery pail between his legs, and, with head bent forward as a possible buffer to furtive blows, reaches forward to press out the "little dribbling stream" from udders that won't give down.

The beginner tries gently and caressingly at first. Surprised at not succeeding he tries, tries again, squeezing firmly, insistently, vigorously. He perspires freely, his legs ache, his wrists become nerveless, yet scarcely more than an occasional capricious spurt rewards his painful efforts.

In vain does the patient Timothy, good-naturedly humoring the whim of his thousandth summer visitor, endeavor to make clear the complexity of the motion which causes the white stream to flow easily, continuously, jinglingly, and then gushingly into the pail.

Persistence is eventually rewarded by achievement, and with this mastery comes the opening up of new vistas, as the novitiate, no longer mindful of hands and legs, looks through the low western door at distant gold-crowned hills, and beyond to the grandeur of the end of day; or, in the early morning grayness, stares abstractedly past the swaying lantern into the mystery of a cobwebbed ceiling as yet unprofaned by sanitary regulations.

Likewise, if such a perspective could be granted to those high in authority, if a few simple chores could form a part of the daily regimen of statesmen with minds bent upon postmasters and pork, what boundless national blessings might follow in the train of this performance of simple, common tasks, which provide a time for looking across peaceful valleys and into splendid sunsets.

ROADS MAY NOT have been made for dogs to lie on, but no more were they originally intended for the speeding automobilist, and since some of our best citizens of both classes make use of them, it is high time that these should come to an understanding. Some people there are who consider every roadside canine a nuisance, and it is not to be doubted that the dogs reciprocate this feeling. Others, who have dogs at home, regard them as true friends, and here again the dogs reciprocate, for above all things they are experts in human nature.

FRIENDS, NOT FOES

Snarl at a dog and he'll snarl back, but call to him as he dashes out and he'll make a spirited race of it instead of doing his best to scare you to death. It is doggish instinct to chase anything that moves, and as the forty mechanical horses of a touring car cannot be frightened into the nearest stone wall, why not slow down and let our dog friend think that he is winning the race? It will give him great pleasure, for he can then go back and remark in dog language to his less adventurous acquaintances, "You know that big yellow touring car that goes by here? Well, I clean outran it to-day. I'd have been beating it yet, only I didn't want to leave the house unprotected." Dogs, you know, have a sense of humor.

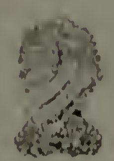
And by the way, when you see a homeless dog slinking down the middle of the road, sound your horn soon enough to let him move aside unhurried. He'll appreciate your thoughtfulness even if he is unable verbally to express his thanks.

FROM A RECENT

EXHIBITION *of* SCULPTURE

By

MARIO KORBEL



Photographs by W. C. Ward

Group loaned to the exhibition by Mrs. Harry T. Johnson, a copy of which is to be presented to the Cleveland Museum of Art

ANDANTE

Music and The Dance, consisting of two figures, one draped, the other nude. A beautiful example of sculptural composition, for a conservatory or outdoor living room fountain

Representing Flora. The fountain throws two streams of water, which cross in front of the figure. The column is exquisitely wrought in low relief

Youth—a fountain in bronze on a fluted marble column, with marble basin. The water bubbles up in a bowl held in the figure's outstretched hand

Reflections. A quiet indoor fountain. The bowl, filling from the tiny dolphins at the base, provides a calm pool in which the delicately modeled figure regards itself

Memory, from the McPhee Memorial at Denver—one of the most superb memorial figures ever modeled in America. The figure is shown in full at the right

DISSECTING *the* STRATEGY *of* TENNIS

By HENRY R. ISLEY and BURTON KLINE

A new system of scoring that reveals what has been obscured hitherto by mere figures

HE longest set ever played in lawn tennis of the first importance occurred in the match between Maurice E. McLoughlin of the United States team, and Norman E. Brookes, captain of the Australians, in the challenge round of the Davis Cup series of 1914, for the championship of the world. The American won by seventeen games to fifteen—111 points to 98. Neither record nor memory offers anything to equal it in generalship and technical execution. Nearly 15,000 lovers of lawn tennis witnessed this wonderful exhibition of brain and skill, of all that is brilliant and thrilling in a highly dramatic game. What record remains of it?

A populous gallery left Forest Hills, Long Island, that afternoon with an apparently indelible impression of each bit of strategy, of every cunning stroke, every doughty smash and startling recovery. Yet it is probable that to-day not more than a handful of that audience could name off-hand the critical stages of the contest. The bald score of the set reads:

	NETS	OUTS	PLACES	S.A.	D.F.
McLoughlin	31	28	43	24	4
Brookes	13	28	28	7	3

Even to the mind of the tennis student these figures convey nothing. They give no clue to the subtlety and finesse of attack, the strategy of defense that two of the greatest players invented in one of the closest tests in a game of brains. All that is forever lost. A few spectators may still retain some faint mental picture of what occurred during that fascinating battle of wits, yet Mr. McLoughlin himself has proved the tricks that may plague even the trained memory. Recording in his interesting book his recollections of one particular stage of that set, he says: "I certainly wished never to be subjected to that strain again. However, I soon discovered that you cannot reckon without your host, for at 14-13 in games, Brookes, by a magnificent effort, again went into a 40-15 lead on my service." But Mr. McLoughlin's memory is in error. Our point-score—probably one of the few in existence—places the moment of doubt at the 26th game, and not the 28th. And it went to Mr. McLoughlin on two final nets by Brookes, after an anxious deadlock at deuce. It is worth dwelling on this bit of detail, if only to prove the failure of the present system of scoring to reproduce and record permanently the flights in an art that is none the less genuinely an art because it is plied with a racquet instead of a bow.

Followers of the game have had always to bewail this sorry inadequacy of the score. Here is a sport whose character should stoutly commend it to the American audience. The strokes of a skilled player are more difficult to execute, and more fascinating to watch, than the moves in any other game. The contest, always keen, often rises to pitches of intensity, the tide of battle is apt to shift with a suddenness that touches the dramatic, and the players are a picture of grace in action. With all these virtues to recommend it, why should lawn tennis have been so slow in gathering its admirers?

Chiefly because it is so badly advertised by its records. In baseball the box score brings back to the spectator every move that stirred him in the game on the day before. The football chart marks every advance of the ball across the lines. In lawn tennis the score totally obscures the true character of the game. Stupidly recording only the strokes that decide the points, it leaves out of reckoning altogether the tactical moves that led up to these winning points, and that form the real body of the game. Often the most exciting and skilfully fought rallies end in forced misplays on the part of the man whose wit has been, up to that moment, superior. These tactical brilliancies the score leaves to the tricks of the memory, while it stubbornly sticks to the dead facts of the points won or lost.

A left-hander, Kumagae hits the ball with a peculiar lifting stroke. Something of his subtle generalship is shown in Figure 8

Toward the close of the past season, at the opening of the National Championship matches, we were satisfied that a system of scoring might be devised to catch something more of this inner heart of the game, and in search for it we hit upon the idea of tracing on blank diagrams of the court the rallies in the more important matches, by way of test. Begun as an experiment—with some doubts as to the busy life that would fall to the scorer—the results obtained came as a glad surprise. The strokes as played were, it was found, unexpectedly easy to spot on the blanks. Later redrawn at leisure, they disclosed the fact that something besides the more stirring periods of play had been snared. It was not only that, rally by rally and game by game, this real heart of the sport had been bared; these diagrams laid open to record the whole strategy of the game; still more, they tracked down each individual master of the courts in the secrets of his favorite style of warfare.

Among those who saw the Championship match last season there is complete accord on the point that Mr Williams and Mr. Johnston reached the summit of skill in the sport thus far—and this with all due consideration for the great contests of the past. It was not the most spectacular of duels. The rallies were short, sharp, and decisive, for the reason that the stroking was so clean and severe, the placing so accurate, and its direction so superbly conceived. But it was magnificent tennis, and its loss in the barren point-score, like the wonderful set between McLoughlin and Brookes, is a grief and a shame.

In our experiment with these diagrams it was manifestly impossible for a visitor to the courtside, whose mission it was also to write a running review of the contest, to follow every rally, even in the sterner matches. The real test rested on the Championship meeting, and scores of these charts of it have fixed its really critical stages a nothing short of a cinematograph could do.

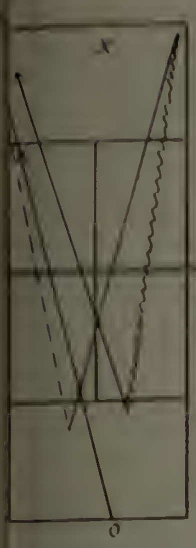
Nothing, of course, but a complete file of such charts would do full justice to the merits of the match, to the clever surprises, the daring venture which the two young players sprung upon eac other that afternoon. A few typical rallie must suffice for illustration. Without question Johnston entered the lists with his game sedu ously sharpened to its best for this particula encounter. Williams, on the other hand, wa ending a season of broken and various succes. While he is undeniably the most thoroughl grounded player of tennis strokes in America—or anywhere, for that matter—Williams was nc in his finished form at the moment of the Championship tie. In spite of a disappointing exper ience in the Newport tournament just before, h stuck to his convictions, and came on the cour refusing to compromise with a twisted ank and a wavering skill which, as it happened, re turned to him in full measure only during th last two sets of the match. His courage an resource in those two sets, however, finally wo him the Championship crown.

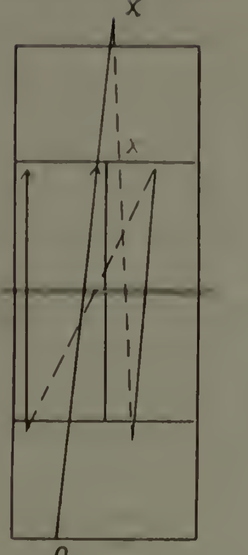
By nature the most daring of modern players Williams stakes his fortunes at all times on th stroke of venture. Playing always in seren confidence, he strikes for the very chalk lines i entire abandon, with the consequence that eve at his best he scores against himself a high per centage of error. But it is always error by bar fractions of an inch. His ground strokes ar severe in the extreme, hit with a quick snap tha gives his opponent no time to divine their direc tion. Their trajectory is low, and they skim th net and land within the lines by nothing but th narrowest of margins. When Williams has on of his best days, and these strokes, executed t perfection, are flying true to their mark, his gam is absolutely unbeatable. A good example of h method occurs in Figure 1.

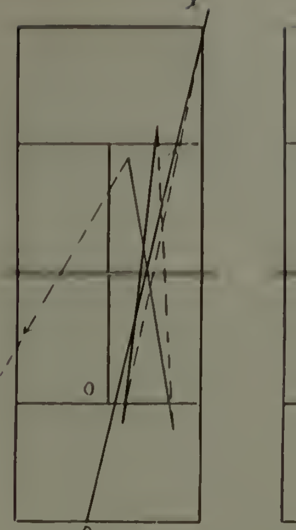
In this rally, in the second set of the Champio ship match, Williams's service stroke reached t far corner of the service court. From his favori position well within the court, he half-volley Johnston's return of the service, and sent h drive into the opposite corner of Johnston court. The only possible reply left to Johnst was a lob, for an easy smash. This lob a Ca fornian of the true thundering style would ha killed off with pyrotechnic fire. Williams cho rather to conserve his energy, and placed h smash with only the severity needed to land t ball beyond any possible attempt at retur The X marks the point where Johnston stood the ball bounded beyond his reach, to end t rally. With the modest expenditure of fi strokes the new champion had registered a bit superb tennis.

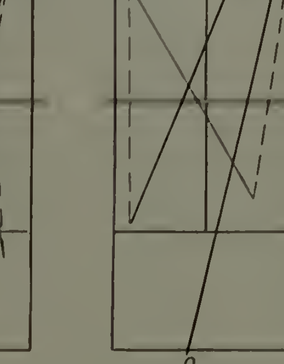
Another example of the forcing tactics wh Williams used to wear down Johnston final occurs in Figure 2, a rally in the 8th game of t 4th set.

Here, after crowding Johnston outside t court and well behind the base line by means o









...1. O, Williams; X, ...ston. Set 2, Game 2

Fig. 2. Same players. Set 1 of Game 8

Fig. 3. O, Johnston; X, Williams. Set 5, Game 3

Figs. 4, 5, and 6. Showing three typical rallies in Set 5 of Game 10, between Williams (O) and Johnston (X)

...tely placed service, Williams was content with ...urely defensive return to the opposite side of ...opponent's court. The stroke was, however, ...ere enough to reduce the power of Johnston's ...wer, off his backhand. The winning stroke ...Williams was that favorite manœuvre of his— ...icious backhander down his opponent's fore- ...nd line—this time resulting in a clean pass.

...While the rallies themselves in this long en- ...nter were short and bitter as a rule, a few of ...m were prolonged and of exceptional bril- ...ncy. One especially dazzling passage occurred ...the 3rd game of the last and deciding set— ...ure 3.

...ere Johnston had the service. For speed and ...h the stroking here was fairly electrical, com- ...ling recoveries so nearly impossible that the ...st toughened of tennis spectators held their ...ath as these rapid returns ran the gamut of ...ll. Volley, half-volley, every conceivable ...oke was brought into play at lightning speed. ...cing was, of course, nearly out of the question ...h the play going at such a pace. Each player ...tched what he needed, or what he could, of his ...ll, to meet the flying ball. What were the ...ntal processes that led to Johnston's eventual ...nning stroke, perhaps he himself could never ... It may have been inspiration, it may have ...n luck, that created a hole in Williams's court, ...a short, swift shot out the side, when Williams ...s clearly expecting the attack to come, as it ...quently had, to his temporarily shaky back- ...d.

...A few minutes later—in the 10th game of this ...ne last set—Williams retaliated in kind. ...ure 4 provides a fine illustration of the variety ...the new champion's service. This rally he be- ...with a stroke close to the middle line. With ...opponent forced well back by the speed of the ...oke, Williams came in to half-volley the return ...ve, with Johnston also creeping in to entrench ...nself in his favorite station at the net. Wil- ...ms forestalled him in this move, with a return ...the backhand that was too severe to be trifled ...h, and Johnston is seen trying for a cross- ...rt to Williams's own backhand, to gain time ...his run to the net, or perhaps gain the point ...right. Ordinarily it should have been a pay- ...manœuvre, for Williams's play during the ...son had betrayed a weakness new to his ...ally perfect backhand stroke. In these last ...sets, however, Williams had conquered this ...akness, and, darting across in uncanny antici- ...ion of what was coming, he met the ball with a ...khand volley down the side line, that left ...nston helpless, at X.

...n Figure 5 we find a vigorous smash, of the ...e California-McLoughlin brand. In this rally ...lliams himself was so cruelly forced that his ...okes were defensively straight, for the excel- ...t reason that he was never allowed a moment's ...e to place them. The third ball he drove—a ...ak floater—left Johnston an easy opportunity ...a hearty smash, which immediately ensued! ...at Williams feared the worst in that direction may be gathered from his dash to the threatened point at O, but not in time to deal with the flying visitor.

One more typical passing stroke favored by Williams occurs in Figure 6. In this instance Johnston showed immensely good tennis sense, with a rush across the court after returning the service stroke. The speed of his sprint may be gauged by the fact of his safe arrival at the point of his next return—nearly up to the net, after having been driven far back by the speedy service. Though he reached the strategic spot, it was not in time to bring off a strong placement. The best he could do was another stab at the backhand of Williams, in hopes of finding it faltering once more. That Johnston did his best, after making this stroke, to recover his proper defensive position in mid-court is shown by the detached X. But Williams's backhand refused to fail, and he sent back a drive of such speed and accuracy of direction as made it impossible of return.

Other diagrams of other matches between still other players prove, as these do, that a way has been found to penetrate the strategy of any master. No discussion of tennis lore would be complete, of course, without a study of McLoughlin, and we find a good example of his style in Figure 7.

When style meets style the results are very like the meeting of steel and steel. It must be said that the McLoughlin put out of this year's championships, though still the idol of the tennis fraternity, was by no means the player he was two years ago in his great battle with Brookes, and Church all too easily blasted his hopes of a recovery of championship honors. It was a slugging match between two heavy hitters of similar style, for the Easterner, Church, has carefully copied the smashing methods that come naturally to the Californians on their fast asphalt courts. Figure 7, a typical rally between them, though it went to McLoughlin, shows the characteristic manner of the men.

Here was a battle at short range, and the lines of the diagram clearly reflect the mental and physical activity of the players. Up to the final forehand drive by the former National Champion, every stroke is correct in sound tennis tactics. There is no attempt at surprise, but instead a regular variation of direction, with the aim of driving the ball fast enough to beat the sprinting of the other player. On the final stroke, Church evidently anticipated the obvious and regular forehand stroke down his own backhand line, and was outwitted when McLoughlin at last brought off a quick shift and sent a sharp-angled cross-court out the unexpected side of the court.

This was McLoughlin at his best, serving well out the side, in the old-time manner, hitting his slashing forehand with all the abandon that lends so much dash to his game—and to his pictures—with swift volleys to finish off and catch his opponent running in the opposite direction.

One of the most interesting and engaging personages on the courts last summer was the Japanese visitor, Ichiya Kumagae, whose career

With the retirement of W. A. Larned, the courts lost an audacious and brilliant player. An indication of his style is given in Figure 9, redrawn from memory of his game with Ward at one of the Longwood tournaments

Copyright by Newspaper Illustrations, Ltd.
Showing one of the many varieties of service employed by Williams, the 1916 National Champion

among our players offered a delightful psychological study. Coming to Longwood with no previous experience of grass courts, he instantly showed himself a shrewd thinker and quick to learn. Gathering new skill and experience in each succeeding tournament, he reached the height of his season at Newport, with the defeat of Mr. Johnston, then National Champion. That victory belonged to him deservedly there can be no question, for he brought to bear as crafty a bit of strategy as had ever been seen on the famous grandstand court.

As usual, the point-score of this match shows nothing of the cunning employed by the Japanese in forcing Johnston into back-court play, the very game that suits him best. Even after the wavering Johnston had waked to the realization that he was a trapped man unless he could play from the net, and when he was making frantic though wearied efforts to reach it, the wise man of the East persistently forced him back with long drives that everlastingly passed Johnston when he gained the net, and kept him mercilessly on the run when he chose to stay back. From side to side he was raced, nearly always in the end to see the Japanese send a long, deep forehand drive, with a heavy top-spin and a high and awkward bound, into a far corner beyond his reach.

No score of nets, outs, or places would reveal the effect of the clockwork driving of Kumagae. A left-hander, he hits the ball at great pace, with a peculiar lifting stroke that gives it a curving flight and a bound that seems to vary infinitely in height. Its force and its puzzling bounce had the champion constantly stanced too close to deal with it effectively. Time after time the best he could do with it was a soft return, when he did not foozle it outright. Figure 8 has caught something of Kumagae's subtle generalship, in a rally that helped him to victory.

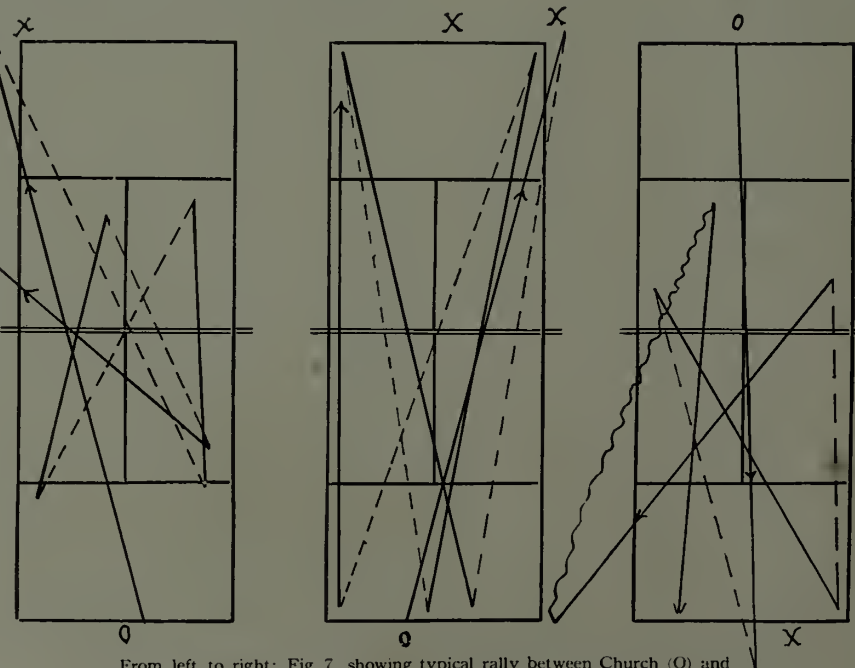
After his service stroke, the Japanese kept to the base line, according to his habit, and then returned Johnston's drive first to his opponent's forehand corner. As the match had now reached its final stage in the 5th set, Johnston was exhausted by his ceaseless runs back and forth across the baseline. Sent first to his forehand corner, he was raced back at once by a drive to his backhand corner. Tired, he weakly drove straight into the deadly forehand of Kumagae. The result was one more of those finishing drives, final in its speed and accuracy, again aimed at Johnston's forehand corner. The X shows where Johnston was left when the ball bounded unreachably beyond him.

Unfortunate though it is that we have no permanent record of the modern game, it is even more so that tennis tradition is not enriched by lore of the past. Larned, Ward, Whitman, Davis, Clothier, Wright—each of these left a priceless legacy of strategy and good form, now an influence totally lost to their rising successors.

With the retirement of Larned, passed a player never excelled for sheer audacity of idea and brilliancy of execution. Whatever "inside" craft he used was always concealed from the spectator, who found himself blinded by the glitter of a fascinating skill of stroke, and the daring of an attack that consisted of endless surprises. Other players are wont to adapt their game to that of their opponents. Larned serenely held to his own style and left the problems of adaptation to his opponents. When the youthful McLoughlin first came out of the West and won the Longwood tournament, the prediction was that the elder Larned would fall before his smashing challenger. McLoughlin did win a set from him. Otherwise he fell, as the others did, before the flawless execution of an inspired attack. It is possible that Larned himself never deliberately prepared his campaign beforehand. He trusted to inspiration during the match, and the inspiration seldom failed him.

Among the contemporaries who most bothered Larned was Holcombe Ward. No man, not even Kumagae, smote the ball with a more baffling stroke, though Ward chose the soft under-cut style, and he aimed the ball with a diabolical and irritating cunning. His wickedest shaft was a slow cross-court, with a low bound, that dropped just under the net. The American twist service, an invention of Mr. Ward, was an annoyance new then to all but himself. Above all, few players surpassed Ward's uncanny powers of divining the intentions of his opponent. Against Ward, even Larned's inspired surprises were reduced in their ratio of the unexpected. As a consequence a meeting of these two always produced extraordinary tennis.

In one of their encounters at Longwood—where, for some reason, Larned seemed always to play his best—there occurred a passage that, for sustained dramatic interest, has never been outdone. One rally in particular, typical of the entire 5-set match, lingers in the memory. Figure 9, redrawn from recollection, pretty faithfully reproduces what happened.



From left to right: Fig. 7, showing typical rally between Church (O) and McLoughlin (X); Fig. 8, Kumagae's (O) victorious rally against Johnston (X); Fig. 9, diagram of Larned (O) vs. Ward (X) match, from memory

The retiring 1915 National Champion, Johnston, the techniq of whose play is diagrammed on page 57

In those days it was Larned's habit to rush f the net on the instant after his service. T make this safe, he nearly always served down t middle-line, since a ball so placed leaves the min mum margin for a passing return. In this ral Larned served in his usual manner and made f the net. There, perfectly aware of Ward's facul for anticipation, he made a quick feint at dartin toward his backhand, as if expecting a return o that side. As quickly, and precisely as Larne had figured, Ward shot the ball to the forehar side, where Larned leaped back, ready to meet His own reply was one of the familiar sharp angled strokes into Ward's forehand corne As Ward tried now to pass Larned down his bac hand line, another of the Larned-brand angl came off—a swift volley far out the backhand sid of Ward's court.

Here followed a play that stopped the breat of the spectators. Racing like a deer across th court, Ward was able, by a prodigious effort, t sweep his racquet wildly under the dropping ba in the last desperate fraction of a second befor it touched the ground. His back was turned t the court, but there rose from his frantic bat perfect defensive lob to mid-court. There, hav ing been run so far out of court on one side, War naturally expected the smash t go as far into the unprotect area on the other side, and made for it on the run. T smash came instead square into the corner that he h just deserted, and the b landed literally yards aw from the point (at X) that had reached in his sprint.

Of all this breathless play t point-score had nothing to s except that Larned won t point on a placement. Yet had won it only after furi opposition, by the powers quick surprise that made game what it was, and W got no credit whatever for truly wonderful recovery.

An official scorer, gently lieved of his pathetic atta ment to nets, outs, and plac and armed with a sheaf of bla diagrams, might have preser to the game untold treasures lore—actual pictures of play instructive to players, an chive of important matches. interest to the public, and va able to winners as records.

KEEPING *a* PET COOK

By THOMAS L. MASSON

Illustrations by GLUYAS WILLIAMS

FOR most of us, Utopia lies glimmering beyond the range of our immediate possibilities. We stray out of our own confines and, just over the border, is aven that we have so long ... about, the country ... that we have fairly ached ... in all these years. From ... to time, Sundays and holi-, we go on journeys and catch ... glimpses of just the sort ... that we have longed ... in all our lives. They ... usually lovely old manses ... genuine Turner landscapes, ... brooks, cosy groves, the air of remoteness which ... permeates the recesses of our thought and makes us ... ng to abandon home, friends, city, business, ... transportation systems, dust, noise, bills ... erything, in fact, that makes life satisfactory ... expensive—and just get out into the country ... live.

"Just the sort of place that we have longed to live in all our lives"

...ut if you yield—and there is no reason why ... should not yield—there is one thing that you ... do ... you ... take along ... t cook. These ... rogeneous ... tures have ... n abused, ex-... d, analyzed, ... cted, and ... udged for ... . Now that ... are rapidly ... oming ex-... t, we begin, ... ough in a ... n, reluctant ... ner, to ap-... iate their vir-... . We realize, ... a quaver in ... throats, that ... all of them ... left us the ... t morning, ... they have ... all been vic-... , untidy, destructive, or alcoholic. We seem ... ee them more in their true light—strug-... , like ourselves, for better things; failing ... times, no doubt, groping in the dark blindly, ... still ever striving to reach a higher sphere. ... t, I should say, is, broadly speaking, about ... we feel toward all cooks at the present mo-... t. We would not turn any of them away from ... doors, no matter what has happened in the ... . We would not do anything willingly to stir ... n to unpleasant recollections. We would, in ... t, forgive and forget, and welcome with open ... s almost any cook that we have ever had, if ... vould only come back to us now in the hour of ... need.

"To love and feed and take care of and fuss over"

...ut if you have ever had a pet cook, then your ... ngs are much more intense, and I urge every ... without regard to race, age, weight, or pre-... s condition of domestic servitude, not to ... e into that beautiful old manse in the country ... I have feebly attempted to describe, unless ... have first secured your pet cook in such an ... terable manner that she cannot get away from you at a critical moment. Grapple her to your soul with hooks of steel, and then—off with you!

Modesty in our domestic equipment is not always the result of desire or of parsimony, but of stern necessity. Breaking away from your old moorings and living in the country, as you have now made up your mind to do, must naturally be accompanied by sacrifices. You cannot have a waitress in your new heaven, nor an upstairs girl. You must bravely and high-mindedly dispense with these luxuries. But believe me when I say that a cook you must have, and a pet cook at that. And you will immediately ask me, I am sure, what a pet cook is and why she differs from the common or garden variety of cooks; and I will answer, I will tell you. A pet cook is precisely what the name implies. When you have a pet cat or a pet dog or a pet elephant, you have it for certain purposes—mainly to love and feed and take care of and fuss over and stave off lonesomeness with. And that is precisely what you have a pet cook for in the country. You must be fairly well occupied with something, in addition to many of the things that you like to be occupied with; and a pet cook answers this purpose better than anything else you can get.

There is, of course, this peculiar thing about a pet cook that differentiates her from all other varieties: she has become a pet gradually, because you have made many sacrifices for her; and you have come to love her because, in spite of everything else, she is invariably faithful to you. You know that she will always come back at night, and that you can rely upon her to be prompt at meals, even if you have to serve those meals yourself. In short, as you look into her trusting eyes, you know that you couldn't get rid of her even if you wanted to. No matter where you took her and left her, she would always find her way home again; and even if at times you wanted to chloroform her, you wouldn't have the heart.

"In addition to doing all your housework, you would have also to take care of the pet cook"

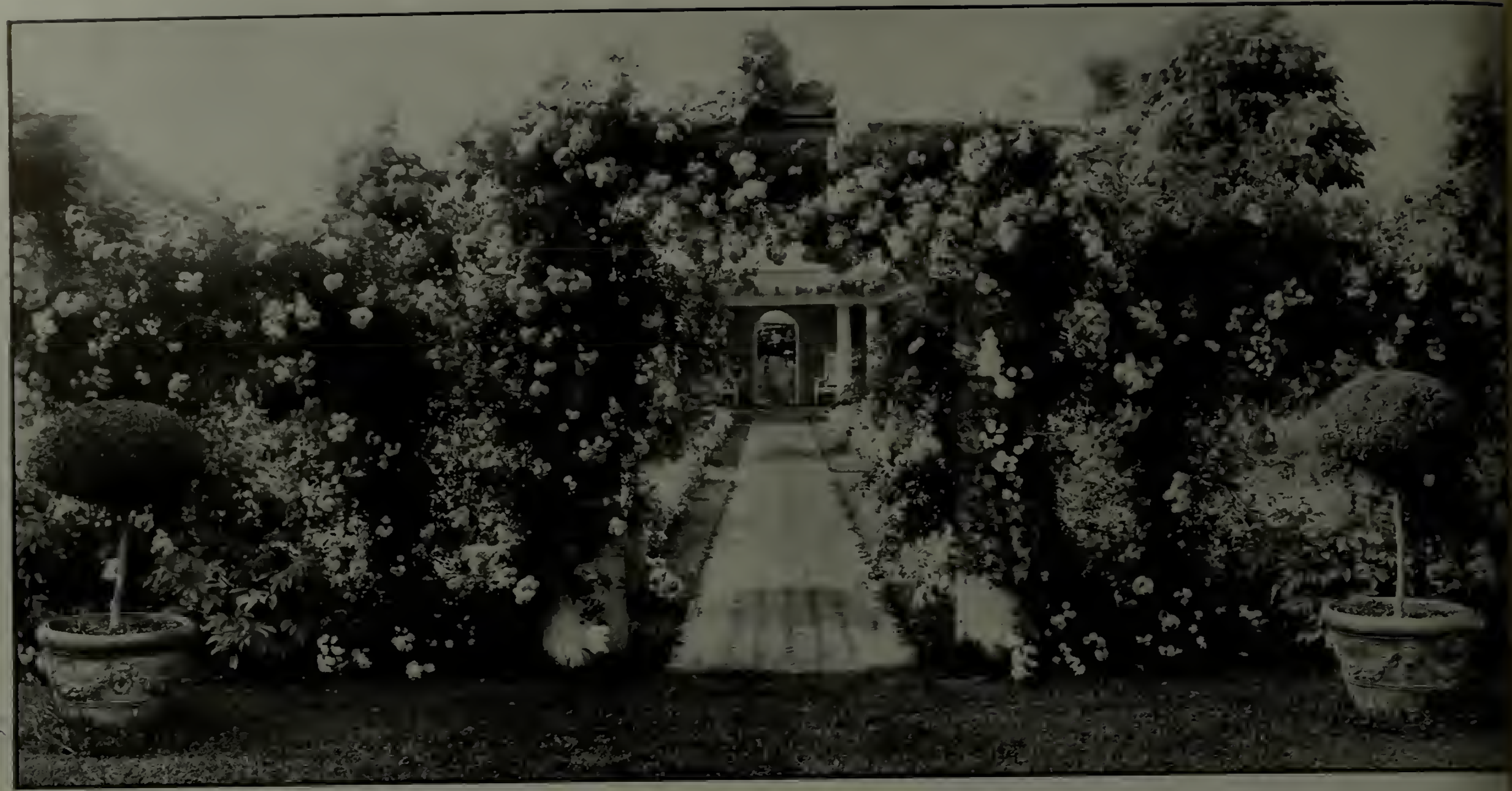
The object of keeping a pet cook in the country, therefore, and its obvious necessity, must now begin to dawn upon you in all its simplicity and grandeur. If you had no cook at all—that is, if you were perfectly normal and commonplace—you would, or might probably, still have to do your housework. Now this is all very well, but—to be secretly truthful—it isn't enough. It becomes too monotonous. There is no proper romance about it and not enough of the spirit of sacrifice to make it worth while. One needs something more than this. One needs a pet cook.

Then, in addition to doing all of your own housework, you will have also to take care of the pet cook. There she will be, always at your side, dozing by the fire, eating out of your hand maybe, romping occasionally in the kitchen on sunny days, loyal and true, a constant occupation. You will have your books, your walks, your communions with nature, and—to make them all quite real—your pet cook. Aside from taking occasional trips to the city to renew your china, you can live on there forever, washing windows, sweeping floors, making omelettes, mowing lawns, and keeping your pet cook down to a reasonable weight.

"No matter where you took her and left her, she would always find her way back home again"

To amuse her and keep her mind occupied will in itself be a source of recreation—that kind of recreation which you need most when you are working too hard—that kind of recreation which makes you get out of yourself, and puts your thoughts on another. Just hard labor, considered as a thing by itself, is all very well—it's a source of inspiration and all that sort of thing. But to make it count most, you must always be working, nay, toiling, for another.

It ought to be plain now, therefore, that the reason so many people are disappointed in their quest of country joys is that they always forget this important adjunct—the pet cook. They are too selfish. They want all of the pleasures without a background. Yet what would life at best be without its background? And what better background than a pet cook!



The rose wall in Mrs. Woodhouse's garden at Easthampton, L. I., which breaks the long sweep of green lawn and hides the less formal garden except for glimpses seen through openings in the wall

The WOMAN *an*

T IS an anomaly that Disraeli should have done so much to lead woman's attention to the cultivating of her garden, for it has often been said of him that no subject of Queen Victoria was more ignorant of the processes of horticulture. Had he been questioned as to herbaceous plants, he would have taken refuge in an epigram.

One of the attractive features of Mrs. Hoffman's Newport garden is the long rose arbor over a path leading down to the sea. Additional interest is given by having the arbor's length broken by an open space containing a sun-dial

By ISABELLE H. HARDI

Disraeli was keen enough, however, to p ceive that Mrs. Pollok's formal geranium b and the ageratums of the Countess of Stair, w no more possible as an inspiration to affectio than a Brussels carpet. So when he wished appeal to the mind of the feminine gardener, did so with a garden that she could love—ros and old-fashioned flowers.

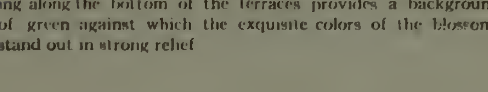
The beauty and adaptability of the rose ma it the most appealing of all flowers to the femin gardener. A beginner could not go far wrong she made the rose the dominant note in her gard in the early summer months.

Growing roses is one thing, but to give the an attractive setting is quite another story. T amateur must either have a cultivated taste gardening, or wit enough to see that the worki plan for a garden must be the same as for buildi a house. The architect gives the plan with lines of beauty, but the contractor must bui One cannot succeed without the other.

In his book on rose growing, Mr. George Thomas, Jr., gives some practical hints on locat that the prospective gardener would do well bear in mind when choosing the site for her r garden. He warns against too much shade, says that roses may be successfully grown wh they receive sunlight for at least half the d While the ideal situation is one having a south southeast exposure, roses will do well even o north slope if they get some sun. But wo than a north slope is low land that cannot drained.

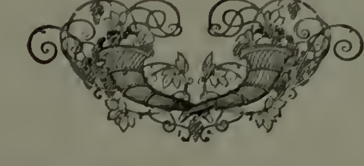
Details of a few gardens which bear witn that their fair owners are devotees of the r are shown herewith. Especially notable is rose walk at Armsea Hall, the Newport hom Mrs. Charles F. Hoffman. It is the espe pride of Mrs. Hoffman, and demonstrates what state of perfection the blooms may brought by one who knows the rose and its nee

"The amateur does not realize the value c wall in a garden, where it may be used m effectively to break a long sweep of green," s Mrs. Lorenzo Woodhouse in speaking of her garden at Hampton House, Easthampton, wh the eye travels over the smooth green lawn to rose wall beyond which hides the less formal den except for glimpses seen through the openi in the wall.



In Mrs. Pratt's rose garden at Glen Cove the scheme of planting along the bottom of the terraces provides a background of green against which the exquisite colors of the blossoms stand out in strong relief

...her ROSE GARDEN



...otographs by Jessie Tarbox Beals and the Johnston-Hewitt Studios

This wall is built in the Italian manner; it is ...ite high, with light and graceful lines, and over ...falls a mass of Dorothy Perkins roses. The ...rge arch opening in the centre is surmounted by ...rare Chinese dog statue, whose odd green ...olor tones in well with the pink tinting of the ...ses.

Mrs. Harold I. Pratt has two gardens at ...elwyn, her home at Glen Cove, Long Island. ...ne of them—the one adjoining the house—is of ...e formal sort, but the rose garden is her par...ular care. It is charmingly situated in a little ...ll apart from the other gardens, and follows ...e slope of the dell to a lily pool. The Hybrid ...a roses—and especially, the H. T. climbers—...e exquisite in this setting.

Mrs. Haley Fiske in speaking of the tea roses ...her gardens at Overcross, Bernardsville, ...J., said:

"For the last two years I have tried a new ...ethod, with such success that the loss has been ...fling. The winter of 1914-15, though mild, ...s very hard on roses, owing to constant thawing ...d freezing again; yet out of more than five ...ndred Teas my loss was four. The winter of ...15-16 was very severe. As late as March 18th ...e thermometer registered eight degrees below ...ro, yet my loss was only nine roses, two of which ...re standards. The method is this: the bushes are ...t pruned in the fall, except that the suckers are ...t off. The tops are left on and tied up as usual ...straw.

Manure is well worked into the soil and ...me left around the roots. Then the bed is ...led to above the bud with sawdust, about three ...four inches deep. Cedar boughs are laid ...nting on each side of the bed, with one on top ...form a roof beam, and we are ready for the ...aviest storm or cold, for the melting ice and ...ow falls from the slanting cedar roof on to the ...wdust floor, and is absorbed and held from ...eezing close to the bud.

"In the spring the covering is removed grad...ally, as much as possible of the wet sawdust is ...ken out with a hoe or rake, care being used not ...disturb the earth beneath. The rest is left to ...ry out by the sun, and then a broom sweeps the ...mainder away. The beds are well worked with ...light coating of lime, the bushes well pruned to ...bout a foot above the ground, a good feeding of bonemeal and humus, in the proportion of half and half, is given the beds, and then commences the constant watchfulness for rose-bugs. As soon as the wealth of June bloom is over, the beds are again given a feeding of bonemeal and humus. This is repeated about every month or six weeks all summer. About August 1st the bushes are again cut back, but not severely, to prepare for another glory in September."

A rose-covered trellis in Mrs. P. B. Wyckoff's garden at Southampton, L. I. The growth is not dense enough to exclude all sunshine, which makes for better roses, and gives the added beauty of a sun-flecked path

HIS morning I started peacefully stableward with the intent to go and gloat over my last new-planted alfalfa field, with its rich nap of sprouts shimmering velvetwise in the breeze.

THAT COLT

By E. C. A. SMITH

"Head 'im! Head 'im!" came Dan's voice breathlessly.

The clatter from the barnyard made it plain that inquiry would be a waste of effort, so I stood my ground in the narrowest part of the lane, awaiting developments. Presently I could see a large bay pony charging around my stable yard. Twice he passed the green lattice gates which led in my direction, to throw himself at the stallion's woven wire. On the third round he paused, collected his wits, and charged the lattice. I heard a light tick from a hind foot as he came over, but it was a very creditable performance nevertheless.

As he came toward me I could see the strength and purpose in his stride. He was close up before my odor broke in on his preoccupation, and he stopped, snorting, to solve this new dilemma. As he wheeled about I got a good look at him. There were circles of sweat about his active ears, little trickles along his flanks, yet his breathing was steady, considering the effort he had just made. He looked sidewise at me, showing the whites of his eyes, and lashed his tail anxiously. Rough and gawky as he was, I could mark the long, slanting shoulder, short back, long, upstanding neck with a clean throat and a strong curve where the head sets on; these things are the indispensables for the rider's comfort. I estimated the weight of his bone below the knee, and the big, clean hock joint, low set but not sickled; his pasterns were reasonably long but not weak—evidently he would wear well. I shied a little clod at his nose to send him away from me. By the wide set of his forelegs I knew that his front was good, and his legs swung straight as he traveled. But all these virtues he might have and yet prove worthless were it not for that spice of defiance, that courageous carriage. It would make him harder to handle at the start, but it would give willingness to endure, to meet the hard strains of his lot unflinchingly. Without such a face toward vicissitudes, neither man nor horse is a sure dependence or a safe working partner.

I awoke to the fact that Dan had already opened the gate, and my dog was dancing with impatience for the word to send the colt back whence he had come. I aimed the next clod at the dog as a hint that she would chase him at her peril, and followed him quietly. Once he wheeled and made a dash in my direction, but the sound of my voice made him reconsider; he turned back and trotted quietly into the barnyard.

My first move was to send Dan for boards to build up the gate. "Who is he, anyway?" I demanded as soon as Dan had used the last of the nails which impeded his conversation. He carries them in his mouth, ejecting them handily through the gap in his teeth otherwise occupied by his pipe.

"Well, Dennis brought 'im. Full brother, 'e says, to that brown mare, ye mind."

I did mind the brown mare. She had been unsuccessfully broken, and it took a full six weeks for her to forget the effect of one hour's mishandling.

"If he's tried any of those tricks on this one he can jolly well take him away again." I snapped irritably. I value a whole skin, and the mare had damaged mine considerably, not to speak of what she did to my dignity. Never have I known a more inopportune bucker. That white rim to the eye, the sole obvious inheritance from his little Canuck grandmother, gleamed ominously.

"He ain't." Dan hastened to assure me. "They're a-scairt to lay a hand onto him." As he spoke he edged gingerly into the safety of the saddle room, for curiosity was drawing the colt within foot range.

I stood still, ostensibly busy scratching on the gate with a forefinger, my consciousness centred on the velvet nose sniffing closer and closer to my sleeve. By the shadow he cast I could see the conflicting emotions sway him. Presently he

The hero and the author

lowered his head, blew a windy blast on my ankles, and moved off.

"Bring me some oats," I called.

"What fer?" Dan felt it was rather soon to venture out. "You ain't goin' to ride him yit! Why he ain't been into a stable, even, let alone seed a halter."

"So long as I don't tell you to mount him it's nothing to you. Get those oats!" I snapped the harder, since I was none too confident myself. But there was a fattish gray cloud, some hours away, which grinned helpfully across the treetops. And I needed a horse. I said so.

"Well, if you hadn't 'a' sold the mare w'en she was just gettin' to be so's one could go about her——"

"I'd not have bought that parcel of feed and squared away some of our expenses," I finished. To see Dan wash the legs of a fussy beast is one of my favorite pastimes. It's nearly the only time I feel that he earns his salt. It is the only time I ever see him perspire freely.

I walked around the yard shaking the oats in a pan and letting them slide through my fingers. The bay watched me coquettishly over his shoulder. Presently I strolled through the wide door, set the pan into the manger, and came out again. Mr. Curiosity was very shortly engaged thereupon. When he had finished, he discovered that the doors were closed, and tried to tear the stable down. In about ten minutes more the hysterics subsided. I could hear him padding stealthily about, sniffing the comforting horsy smells. Then I ventured in. Without paying any attention to him I refilled the pan he had just emptied and seated myself beside it. A long wait followed; it was noon and I was hungry myself, but still the colt wavered. At last he reached a lip for just a taste; presently he advanced a step, and then forgot his fear in his eagerness. Even the touch of my hand did not send him back for long. Two minutes more and I had a broad strap, chained to a bolt in the wall, buckled fast about his neck. Then I went to lunch, departing over the side of the stall. It sounded as though he disliked the strap.

I ate quite leisurely, strolling to the barn in the best of tempers to collect my battle equipment. I have one implement that is absolutely indispensable, a mousserola, bought off the bridle of a Roman cab horse, owned by one Umberto Belli, once of the Italian cavalry, and a thorough horseman, who appreciated my reason for wanting it. The regulation cavesson is too big for yearlings or ponies, and costs money. A mousserola can be made by any blacksmith for a dollar; narrow strap of iron, short enough to mi pinching the bit in the corner of the horse mouth, is bent to take the shape of a no band. Two arms, a couple of inches lon bearing rings, are welded on, horn fashio and the nose piece is covered with leath and continued so that it can be buckled tightl as low down as you please, on the creature jaw. The lower down it sets, the greater w be the leverage, but when used with a bit must come high enough to avoid all chan of pinching, and be loose enough to let the ja yield. It is used to take the first fight out of colt and to teach obedience without the risk establishing his mouth in bad habits. It al can be used to drive one which takes the bit to hard, as an auxiliary to fall back on whenever starts to bore.

The mousserola was on its hook, but my ta dem lines—! I tore my hair. Dan insisted tha had no tandem lines. I frothed. Then, as some new idea was dawning on him, he mu mured: "Oh, yes! Seems like them's the line let Sherman take fer the lawn mower—long-lik You mostly don't use 'em."

Having a good chance to lose my temper wi Dan is a distinct advantage. The minute feels guilty enough to lose his serene self-con dence he becomes willing and sedulous as noth but fear can make him. Only then can I ma him more afraid of me than he is of a horse.

The colt had given over pulling on the h but he was still damp from his exertions. I go halter on him, settled the mousserola at the v end of his nose and buckled it tightly, put o saddle without stirrups, and fastened side lines the girth from the mousserola horns. This most easily done by one person, moving in quiet, matter-of-fact way that takes no appar account of the youngster's performances, remembering that the closer you are to a lit foot the less it hurts when it reaches you. colt ought to be thinking and learning, not be distracted.

By this time the tandem line was at hand. buckled it on and walked out of the stable do Partly because he saw the light, partly beca he had unconsciously established the habit yielding to the line, partly because it's in h nature to follow nearly anything that's head his way, he came meekly after me. Never tr the horse behind you, but never face him if expect him to lead.

When he discovered the constraints I had upon him, the Canuck came out with a vengear

"Told you he'd buck!" shrilled Dan, scuttl for cover.

"Help him!" I retorted. "Put that whip him!"

I kept my mind firmly on the project of lu- ing him in a ring. He kept his on the notion t such things as reins and girths and hard th over his nostrils simply couldn't be. I war his fight to hurt him all it could. Finally balked. I came close and tried to lead him hit at me. Then I signaled Dan to use the whip, the colt moved from his tracks—on his hind I think I prayed for luck as I threw all my w against the rein. Anyway he came down wrong side up. Both Dan and I were on head in a flash. If he had not flopped we n have had to throw and hog-tie him, but this better. All his determination would leak ou his toes before we let him up. It's as if the sealed up their grit on the soles of their feet; break that seal and you empty them. Also give them time to get a new point of view.

Now he was willing to try our way. Igno ious, it might be, but more comfortable, disconcerting. Round and round we wo him. Never a rest, never a relief except to him the other way, never a chance to gathe wits. If he stopped, Dan hit the ground o ously behind him. The cloud came up, em itself, and passed on; still he pursued his w tread. He had stopped pulling on his side I substituted in their places a snaffle-bridle the reins tied loosely. By now he came u have his lungeline snapped over for the direction. I could handle his head up near his ears. I began to think well of him. He

ach, but no claws, so to speak, I gave my place Dan.

When I slipped on the stirrups, the colt was ore docile than the man. His protest made an cast longing looks at the harness room. You ain't never goin' to ride 'im to-day!" e croaked encouragingly. "Why, 'e's a bad ne, 'e is—an 'e ain't nowavs conquered yit."

"You hang on to that line and go on doing hat I need of you," I responded cheerfully. Remember, he may fix me up right pretty efore he's done, but if he does, you'll look as ough you'd been dragged across a plowed eld under a spike-harrow." I don't like to ake a beast afraid of me, but it's the only otive that Dan recognizes.

"You can't make 'em mind if they ain't eant'" he warned. "And that there's bold as rass!" If only I'd give over until Dan got a ittle used to him! I've heard this principle efore. It always seems ridiculous to see an nimal made obedient through fear of punishment, that is, to the horse's first fear, and he only isbehaves through fear of some sort, is added ar of his master. My own notion is to cultivate s subconscious impulses into implicit submission, because he has no conscious idea of anything else, and to seize on the gregarious creature's instinct for a leader, by becoming that source of reassurance, then when he gets in a tight place he'll wait for orders instead of fighting them.

The wet had not softened the ground—that would inevitably have started more pitching—but it had greased it nicely. The pony made those circles as gingerly as a cat. It looked to me as if whatever brains he had were centred on his feet. The next time he stopped to change leads I climbed aboard.

"If he bolts I'll put him right over you!" were my last genial directions to the man on the line. I wanted his entire attention on my side, not vindicating his warning.

The colt trembled and roached his back. I put in a purple moment. Very gently I turned his head along that trodden track. He made a plunge; I let him take it out on the lunge—be sure Dan met it with a desperate energy. But the hour-long habit reasserted itself; after all, nothing was real but that interminable round; he settled back into sullen resignation.

Then I began on the reins. Taking my grip with my first two fingers and my thumbs I played them gently with my free fingers, making them vibrate as I took a hold on his mouth—a mouth fresh, unhurt, responsive. When I felt him looking to me for guidance I unsnapped the lead. He was delighted. To go no longer in that slippery track, but straight and easily! To toss his head and get the cramp out of his crest! There was no defiance in the freedom of his stride; mouthing, schooling, balancing, these would take time, but my real fight was won. A few trips in well-mannered company would make a gentleman of my savage.

"Well, o' course, he was quit," Dan commented, somewhat regretfully, now that the strain was over, since there was so little to recount up at the house—no thrills, no glory. Perhaps he dimly imagined that I shared his disappointment. That it may be a triumph to avoid battle is not within his comprehension. "The most o' them 't shows a w'ite eye is awful!" He was even a little contemptuous.

But why should I reply?

For you see, in the next twenty minutes that colt would have the first rub-down of his life. And then some one—not I—would wash his legs. But I would be "among those present."

The MUTE SWAN

By ROBERT SPARKS WALKER

THAT a great deal of dignity comes from silence is particularly true in the case of animals which have all the necessary organs for being noisy, yet remain intensely quiet. This is perhaps he reason why the swan seems so dignified, nd his near relative, the duck, quite otherwise.

There are eight or ten species of swans, the ost familiar to us being that known as the nute swan.

It is easy to distinguish a swan from other embers of the duck family by its long, arched eck, so constructed to enable it to reach seeds nd roots of water flowers lying at the bottom f pools, and brooks. Not being accustomed to iving like the duck, swans swim about feeding only in water shallow enough to enable them o reach food. They are not strictly vegetable eders, for they are great destroyers of fish-spawn.

The mute swans so frequently seen adorning rtificial bodies of water in the United States, hough half domesticated, when it omes to nest building, make no effort oward concealment. Their nests re constructed of reeds, leaves, ticks, or other rude growth, often ocated in the most conspicuous lace, in which is laid an even half ozen of greenish eggs.

To the swan the ancients ascribed are musical powers, the general belief being that the bird exerted his power only as death approached—hence the meaning of "swan ong." In fact, its voice is very ow and soft, and is heard more ften as it swims along in the ater with its young.

There is an old English law that nade the swan a royal bird. For enturies the mute swans were not ermitted to be owned by any one xcepting freeholders, who must at ll times possess a license from the rown. The license to keep swans ompelled the owner to mark each ird with a cut through the skin n the beak, that its ownership might ever become a matter of dispute. Even the king's swans bore these narks of identification, and at one ime the swanherd was a very important person. To this day, an xamination of the swans that live upon the river Thames will reveal these markings upon their beaks. The process of marking is known as "upping," and swans have to be marked annually.

History indicates that swans were first introduced into England from Cyprus by Richard I, and at one time large swanneries were common; at present, however, these large establishments have practically been discontinued. Thirty-nine years ago the swannery of the Earl of Ilchester, near Weymouth, contained nearly 1,500 swans, but the number has been very greatly diminished.

A mature swan weighs about thirty pounds, the male being larger than the female. The young birds are called cygnets. The flesh is said to be good, but it has never become generally used. Those who are financially able to afford the flesh of swan highly prize the meat for food, but to-day in England there is but one place where swans are produced in a commercial way for market; this is located at Norwich, and is known as the St. Helen's Swan-pit. For stocking the pit, visits are made to the neighboring rivers soon after the young have hatched and several hundred cygnets are caught. In the month of August, the birds are placed upon a cut grass and barley diet, being so fed until the Christmas holidays. When ready for market they weigh about fifteen pounds net, and bring about two guineas each. Swan-pits are usually made of brick or concrete, about six feet deep, in which the water is maintained at a depth of about twenty-four inches. This keeps the birds closely confined to the area desired.

While the semi-domesticated mute swan is the only species with which most of us are familiar, it is an interesting fact that swans exist in a wild state and in considerable numbers. They are not widely distributed; a few are to be seen on the eastern end of Long Island, but great flocks gather on Currituck Sound, North Carolina, where about the middle of November they begin to arrive from their breeding grounds in the north. Mr. A. Radclyffe Dugmore thus describes a visit to the swans at Currituck Sound.

The swan makes no effort to conceal its nest, but on the contrary often locates it in a most conspicuous spot. Both male and female are fearless in defense of the nest and their young

"Flock follows flock, until the dancing waters of the Sound sparkle with their snow white plumage, and the air is filled with their soft musical notes. It is hard indeed to imagine a more beautiful picture than a large flock of these graceful creatures lined up close together looking in the distance almost like snow-covered drift ice, and then to see them rise. At last we can appreciate their size as their great wings unfold and noisily strike the air with powerful strokes in the effort to carry the immense twenty-pound bodies clear of the water. On a calm day they rise with difficulty, using the feet to gain momentum, and often covering a distance of seventy-five feet or more before leaving the water. With a fairly good breeze, however, they lift themselves with astonishing rapidity by heading directly into the wind. . . . Once the swans are fairly under way their speed is amazing—nearly a hundred miles an hour, and that, too, with no apparent effort, for the slow wing motion is very deceiving. Their endurance is as surprising as their speed, for they are said to travel a thousand miles without alighting."

COUNTRY LIFE FOLK

Mrs. ST. GAUDENS'S BIRD BATH

AN OBJECT of interest to bird lovers and garden makers is the bird bath designed by Annetta Johnson St. Gaudens, in commemoration of the Percy MacKaye Bird Masque, given at Cornish, N. H., in honor of President Woodrow Wilson.

The bronze original is in the Meriden Sanctuary—the thirty-two acres of woodland converted by the Meriden Bird Club into a model preserve, that sets the pace for American bird conservation.

Aside from its artistic beauty and historic recording of a notable American production, this bird bath, in its terra cotta dress, is destined to quicken interest in bird conservation.

Mrs. St. Gaudens, the sculptor, is one of those that make up the summer colonies of Meriden, Cornish, and Kent. She participated as a love bird in The Masque, and was so impressed by the classic grace of Miss Margaret Wilson in hermit thrush plumage, Percy MacKaye in a Chaucer gown, Witter Bynner, plume hunter, Herbert Adams, cardinal, Kenyon Cox, crow, and the ease with which the pantomime's personnel lent itself to sculptural treatment, that she resolved to model it into a frieze after the Greek manner.

To her Cornish hill studio the quasi-birds gaily flocked to pose for her in their varied plumage, with the result that they encircle—for the most part in portraiture bas-relief—the erstwhile Mexican water jar which Mrs. St. Gaudens modeled, and which serves for the base of the bath.

Below the frieze, which covers the upper half of the jar, are inscribed the names of the Bird Masque cast, and the poet's epilogue, a plea for bird conservation.

The bath is three feet high. Reinforced by a stone or cement pedestal, it may be raised to any height, as has been demonstrated in Mr. Charles Platt's Cornish garden.

Provision is made for renewal of water in the bowl which fits snugly into the top of the jar.

After much labor and many vicissitudes in trying out the clay and imbuing the figures with the clean-cut sharpness of the bronze original, Mrs. St. Gaudens finally succeeded in reproducing the bath in varied colored terra cotta, so that other bird sanctuaries besides the one at Meriden might be embellished with mementoes of the Bird Masque. So far but six reproductions have been made.

The terra cotta faithfully reproduces frieze and inscriptions, for Mrs. St. Gaudens gives her own personal finish to each bath, to preserv as far as possible the sculptural feeling. Translated into lovely Chinese jade, Chinese blu Colonial yellow, terra cotta red or brown, or fi clay shot with autumnal tints, this uniq garden conceit has apparently come to stay, t the conservation of the birds, enhancement of gardens, and the pique of future generation that will haggle over it in auction marts!

LIDA ROSE MCCABE.

An ENCLOSED TENNIS COURT

THE argument is frequently advance when the talk is of championship tenni that the Pacific Coast players possess i their climate an unsurmountable advantage ove tennis men of the East. On the asphalt courts California the younger men are brought rapidl into tournament form through uninterrupte practice.

Offsetting this advantage to a very sm degree are the indoor courts that have been bui in increasing numbers on the larger estates of t East. Several of these have been published COUNTRY LIFE.

The adjoining illustrations show anoth indoor court recently built at his count home near Indianapolis, Ind., by Mr. Carl Fisher, president of the Indianapolis Speedwa and founder of the Lincoln Highway.

PLEASURE CRAFT *for* NAVY USE

ONE of the most popular outdoor sports of the day consists in offering one's yacht to the Government for the use of the Navy. A [illegible] action marked the opening of the Spanish war, and it will be recalled that Mr. Morgan's [illegible] was at once accepted, remodeled, and [illegible] into use. Two models, one showing the [illegible] as a pleasure boat, the other one as fitted [illegible] with her guns and stripped of every unneces-[illegible] encumbrance above the deck, stand side by side in the New York Yacht Club to-day. The two models have evidently done excellent mis-[illegible] work among members of the club who have craft worthy of such transformation.

Among the first yachts to be offered was [illegible], Mr. Arthur Curtiss James's auxiliary [illegible], which is shown in full bark rig in the [illegible] photograph herewith. The yacht is, of [illegible], a seagoing vessel, of 659 gross tonnage, [illegible] carries a crew of sixty men. She may be [illegible] as a hospital ship.

Meanwhile the list grows day by day. Gover-[illegible] Lowden of Illinois followed close after Mr. [illegible] with the offer of his yacht the *Venice*, now [illegible] Alexandria Bay. Mr. George F. Baker, Jr., [illegible] over the steam yacht *Wac[illegible]uta*, Mr. Vincent Astor the *N[illegible]ma*, while the motor boats [illegible], *S[illegible] II*, *Cleriton*, *Glenhal[illegible]ie*, *Edith* [illegible], and the *W[illegible]reda* have been offered or already [illegible] over for the Naval Reserve.

The *Ka[illegible]cha*, a steam yacht, and *Tarantula*, [illegible] motor yacht, are both being equipped for [illegible], and as this is written, the *Alacrity*, a [illegible]-footer is being equipped for presentation to [illegible] Government by Mr. Paine Webber and his [illegible]. We hope to show in the next issue of [illegible] COUNTRY LIFE pictures of these and other craft [illegible] have been turned over to the Government.

An OBJECT LESSON *in* GARDEN CLUBS

THE International Garden Club which has its headquarters at the Bartow Mansion, Pelham Bay Park, is setting a pace for [illegible] organizations elsewhere. Having been [illegible]cessful in securing the coöperation of the City [illegible]partment to the extent of securing a permanent [illegible] where it holds meetings and occasional lectures, it has proceeded to demonstrate its usefulness by beautifying the surrounding grounds. The construction of landscape work has been carried out under the supervision of Mr. Arthur Herrington.

The social side is a feature of the work of this organization, which numbers a large membership of people prominent in New York City. During the summer season it entertains at its Club House.

The gardens have been laid out in formal style, and reliance has been had very largely on old-fashioned annuals for quick effect. There is also in preparation a rose garden on a large scale, and from time to time the Club purposes the holding of open air flower shows. One such event indeed took place last summer, and only because of its somewhat remote location, failed to attract the attention of the public that its merits deserved.

The president of the International Garden Club, who is largely responsible for its phenomenal success, is Mrs. Charles F. Hoffman, whose own rose garden at Newport is shown elsewhere in this issue. Mrs. Hoffman is also president of the Newport Garden Club, and to her enthusiasm the garden clubs of America owe much of their success.

The two views on this page of Bartow Mansion and the garden maintained by the Club are eloquent of what may be accomplished by a really determined and enthusiastic garden club possessed of the right sort of president.

The SQUIRREL *that* FLIES

By DR. R. W. SHUFELDT

Photograph by the Author

MONG the great host of nocturnal animals of many kinds that spend nearly all their waking hours in moonlight or in darkness, none is more interesting or truly attractive than our lively little flying squirrels. There are a number of species and subspecies of these in the country—that is, in the forests of the New England, Middle, and Southern States. They are very beautiful little animals, with soft, furry coats, and provided with lateral skin-extensions, by means of which they can shoot through the air in a sort of parachute manner, but in a more certain style with respect to points of destination.

To study these curious and gentle little creatures, you must repair, after nightfall, to the forest where many of them have their homes. Here you must take up some favorable place for observation, and patiently await the appearance of your flying squirrels. They will not detain you long; for, after snoozing all day in their nests or in cavities in old tree trunks, they are ready for a frolic and for their nightly exercise. In some forests, these dainty little rodents live in great numbers; but you might pass through these timbered sections in the daytime, and never for a moment suspect that a single flying squirrel lived in that locality.

But it is evening now, and the sun has been below the horizon for nearly half an hour, so your patient waiting will receive immediate reward. A scene will soon be presented to your wondering gaze which will surely be a treat in the event of your never having witnessed the like before. Out come these silent little volant rodents; and if you chance to be in some wild and little frequented part of the country, in a forest but rarely visited by man, you will be surprised, for they may come by the dozens out of their various places of concealment in the tall trees, and they at once commence flying from every quarter within your range of vision.

Note the little chap on the very topmost twigs of the tall chestnut tree, not thirty feet from where you stand. He runs out on the end twig of the limb where he suddenly appeared, and, quickly stretching out all four of his legs, extending his tail horizontally, and expanding the dermal membrane extending between hind and fore limbs on either side, he launches into the air with a sudden little jump, and with as much confidence as a dabchick takes to the water.

In his own little squirrel mind, however, he has determined upon the point where he hopes to land; for flying squirrels do not fly like bats and birds—that is, in no end of different directions when once in the air. They are confined to a fixed trajectory: a long, downward curve, and a shorter, more abruptly ascending one for the latter third of their flight. Commonly the distance thus covered equals from forty to fifty yards, the animal, as a rule, landing flatwise on the side of the trunk of the tree that he started for, at a point much nearer the ground than the tree top from whence he started.

Usually he will scamper with lightning rapidity up the tree on which he lit, to go over the same performance many times between the two trees, apparently reveling in the fun of it, and in the exercise it brings him amidst many others of his kind similarly engaged. However, when they desire to travel from one part of the forest to another, they select trees in line, and, scampering up one, to fly from its top to another, and so on through the sequence, they may pass over a quarter of a mile in a similar fraction of an hour.

As is the case with many other nocturnal animals, flying squirrels have large, dark eyes that are very sensitive to the light; so, when kept as pets—and they make exceedingly pleasant ones to keep—they should not be taken often into the glare of the sun. They invariably express their disapproval of such treatment by rolling up into a little ball and closing their eyes with a very tight squeeze.

An old-fashioned writer on natural history, who flourished during the middle of the last century, comments thus upon nocturnal animals in general: "We—animals of the daylight—are apt to fancy that the whole world of animated nature sympathizes with us, and that all go to their repose as we do in the hours of darkness, forgetting that to innumerable species the day is the time of darkness and sleep, and night the season of light and activity and enjoyment. It is in the night that whole tribes of animals—foxes, weasels, martens, skunks, lynxes, wild cats, cougars, to say nothing of owls, goat-suckers, and the multitudinous race of moths—wake from their slumber and go joyously forth on their various adventures, whether of love, feast, or frolic. Whoever would comprehend the whole field of nature, must not be content to look merely upon the surface, and that by daylight he must reflect upon what passes beyond the reach of sight, whether in the shadows of night or in the recesses of the earth; in the soil and the sod in caves and rocks and in the sea."

Many biologists have followed this suggestion since 1850. Various species of flying squirrel are also found in the forests of certain parts of Europe and Asia, and probably some species yet remain unknown to science, awaiting the explorers of the future.

When disturbed in the woods, flying squirrels will cling motionless against the bark of a tree, like lichens, which, with their clouded cream-buff coloring they somewhat resemble. As pets [illegible] little creatures are exceedingly gentle and affectionate

An UNKNOWN COLONIAL TYPE

By CHRISTINA LIVINSTON ROSE

The imposing front of Mr D. E. Barnes's house on Preemption Road, Geneva, N. Y.

The wing of Mr Barnes's house. The small porch pillars are replicas of the huge ones at the front

GEORGE MOORE says that art is dead, killed about 1880 by ease of locomotion. Never again shall we have art until modern civilization has come to an end, until communication between communities ceases, and segregation is restored.

As I, an ardent western New Yorker, was endeavouring to digest these sentiments in a recent magazine, suddenly I thought, "Why! That means our cobblestone houses!" What more obvious example of art produced by a segregated people than this form of decorative veneer? Here are no bricks brought from England, to build the early settlers' homesteads, but shingle from the shores of their own Lake Ontario.

From Oswego to Lewiston, a distance of 150 miles, men of substance, during the first half of the nineteenth century, built their houses of cobblestones, beautifully rounded, water-worn, reddish-brown stones, from one and a half to three inches in diameter. Geologically it is known as Medina sandstone, and is found on the shores of Lake Ontario. Simpler farmhouses followed the fashion in a less costly way by using the larger, rougher cobblestones, lighter brown in color, and found almost anywhere in this glacier-belabored region of western New York. There are enormous deposits of them on the beaches of the ancient glacial lakes, which preceded Lake Ontario, or in eskars, which are long, winding ridges, as steep as a hogback, formed by streams in openings under the glaciers, or in cracks in the ice. But every one who lives in a cobblestone house—no matter how far from

Side view of the Angus house at Penn Yan, N. Y.

Lake Ontario—insists that his stones came all the way from that body of water. One honest woman I did find. "Where do you suppose they got the stones for your house?" I asked her casually.

"Oh, they just picked 'em up off the place," she answered.

The varied colors of the ordinary, common cobblestone are far more satisfying to the eye than the uniform reddish-brown of Lake Ontario's more expensive variety.

I cannot discover who was the first man that was indigenous enough to use these pebbles on his own dwelling, but I'm sure he was a father. One day he brought home some of the smooth, round stones for the children to play with in their sand pile, and later he was rewarded with an idea. Near Lake Ontario they claim that the pioneer of the art was one Cyrus Wetherhill, English carpenter, stone-mason, and builder, whose work was described in February, 1916, COUNTRY LIFE. The fashion for these bejeweled dwellings spread inland sporadically for twenty-five miles. People may call it a rude form of art, but it required expert knowledge of masonry to lay the stones properly.

Most of my information about cobblestone houses I gathered from the owner of a renowned cobblestone house in the depths of the country.

"Don't you ever feel seasick when you think how these stones were tossed and rolled about before they were worn round?" I asked, as I examined minutely with her the lovely, smooth stones of which her house was built.

She smiled and passed her hand caressingly over the wall. "They're a pretty nice color, aren't they?" she said proudly. Every stone was glowing a rich, brownish red, snugly ensconced in its bed of cream plaster. "You know," she continued, "some folks think they're painted. One lady, going by here in her car—I think she was from Boston—stopped to look at the house; she said they didn't have anything like it down her way, and asked me why I didn't paint them a different color. She was surprised when I told her that that was their natural color."

"It must have been a terrific task to bring these stones here all the way from Lake Ontario," I said.

"Well," she replied, "the oxen used to make the trip up to the Ridge Road of the lake [the beach of the post-glacial Lake Iroquois] in a day

The cobblestones used for building are reddish-brown in color, and they are beautifully rounded and water-worn

An old cobblestone church at Webster, N. Y. The temple-like belfry is unusual

Another cobblestone church, whose austerity should be softened by vines as in the case of the church at Webster

Looking across the front of the Cooper house

The cobblestone farmhouse of Mr. L. A. Cooper, on Canandaigua State Road, New York

Detail of corner, Cooper house

—that's about eighteen miles from here; we've got the old yoke out in the barn now. They'd buy the stones by the bushel, and come back with them the next day. The stones were all put through a potato-sifter—that's why they're so perfectly even. And you know the way they used to build these houses, don't you?"

I confessed my complete ignorance of masonry, and she continued.

"Well, first they built a wall of fieldstone and plaster, eighteen inches thick; when that was all done, they began on the cobblestones, laying the first row all around the house, and letting the plaster get thoroughly dry before they could begin on the next row."

"Are there nice old mantelpieces in the house?" I asked.

"Oh, grand! But do you know, we haven't a single real fireplace, except one down cellar. Round 1850 they didn't build fireplaces [news to me!]. The old lady, whose husband built the house, was set on having a fireplace; her husband built one for her down cellar, and there it is still, with its hooks and crane."

I found later that the "grand" mantelpieces were very wonderful, but not very beautiful—acorns sprouting from all sorts of impossible places; 1850 was getting perilously near 1880.

There are at least three distinct styles in cobblestone houses—the Georgian, the Gothic, and the Jig-saw. Examples of the last variety we find with the most elaborate details, replete with all the ugliness of a dying art. But always it is an ugliness full of the mysterious charm that we find so endearing in our ugly friends.

Typical of the cobblestone schoolhouses found everywhere in the glacier-belabored region of western New York

I had been told of a Georgian cobblestone dwelling on a hillside above Seneca Lake. Two spinster friends of mine had tried in vain to buy it. I was searching for it one afternoon when I came on a promising crossroad. "Can you tell me if there's a cobblestone house up this hill?" I asked two men who were repairing a fence corner.

"Yes, keep straight up on this road, and you'll find it," the elder of the two told us.

"You're *sure* there is one?" I asked again, conscious of my temerity, but hating to leave the road winding along the lake for a by-path of doubtful charm.

"I certainly am," he answered, "I live in it."

We climbed the steep ascent, and found a heaven—somebody's heaven. The house sat quite far back from the road. It was *not* "embowered in lilacs," nor "nestling under the lee of the hill"; cobblestone houses leave those feminine characteristics to wooden farmhouses; but it was all dignity and aloofness—exactly the kind of house that ought to have produced a great statesman or a president. Two giant horse chestnuts guarded the opening in the privet hedge, and incidentally greatly impeded my photographic operations. The broad brick path, overgrown with grass, led to a quaint paneled doorway, without the usual side-lights. The whole effect—the proportions of the pediment, and of the pillars supporting it—filled me with delight.

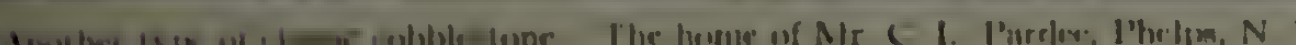
The mistress, having heard us snorting up the hill, emerged from a Doric-pillared piazza that looked down over broad and sloping pastures to the blue lake.

All dignity and aloofness—exactly the kind of a house that ought to have produced a great statesman or a president. The farmhouse of Mr. W. A. White, Geneva, N. Y.

Doorway of one of the tenant houses on the Barden farm

The H. B. Barden farmhouse near Hall, N. Y. There are three cobblestone houses on this farm

Showing construction; cobblestones are used only as a veneer



Another type of classic cobblestone. The home of Mr. C. L. Pardee, Phelps, N. Y.

House at Williamson, N. Y., of the story and a half type, frequently found near Lake Ontario

"It's the old Armstrong place," she said in answer to my inquiries; "they were prominent people round here a hundred years ago—there aren't any of 'em left now. We haven't been here long. Lots of people have wanted to buy the place since we came, but we're not going to let it go."

Inside, the mistress of the house showed us over it. We found it all interesting, but admired most perhaps the woodwork with its lovely design of oak leaves over doorways and windows. At last we reluctantly bade farewell to the owner, and made our way down the hill.

Cobblestone art died about 1860, killed by the War perhaps, or by the cityward movement of those times, and never revived because, meanwhile, Mr. Moore's fatal 1880 had intervened.

But the unique beauty of these old houses ought to be an inspiration to present-day builders in sections where cobblestones abound. When ivy covered—as they should be—the soft red and brown coloring of the stones seen through the dark green of the vines gives an effect similar to that of a Persian rug. It might tax the skill of the modern mason, however, to duplicate the mathematical precision of the early work. In the best of these old houses there is almost no variation in the size of the stones; they are perfectly matched and blended in color, and the mortar ridges between the courses are as regular as if cast in a form. Some of them put their best foot foremost by having the smallest and choicest of the stones at the front of the house.

On my cobblestone expeditions, one thing always puzzled me. I laid it before a wise native. "Why have I only once in all my explorations found the third generation living in its ancestral cobblestones?"

The wise man replied. "You never find a cobblestone house on poor land. Only the rich farmers could afford to build them. The third generation usually finds itself well enough off to retire to the city, and thus you find most of our beautiful old cobblestone houses occupied by aliens."

Showing corner construction of school-house, Gypson, N. Y.

Mrs. George Lewis's remodeled cobblestone house at Belwood Farm, Geneva, N. Y.

A cobblestone general store near Victor, N. Y.

The Barden farmhouse doorway

Doorway of the Lewis house

Cobblestone gazebo at Belwood Farm

Should YOU *be* ALLOWED *to run* YOUR OWN FARM?

By FREDERICK F. ROCKWELL

IRAM HOOVER SPUDGROWER never lost his combined hankering for and spite against farming. He had left the old farm in early life. Perhaps his main reason for doing so was that his father—worn out like the soil of his little New England farm—had died of pneumonia, with a life-long mortgage of $1,700 still sitting on his chest; while his city uncle—no more capable a man than Hiram's father—passed away of gout and apoplexy, leaving an estate of some hundreds of thousands.

For many years H. H. Spudgrower successfully fought off the subconscious whisperings urging him back to the bare brown soil, and devoted himself with a single-track mind to the one purpose of making the housewives of a nation feel, deep down in their innermost souls, that Spudgrower's Superlative Soaps were the keystone of domestic economy and comfort. Whatever their value for washing, they certainly were successful in lubricating Spudgrower's way to fame and fortune. And he salted away his hard-earned dollars with a worthy object in view. Some day he would retire, buy a farm, and make it *pay* if it took his last cent!

So in the course of time, Spudgrower bought his farm. It wasn't a big one, for he was a convert of modern intensive methods, and he wanted to make it a model for the countryside. He realized that the methods and the ways of his father were out-of-date, so he determined to apply to his farming some of the principles which he had proven to be successful in business.

He spent weeks in picking out the best man he could possibly get for each department of his farm—an expert for his field crops, a prize winner for his registered cattle, a national authority for the extensive poultry yards, and for his orchard a man who had captured blue ribbons with red apples from Virginia to New York, across to Oregon, and back again. He let these men understand that they were to produce big crops and big results with their live stock and poultry; but that wasn't all. They were to produce crops that would *pay*. He maintained that any dunce could get big yields if he fertilized the ground thickly enough with his check book. But he wanted to show them something new—a farm that paid!

Well the years rolled by and the Spudgrower farm became famous for many states around. Experts from experiment stations, agricultural colleges, and from the Department at Washington visited it and made notes and suggestions, and acknowledged that they had never seen better crops or better stock.

But Hiram H. Spudgrower grew thin and worried. There was a deep mystery about his farm that more and more got on his nerves. Every department under the management of a hand-picked expert showed a good profit according to carefully kept figures; every project that had failed had been carefully weeded out. And yet the bank account that he had set aside for his farming had to be replenished every year from the revenues from Spudgrower's Superlative Soaps! He captured gold medals, cups, and blue ribbons galore at cattle shows, fruit shows, and flower shows; but—the farm would *not pay!*

Spudgrower's nerves were beginning to get frazzled at the edges. That was why, running across a stranger in one of his fields one day, he approached him with rapid strides and the irate intention of requesting him to vanish into thin air in the shortest time possible. In reply to Spudgrower's question as to what he was doing there, he replied that he was from the Department of Agriculture; and to Spudgrower's subsequent remarks he listened with a bored patience that made Spudgrower still more exasperated. But in reply to the latter's final proud demand as to where he would find a better managed farm, he came back with a reply that took Spudgrower fairly between the eyes. Said the stranger:

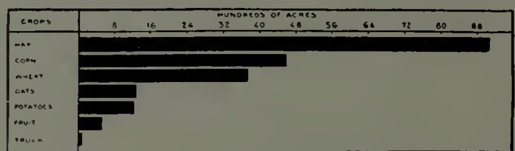
"On the contrary, Mr. Spudgrower, your farm is one of the most perfect examples of intelligent mismanagement that I have yet come across."

"Wha — wha — what d'ye mean! — mismanagement?" demanded the dumfounded Spudgrower.

"Well, for one thing," answered the young man from the D. of A., "the crop yields that you are getting are too big—too many bushels per acre! And again, you are not growing enough corn, and you plant far too many oats; you have too many chickens and too few pigs; your silage corn is in the wrong fields; you should be growing about ten acres of——"

"Hold on!" remarked Spudgrower, mopping his brow, for his informant seemed not only quite sane but very much in earnest, "before you tell me that my potatoes have too many eyes and my corn ought to have more ears, I would like to ask if you really know what you are talking about, and if so, *how*."

The young man explained that he had been over the records of the Spudgrower farm with the farm manager; and while that in itself was not of the greatest importance, the fact that he had been for two years making farm surveys of some of the best farms in this section of the state (having just completed an analysis of more than 400 farms), enabled him to know actually, not theoretically, some factors which were likely to make for profit and others that were pretty sure to mean loss. Mr. Spudgrower was very much surprised to learn that not one out of three of the farmers around him who were making extra big crops had as much money to show for his work at the end of the year as farmers who got only good yields, but who managed to realize a bigger total income from their farms. Another shock to his preconceived ideas was the fact that three out of four of the farms making the biggest incomes in his section had some substantial cash crop in addition to their income from live stock. Another big fact, as proved by the hundreds of records that had been made not only in this section but in many other states, was that on the average the most important factor in determining the net receipts of a farm was the number of acres under cultivation. Two of his pet theories—"a little farm well tilled," and extensive pastures to enable him to feed his cattle cheaply—seemed to be dealt a body blow by this bit of information.



Never decide upon a single line of farming effort without knowing the basis of farm success in that particular neighborhood. Here is a crop survey of 378 Chester County, Pennsylvania farms, exclusive of kitchen gardens. Without a definite and promising plan for developing new markets it would be suicidal to stake all upon truck in this locality

SIZES OF FARMS IN ACRES	PRODUCTIVE WORK UNITS PER FARM		CROP ACRES PER MAN	VALUE OF LABOR PER MONTH PER MAN	CROP ACRES PER WORK HORSE	VALUE OF MACHINERY PER CROP ACRE
	MAN	HORSE				
13 to 40	184	82	13.7	$23.93	9.0	$15.11
41 to 60	299	140	20.2	26.60	11.9	12.57
61 to 80	372	177	23.2	27.12	13.9	11.92
81 to 100	475	226	25.2	28.30	14.5	10.79
101 to 120	551	259	25.6	29.22	15.0	11.80
121 to 160	582	286	29.0	28.50	16.8	9.20
160 +	856	444	31.1	33.77	17.4	8.94
All sizes	439	211	24.7	28.27	14.7	10.88

Notice the obvious relationship between the size of a farm and its efficiency. The "small, intensively worked farm" is more or less of a delusion

The upshot of the matter was that he spent that afternoon and most of the next day with the man from Washington. As a result he realized that he had been going far on the wrong track in concentrating his efforts on increased crop yields and production, and ignoring the organization of his farm business as a whole, while paying no attention to what the actual experience of his neighbors had proved to be paying or losing policies.

The experience of Mr. Spudgrower is representative of that of many farmers, and of nearly all estate owners. The work which has been done in improving cultural methods and varieties in the fields, and the method of handling and the strains of stock in the barn, is great; but from the point of view of agricultural economy—of making the farm or the estate really pay its way—it has been tremendously over-emphasized. Farm management, in the modern sense, is a comparatively new thing in farming, and it is a more difficult problem than that of good farm practice—getting good crop yields, high milk production, etc. The former, while not disconnected from the latter, is quite distinct from it.

It is even more difficult and more dangerous to attempt to formulate set rules for farm management than for farm practice. But the survey and the careful analysis of the business of thousands of farms by the Federal Department of Agriculture and by a number of states has resulted in proving beyond a doubt that certain practices tend to make the farm business pay, while others do not. If, for instance, it is found that more than 80 per cent. of the farmers making above the average labor income in a vicinity have several sources of receipts, or that only 20 per cent. of those making as much as the average labor income have fewer than a certain number of cows in proportion to their tillable land, then it is not mere guesswork to say that, in that region, diversified farming, with several main sources of revenue and a certain number of live stock per acre, will be more likely to prove profitable than any other arrangement.

In the same way, general practical business rules have been worked out as to the number of acres per man that should be tended; the approximate percentage of ground tilled that should be devoted to each leading crop; and the minimum yields per acre, or products per animal, with which it is possible to show a profit at the end of the year.

No one who has been connected with this work has implied or even supposed that it is going to prove an automatic solution of the problem of making the farm pay. While the farm survey movement and the science of farm management are of course designed to help the man who makes his living from the soil, they are of just as great importance and service to the man who has to farm by proxy and is trying to make his farm or estate at least pay its way; just as the estate owner has been able to take advantage of the experiments in field work and stock breeding carried on by the agricultural colleges, and has often been influential in introducing them into his section of the country, so that he can both benefit himself and be a benefit to his community by utilizing and helping to introduce the principles of real farm management.

While data obtained from the farms in any one locality can not be safely used as a basis for analyzing the business of farms in any other locality, there are nevertheless certain general principles which have been found to hold good almost everywhere for the same general type of farming. Thus the four most important factors in making the farm pay a profit over expenses have been very generally found to be: (1) the size of the farm, (2) diversity of enterprises, (3) products per animal, and (4) yield per acre.

In connection with the size of the farm the important thing of course is the number of acres

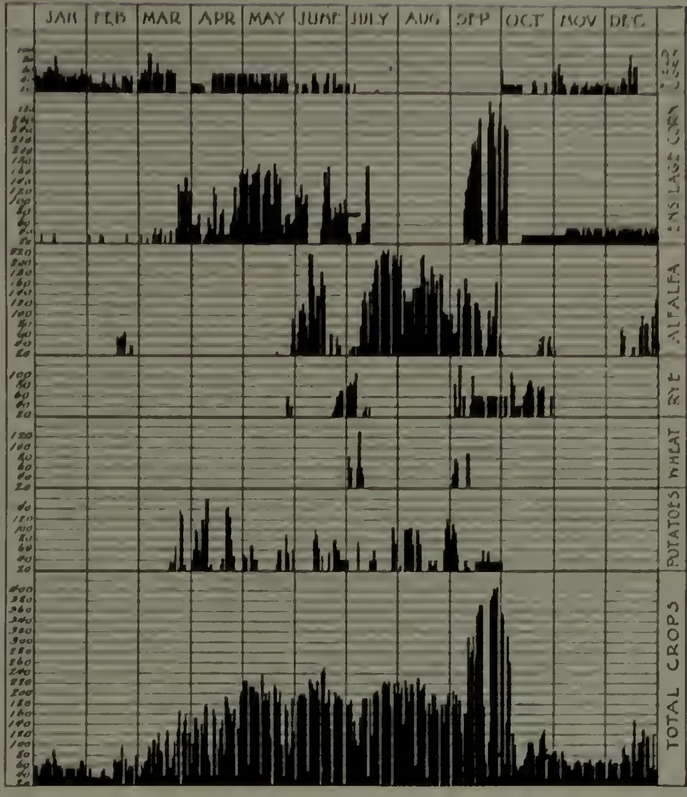
…re are actually made use of — not necessarily …der the plow, but in crop, hay, or pasture. …e estate farm is usually large enough to be in …e self-supporting class, but very often there … a great many acres available which have not …en made use of. The farm is not likely to be … big, if one really wants to try to make it …y, if it is anything under 1,000 acres. Sur…ys of farms in all parts of the country show …at the net profits rise very rapidly in proportion … the size of the farm up to 200 acres, and de…edly from 200 up to 500, and usually keep on …ing up, even to 1,000. There is a very im…rtant lesson in this for the city owner who is …ing to make his farm pay, or break even, as well … to provide him a summer home.

Diversity of enterprises, or having a number … sources for the farm income, is usually the …e most important factor. Even in dairying, … instance, the farmers who depend on dairy …ducts alone for their income do not fare nearly … well as those who have some poultry, at least … cash field crop, and usually a little fruit as …ditional sources of revenue. The "small …m well tilled" and the "specialist" farmer … cherished delusions which die hard. But in … light of actual, unprejudiced facts they …w up poorly. One of the most interesting …ngs which farm management investigation … brought out is that the farm profits not …requently come from the things on which, …ording to all methods of bookkeeping, the …ner is losing money! In other words, these …parently unprofitable enterprises are really …products of the man labor, horse labor, and …rhead expenses of the farm, the cost of which … be about the same whether these by-products … eliminated or not. A moderate flock of …ckens, a few pigs or sheep, a small orchard, … some minor enterprise which may be showing …oss according to the time and other items …rged up against it, may be bringing in a bigger …ome than the amount which could possibly … saved by doing away with it altogether. …is is another fact usually not recognized, which …plies to the large place as well as to the work…day farm, and is the explanation of why the …ting out of everything that does not show a …fit sometimes increases the deficit on the …r's operations instead of making it smaller.

…n this connection also may be mentioned the …nger in store for the estate owner who insists …riding a hobby to the limit. It is pretty sure … kick a large hole through his bank account. …he is really anxious to make the place pay he …ould study very carefully the crops grown … the proportionate amount of space allotted …m by the most successful practical farmers …und him. Their general practice is the …ponse, unconscious perhaps, but nevertheless …ly accurate, to the economic pressure brought … bear upon them by actual conditions, and he …ould hesitate a long time before making any …ical departure from their average well estab…hed conclusion as to what is best. At least … should try it out in a small way first, and go …wly until he feels very sure that he has struck …new opportunity that the others have not yet …en smart enough to think of.

…Yields per acre and products per animal are …t likely to be too low on the estate farm. But …t infrequently there is danger of their being … high! In other words, increased yields or …reased production beyond a certain point …s not carry increased profits with it, and if …ned still further means decreased profits. Far … often, for the sake of making a showing or …ablishing records, whether it be the owner's …lt or the manager's, the point of maximum …fit is passed. Fancy priced cows and extra …vy feeding to push up the milk records, and …ravagant fertilizing to increase the crop …lds or to have fine looking fields, are two very …mmon causes of the disease of *chronic deficits* …m which so many estate farms suffer. If the …ner chooses to consider his place as an ex…nsive luxury over which he can throw out his …est when he shows his friends about, that is … thing; but if he wants the chance of a smile … satisfaction when in the midnight secrecy of … manor house study he contemplates the …m bank balance, that is another; and he should set his sail accordingly. If he would judge his farm efficiency as a measure of either his own or his manager's ability as a farmer, he should compare not his milk records or his yields per acre, but the cost of production per unit with those of his neighboring farmers. When he can succeed in establishing new records on that basis he will be making a very important contribution to the agriculture of his locality.

In addition to these main factors, there are several others which should always be considered, the neglect of which often renders it impossible to make the place show a profit. Perhaps the most important of these is the matter of even distribution of labor throughout the year. The crops grown and the other enterprises undertaken may be of such a nature that the maximum amount of work required for one will not come at the same time as that required for others. The owner or manager who adopts a system of farming that will "pyramid" his man hours or horse hours is headed straight for a red-ink balance at the end of the year. This is the reason why diversified farming is almost always more profitable than specialties, no matter how attractive the latter may look when figured out on paper according to theoretical cost and returns.



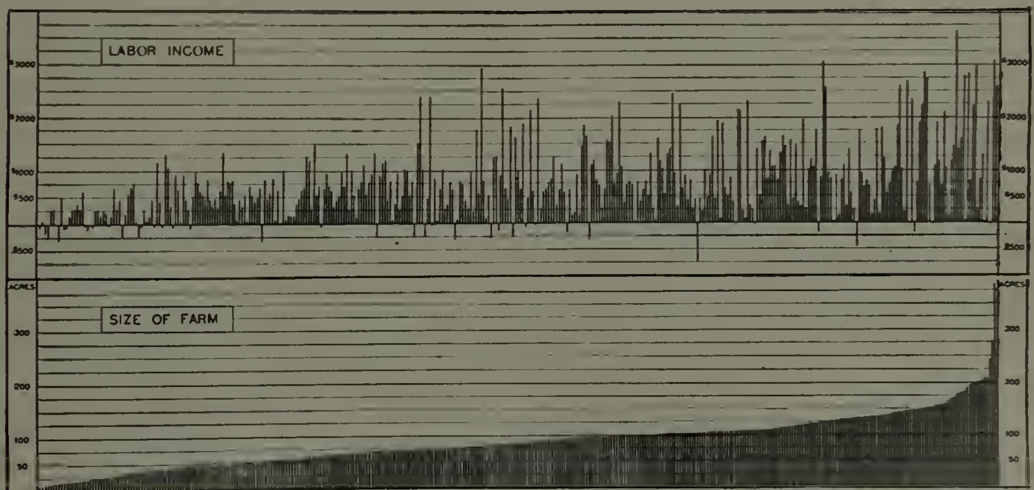
A graphic illustration of how one big farm spreads its energies over various enterprises in such a way as to dovetail throughout the year as far as possible the required horse labor. The column at the left indicates horsehours

Another important thing is the working out of a crop system and rotation which will produce the greatest amount of food value or nutrients per acre with the least and the most evenly distributed amount of labor. This is one of the points where the wideawake owner or manager is most likely to make an improvement over the general farm practice of his vicinity. There are supplementary food crops that may be produced on the farm which differ widely so far as their culture is concerned. This offers the opportunity for picking out those which best fit in with the major crops, and fill up the low-water mark in the season's distribution of labor. Crops of this kind often help to increase the profits on the farm, even if they themselves do not show a profit on the time and the amount of materials put into them.

Another thing to consider is the adoption of a type of farming in keeping with the land values of the farm. Often it is attempted to make general farming show a profit on land where the market gardener, with the most intensive methods of culture and the highest per acre value crops, would find it difficult to make anything above interest on the investment. Where the owner wishes to do this, the only fair way is to charge off to the personal or estate account anything above a fair estimate for the agricultural value of the farm; on the majority of estate farms this principle applies to buildings as well as to land.

The owner who is sincere in wishing to make an effort to have his farm actually pay its way will in most cases have to forego many of the things which he would like to undertake. Frequently he does not want to do this, and if he is willing to pay the bills there is no particular reason why he shouldn't. But it is not fair to manager or farm, under such circumstances, to hold them responsible for the fact that the year's business balances up on the wrong side of the ledger.

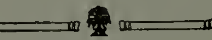
Where a genuine effort is undertaken, to cut down or to do away with the annual deficiency, a careful survey or study of the farm business as a whole should be made, and this compared with a similar survey of the average best farms in the vicinity. This is absolutely the best method so far discovered as a basis for getting on the right track. When this has been done, the next step is to organize the farm so that it is not an aggregation of more or less independent departments, but parts of a uniform whole, closely coöperating, and working toward one definite end.



Showing graphically how much more likely it is that the big farm will be profitable than that the small acreage will bring large returns. Lines in the upper block represent the farmer's net earnings from the size farm represented in the lower block in addition to what the farm furnishes toward family living

HERE AND THERE

A Sign Of the Times Out in a small city in Kansas there was recently a hospital for animals, principally horses, under the administration of a veterinary surgeon of wide repute in that part of the state. If a resident of that region were to return home after an absence of several months and were to lead his ailing quadruped up to the door of the old familiar hospital, he would find over the door a sign informing him that the institution is now a garage and repair shop, and beneath he would find the name of the late veterinary as proprietor. The village blacksmith of other days has frequently turned his establishment into a repair shop for motor cars, and the livery stable often becomes a garage in the fulness of time, but this is the first instance of which we have heard of a curer of equine ailments turning his attention to doctoring sick motors.



An Unconventional Apiary Kansas is famous for many things, and to its other boasted possessions it may now add a swarm of educationally inclined bees and a most ingenious pedagogue.

When the scholars of a certain district school in Kansas gathered after the long vacation, they discovered to their bitter disappointment that there must be a further delay in taking up the pursuit of knowledge. During the summer an enterprising swarm of bees had taken up its residence in the wall of the building. These industrious insects found that the processes of primary education were incompatible with the peace and quiet necessary for the efficient production of honey, and like simple children of nature they set about ousting those whom they considered intruders on their domain. After the advanced class in American history had been chased into a neighboring pond, master and scholars agreed that further pursuit of knowledge was impossible until something had been done about the winged interlopers. Many expedients were tried to drive the bees out of their unwarranted domicile, but all of them were painfully unsuccessful, until the schoolmaster conceived a brilliant idea.

Like most other residents of Kansas, this ingenious pedagogue is a motorist. Driving his car up to the side of the schoolhouse, he attached a rubber tube to the vehicle's exhaust. Speeding the engine up and feeding plenty of oil, he soon had a fine blue cloud puffing out of his bit of hose. He promptly thrust the end in the opening in the wall where the bees were accustomed to go in and out, and treated them to a dose of exhaust gas and smoke, which quickly ended the activities of the swarm. Since this happened in conscientious Kansas, we have no doubt that the scholars trooped back to their interrupted studies with whoops of delight.

Drains Without Digging Considerable progress in methods of draining farm lands has already been made in the almost universal substitution of earthenware tile laid beneath the surface, for open ditches. But still further advance is promised by the International Institute of Agriculture in a brief report of a drainage implement built by a firm in Leeds, England. This is a so-called "mole draining plow," consisting of a heavy iron truck carrying a beam that may be set at different heights, to which is attached a sharp, very thin coulter with a hard steel mole or core at its bottom end. This core is shaped like a shell or projectile; when dragged point foremost through the soil it crowds the earth apart, leaving in its path a clean, circular hole. The slit made by the passage of the coulter quickly fills up, but the round opening or tunnel remains as a regular channel or drain serving just the same purpose as a line of tile. Presumably this action is most satisfactory and permanent in a stiff clay soil—but light, loose types rarely need artificial drainage, anyway. The machine is hauled to and fro across the field until the requisite number and arrangement of drains is completed. The "mole" may be set at any depth up to three and a half feet, and the drains made, it is claimed, at a cost of "a few shillings per acre." What is of still more importance, the average duration of the tunneled drains is said to be about ten years.

Salesmanship And Service It almost involves triteness to comment upon the remarkable development of the idea of service in the field of modern advertising. It is so common for large manufacturing concerns to create educational or service departments for the use of the consumers of its products, and others as well, that it was almost possible to read of such a step by a prominent manufacturer of barn equipment and furnishings without giving the item a second thought. Yet it *is* exceedingly interesting to realize that so wide has become that one field of agricultural engineering, and so profitable the handling of its materials, that it justifies the employment of an expert, experienced dairyman, lecturer, instructor, and journalist to keep the public informed of its developments and achievements. Or is it that the average consumer is to-day so sophisticated, so well informed and acquainted with the requirements of his business that it requires the combined energies of a scientist and a salesman to deal with him? Or, on the other hand, has the country become so full of improved implements and up-to-date equipment that a professor is needed to show the farmers where they can put more? Whatever the motive, the result is a good one and *does* benefit many an individual, while it also marks the upward march of human knowledge, progress, and, inevitably it seems, the cost of living.

Motor Truck *Versus* Railway In its capacity as a freight transporting means, the motor vehicle is coming to have a more and more intimate interest for countrylifers. The transportation problem is the all-pervading one in country life, be the form of the latter what it may, great country mansion or humble one-man farm. Scarcely a day passes that some new adaptation of the motor vehicle to country freight transportation does not come to light. Just the other day a cattle raiser of Harrison County, Kentucky, where railway transportation is somewhat tenuous at best, was unable to obtain freight cars to carry away his spring allotment of fat cattle. He solved the problem by loading the shipment into a fleet of hired motor trucks and carrying it more than 300 miles to market. That cattleman will never again depend on the railway. And now comes a New England railroad, asking permission to discontinue its branch line connecting Saybrook Point and Fenwick, the latter a fashionable summer resort. The reason given is that the use of motor cars among the Fenwick colony is so general that traffic on the railway line has been reduced to negligible proportions. Another straw to show the wind's direction: the Wisconsin Harness Makers' Association recently met in Milwaukee. The most interesting feature of its proceeding was the adoption of a resolution urging members to carry motor car accessories and tires as par of their regular stock, to offset the loss of regula trade in the trappings of Dobbin, through the en croachments of the motor vehicle.

Something For Nothing Sooner or later every owner of motor car is approached with request to join some sort of a organization which will give hi insurance, legal advice, cut rates on tires, ac cessories at prices below factory costs, immuni from the police, long life, curly hair, and a fe other providential blessings at the sma cost of $10 per annum. Practically without ex ception, these associations are frauds, unable t give a cent's worth of return for the dues tha they exact. Several of the states have drive these organizations outside their boundaries and the wise motor car owner will refuse to hee the blandishments of their agents. In motor dom as elsewhere we never get anything wort having for nothing.

Controlling The Weather The possibility of artifici rain production has frequentl held the attention and mor opolized the energies of en thusiastic but unscientific investigators. Bu until recently it has rarely, if ever, received th recognition and support of governmental capit and authority. Now the *Electrician* of Au tralia reports that the New South Wales Goverr ment is to finance experiments to ascertain th value of a method, invented by a Mr. J. C Balsillie, for producing rain when desired and als for causing the cessation of thunder storms. Th principle of the invention hinges upon th simultaneous discharge into moisture lade atmosphere of high tension, direct electric curren and emanations from a "powerful Röntgen ra tube." In the laboratory the method has give entirely successful results; it now remains t duplicate them under natural conditions wit the help of "captive balloons coated wit metallic paint," and other apparatus of corres ponding dimensions.

Lovers Of Lobsters, Listen! Inhabitants of, and visitors to various sections of the Ne England coast who have ob served the striking shortag of lobsters in recent years have doubtless won dered that no steps were taken to restore th luscious crustacean to its former state of plent fulness. At last, as if in answer to their thought a definite step in this direction has been take in the appropriation of $5,000 for the establis ment of a lobster rearing plant by the Feder Bureau of Fisheries. The lobster, like mar marine organisms, is fairly well equipped protect itself when mature, but in its earlie stages it lives a free, swimming, unarmored exi ence, when it is liable to destruction by vario fishes. Any attempt at rearing it require therefore, sufficient equipment to make it po sible to care for the lobsterlings until their she grow or until they acquire the habit of hidi under rocks, etc., to escape their enemies. It just such conditions that the new plant w provide "somewhere in New England," in ti it is hoped, to look after a part of the 1917 bro and make that year a red letter one, and the b ginning of a new era of prosperity in lobsterdo

Marching Through Texas"

How a great State learned its "good roads" lesson from the soldier boys of Uncle Sam!

LL Texas now knows that "good roads" pay!

All Texas has now learned the difference between "*good* roads" and roads that were supposed to ...od

...n Uncle Sam's boys came to camp in Texas and ...ped up and down its southern highways, many a ...ed-to-be good road went to pieces under foot and ... and auto-truck tire.

...s that got the equivalent of *years* of travel in a few ... had to be "good roads" to stand the terrific strain.

... the roads that did stand up under the test became ...ly famous throughout the State.

T...'s why, everywhere you go in Texas, you find them ...ng about reading and writing about, and building, "*Kind of Roads that Stood the Army Test!*"

A... that means TARVIA ROADS!

The Great Troop Movement!

...is what the Gainesville *Daily Register* had to say about ...t of the great army maneuvers near Fort Sam Houston:

..."s army movement, the greatest since the Civil War," ... twelve miles long and required four hours to pass a ... point.

...sisted of 15,000 infantrymen, 275 heavily loaded ... on motor-trucks, 600 wagons and 6,000 horses, in ...ion to all the field artillery, machine guns, mountain ...ries and other equipment.

Troops passing over Tarvia-treated Government post-road, Travis County, Texas, Sept. 23, 1916

"It would seem that the passing of this division twice over the road would be a severe test, but this was not all the punishment it received.

"In order that the troops might have fresh supplies, the old way of carrying three days' rations was discontinued, and they were supplied by daily motor-truck service direct from Fort Sam Houston. This kept a string of trucks constantly in service between the two points.

Terrific Wear and Tear

"Also, the 6,000 horses were driven over a portion of the Tarviated surface twice daily for five days, to which should be added the ordinary traffic, which averages 1,500 automobiles per day, many horse-drawn wagons, etc.

"The entire post-road is about eighty miles in length, built of gravel and was constructed under the supervision of a Government engineer who was assigned to the work.

"Eleven miles of this road are in Travis County. This portion was completed and accepted in February, 1916, only seven months before, and at the time of the troop movement was in process of being surfaced.

"Only thirty-six hours before the troops passed over it, eight miles had been Tarviated under the Finley Method and three miles were still with a gravel surface.

How the Tarvia Roads Stood Up

"It is remarkable that while the graveled portion was so badly damaged that it required 100 cubic yards of gravel to the mile to put it in condition to be surfaced, the Tarviated section withstood this remarkable traffic without apparent damage."

The Austin *American* of September 23d reported the event as follows:

"The post-road recently Tarviated resisted the hoof-beats and apparently has not been damaged by the unusual wear to which it is being subjected."

Judge Wm. Von Rosenberg and the Commissioners of Travis County were so well pleased with the way the surfaced section withstood the traffic that on October 13th they let a contract to the Finley Method Company for 8.3 miles more of this work, making a total of 23.3 miles of their roads in Travis County.

Travis County Tarvia-treated post-road after troops had been over it

Help Your Town Profit by This Example!

The success of Tarvia in Texas has been duplicated all over the country.

In all sections and under all conditions of climate, weather and traffic, Tarvia roads have demonstrated

1st—That good roads pay.

2d—That good roads are within easy financial reach of every community.

Get your neighbors together and talk over this "good roads" question. Write to the Tarvia "Good Roads Bureau" for expert and practical information and suggestions. You will be surprised to know how easy it is to bring good roads to a community if a few enterprising citizens decide to go after them.

There are several grades of Tarvia and a dozen methods of using the product.

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

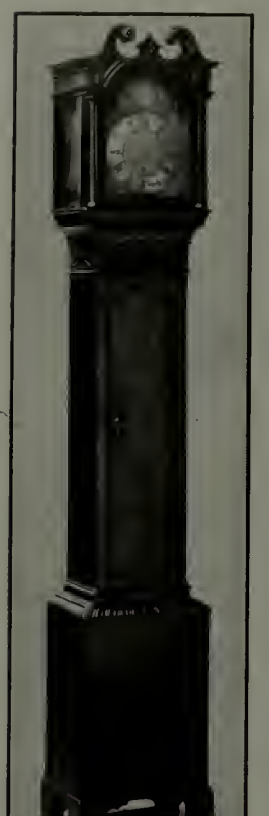
...York Chicago Philadelphia **The Barrett Company** Boston St. Louis
...land Cincinnati Pittsburgh Detroit Birmingham
...sas City Minneapolis Nashville Salt Lake City Seattle Peoria

PATERSON MANUFACTURING COMPANY, Limited: Montreal Toronto Winnipeg Vancouver St. John, N. B. Halifax, N. S. Sydney, N. S.

TOMPION *and his* CLOCKS

By WALTER A. DYER

THE name of Thomas Tompion should be familiar to collectors of the antique who desire to know something of the craftsmen of other days. He lived in England from 1638 to 1713, and he has been called the "father of English watchmaking." His life marked an epoch in the horological art. At the beginning of his career the mechanism of English timepieces was very defective; he made them the best in the world—admirable both mechanically and artistically. He was a great man in his day, and during his life was associated with the leading mathematicians and philosophers of the time. He became the leading watchmaker at the court of Charles II and his successors, but though his watches were famous, and though he greatly improved the art of watchmaking, he was primarily and by preference a clockmaker.



A typical-long case clock by Thomas Tompion, one of the few examples in this country

According to the records of the British Clockmakers' Company, Thomas Tompion was born at Northhill, Bedfordshire, in 1638 (or, according to some writers, in 1639). It is said that his father was a farrier or blacksmith, and that Thomas first learned this trade. But he early became interested in the science of the equation of time, and his first essay in this field is said to have been the regulation of a jack for the roasting of meat.

He is believed to have attained local renown as a maker and repairer of clocks and watches as early as 1658. About 1664 he went to London and was apprenticed to a clockmaker there. The first reliable record finds him with a shop of his own at 67 Fleet Street, corner of Water Lane, Blackfriars, in the section now known as Whitefriars. Here he remained till his death. His shop was called the "Sign of the Dial and Three Crowns," and was on the site now occupied by the offices of the *Daily News*.

"Thos. Tompion, Automatopœus," after the portrait painted by Sir Godfrey Kneller

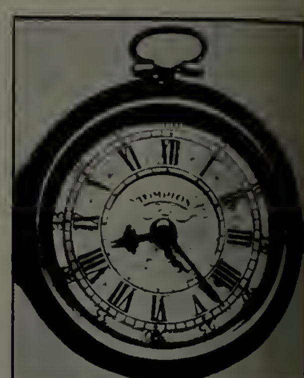
He was accepted by the Clockmakers' Company as an associate brother in 1671, became a freeman in 1674, one of the court of assistants in 1691, warden in 1700, and master in 1704.

Tompion appears to have been commercially successful from the first, and he did a remarkably large business. He opened his shop about 1673. In 1676 he was chosen to make the clocks for the Royal Observatory. He introduced the balance spring for watches. One of the first of this sort made in England he presented to Charles II, in 1675. He invented and constructed a repeating watch as early as 1687.

Upon the accession of William and Mary to the throne he continued in royal favor. He made for the King a wheel barometer which is still in place in the royal chamber at Hampton Court, and an elaborate and complicated sundial made for William in 1694 is still to be seen in the Privy Garden. He also made for King William a clock which was driven by a mainspring, ran for one year with one winding, and struck the hours and quarters. It cost £1,500, and was made with a case of ebony and silver. This clock is now owned by Lord Mostyn and is still running.

In 1695, together with William Houghton and Edward Barlow, Tompion invented and patented the cylinder escapement with horizontal wheel which made flat watches possible. He also improved and patented striking devices.

One of the most famous clocks of his later years was the one which he presented to Bath in 1709—a thirty-day clock in an oak case nine feet high. It still stands in the grand pump-room at Bath and is going strong.



An old Tompion watch, with inner case of silver and outer case of tortoise-shell.

Many of Tompion's clocks were housed in cases of excellent design. He was one of the first to place the broken arch at the top of the hood. His name is engraved on the brass and silver dials of many of his clocks, usually in script—Thomas Tompion, or Tho. Tompion, London, fecit. At one time his clocks bore the firm name of Tompion & Banger, and at another, Tompion & Graham.

Little has been recorded of Tompion's private life. He is not known to have married. He died on November 20, 1713, leaving a considerable estate to his relatives, and his business to his partner and friend, George Graham. He was buried in Westminster Abbey.

This George Graham, by the way, was also an interesting character and, as a clockmaker, a worthy successor to Tompion. He tramped to London when a young man and became an apprentice to Tompion. A strong attachment grew up between the two, and Graham later married Tompion's niece. Thirty-eight years after Tompion's death, Graham was buried in the same tomb in Westminster Abbey.

Tompion's clocks are to-day exceedingly rare and valuable. They are to be found chiefly in the collections of wealthy connoisseurs and in such places as the British Museum, the Victoria and Albert Museum, and the Metropolitan Museum of Art, New York. They are beyond the hope of the average collector. Nevertheless because of the place which they hold in the history of English clockmaking, the average collector should at least know something about them.

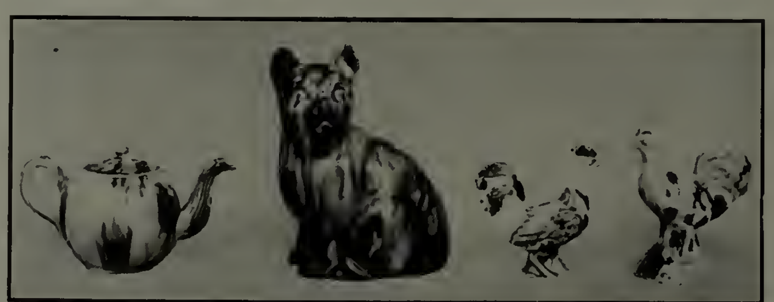
As to their value, it may be said that they are worth more in England than here. In England the first importance is placed on the maker here collectors are inclined to consider rather the style, age, and beauty of the case. An authentic Tompion clock, however, is worth at least $1,000 in America.

WHIELDON WARE

Photographs from the Metropolitan Museum of Art

INTEREST in Whieldon ware has been increasing of late among collectors. This term is applied to the work of the Staffordshire potter, Thomas Whieldon, and is also used more generally as a generic term covering all classes of earthenware of a mottled, cloudy, or splashed character, such as tortoise-shell plates, vases, figures, etc. The so-called Whieldon school of pottery is represented by this tortoise-shell ware, and also by various figures showing a harmonious blending of colors and glazes. They include animals and birds, miniature musicians, such classic figures as Diana, Venus, and the Madonna and Child, an early form of the Toby jug, and a satyr's head in the form of a jug or cup.

Whieldon worked during the most active period of British pottery, when porcelain manufacture was being developed at Bow, Chelsea, Derby, Worcester, and elsewhere, and when Wedgwood was getting his start. Whieldon himself continued to work in the older manner, but with increasing excellence of technique. He was one of the prominent potters in Staffordshire in a continuous chain from Elers (1690-1710) to Wedgwood's best period after 1760. He produced much homely pottery of a purely British type until it was superseded by the work of the classic school of Wedgwood, Turner, and Adams. Whieldon was the immediate follower of Astbury.



Tea-pot, cat, hen, and rooster, by Whieldon, in his early manner

The date of Thomas Whieldon's birth is not recorded. He began making pots in a small way at Little Fenton in Staffordshire about 174

ART AND ELEGANCE
in Old World Linens

NO longer do the sparkling waters of the River Lys reflect the happy faces of the Courtai peasants, engaged in the work that has made this district world renowned. Belgium, Northern France and even the sun kissed shores of "Erin" have felt the ravages of war.

The Linen supply of the world is at low ebb. The British Government is using vast quantities of flax in the manufacture of aeroplanes.

And there is little hope of betterment. The battle-scarred field of the "Western Front" can not soon be transformed into that beautiful picture—the flax field in full flower. Ireland is doing her valiant best but it is all too little.

But here in the Lord & Taylor Linen Section war has caused no scarcity. A beautiful display of French, Irish, Scotch and even German workmanship greets the eye. A large part was assembled before the war.

Here are dainty, hand woven Table Cloths, Serviettes and D'Oyleys, bleached to a dazzling whiteness on the lovely green fields of the "Emerald Isle"; finely hem-stitched Huck-a-Back Towels; Turkish Towels; exquisitely embroidered Scarves and Luncheon Sets from the far-away Madeiras; Italian Filet Banquet Cloths, Scarves and Sets of almost incredible fineness.

All these and more present a picture as interesting as it is unique.

To those planning the purchase of Linens for the Summer Home or the assembling of a Trousseau and to all lovers of fine Linens we extend a cordial invitation.

Lord & Taylor

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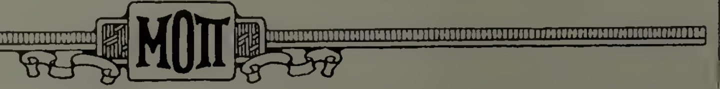

His factory was a range of low, thatched huts and he probably peddled his first products himself. Gradually, however, he rose to prominence as a potter and a citizen, and built a larger factory and home at Stoke-on-Trent. Here he introduced his famous tortoise-shell ware, the choicest pieces being made between 1752 and 1759. Josiah Wedgwood became one of his apprentices, and from 1754 to 1759 they were in partnership. It is safe to say that each w of great benefit to the other.

Gradually the fashions changed, and Whieldon did not vary his style to meet the change. His business fell off, and he retired in 1780. In 17 he was made High Sheriff of Staffordshire. Beyond the fact that he was greatly respected and widely known, very little has been recorded to his personality and private life. He died,

Bird ornament and tea-pots by Whieldon

Tea-pots of Whieldon ware. The upper left-hand one is bl basalt; the two lower ones, agate and tortoise-shell

old man, in 1798, leaving a considerable fortun and was buried at Stoke.

Whieldon was famous in part for the lat prominence of his apprentices, among who were Josiah Wedgwood, Josiah Spode, Willia Greatbach, and Aaron Wood.

Whieldon began by making knife-handles f Sheffield cutlers, and snuff-boxes for Birmingh dealers. These he delivered in a basket. Th he produced figures of cats and men, mottl and variegated, in the Astbury manner. Grad ally he worked into the popular salt-glaze wa making tea- and coffee-pots and other piec His forms in undecorated salt-glaze were e cellent, but his interest was in color treatmen particularly greens, yellows, and browns, a finally he became noted for his solid agate w tortoise-shell and clouded wares, and cauliflo ware.

The agate ware was the forerunner of We wood's later porphyry, granite, pebbled, agate wares. At first Whieldon made agate marbled wares after the manner of his cont poraries, combing surface colors in the slip glaze. Then he invented a method of prod a solid agate ware, with the colors running thro the body, by using layers of clays of contrast colors.

He employed the solid agate material first snuff-boxes and knife-handles; then he m toys and mantel ornaments of agate ware decorated with bright-colored glazes in irreg splashes. Finally he used the solid agate larger pieces—teapots, vases, jugs, sauce-bo and various dishes. The material was pre in molds, and from 1746 on, his block-cutte Aaron Wood. Owing to the way the color handled, no two pieces of solid agate were actly alike.

Whieldon's next introduction was his clo mottled, and tortoise-shell ware. This w cream-colored ware with its surface splash sponged with color in imitation of tortoise It was a development of Enoch Booth's t parent lead glaze; Whieldon's contribution in the improved use of color. The tortoise ware was mostly brown, flecked with

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Mitchell Junior—a 5-passenger Six, on similar lines, with 120-inch wheelbase and a 40-horsepower motor, ¼-inch smaller bore.

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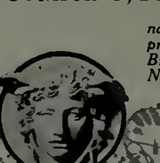

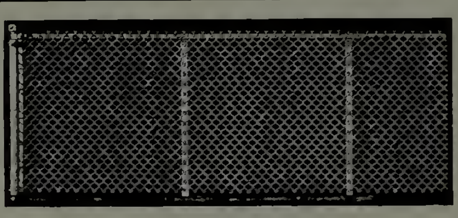

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touches of blue, green, and yellow, so employed as to avoid discordant effects. He used simple colors—manganese for madder brown, iron oxide for yellow, copper for green, and cobalt for blue. He also employed a deep, mottled gray on some of his plates. He laid these colors on in a great variety of mixture, but always with a harmonious result. In this his work was vastly superior

One of Whieldon's more elaborate tortoise-shell plates

A typical octagonal plate by Whieldon, in mottled ware

to that of his rivals. His mottling was done with the greatest care; that of his imitators crudely.

Whieldon produced elegant little teapots, milk jugs, plates, and other domestic dishes i tortoise-shell. His dessert plates, often o tagonal, are familiar to collectors. They wer made with flat, broad rims, usually with border of raised lines or strips.

During Whieldon's partnership with Wed wood, the firm produced the so-called cauliflowe ware. This consisted chiefly of teapots an other pieces in quaint forms based on the melon cauliflower, and pineapple, with a brilliar green glaze.

Whieldon manufactured various figures, group and mantel ornaments, including cradles, bust soldiers, officers on horseback, men and wom on horses, men representing different trade many dogs, stags, and other animals, and bird There were St. George and the Dragon, t Three Graces, King David, Neptune, peasa boy and girl representing Autumn and Wint man with bagpipes, lovers, musicians, two bir in a tree, etc. There were also portrait placqu toys, and Toby jugs. Whieldon's Tobies we an early form, showing Toby sitting on a cha pipe in mouth and jug on knees.

Whieldon also made some basalt ware.

In general, Whieldon ware was well color and well potted. It was light in weight, with good glaze which showed no tendency to fla off. He was the most successful maker of t mottled ware, and about 1750 was known as t best potter of his day.

The mottled ware was much imitated at Live pool, Leeds, and elsewhere, and it is not alwa easy to distinguish Whieldon's work. He ide tified his pieces with no mark or name, but the workmanship was so superior that those famil with it have little difficulty in separating it fr the imitations, both contemporary and recent.

Whieldon ware is not artistic in the same sen that Wedgwood ware and some of the porcela are artistic. But it is quaint and interestin with a merit all its own. The figures and t octagonal plates are most in demand amo

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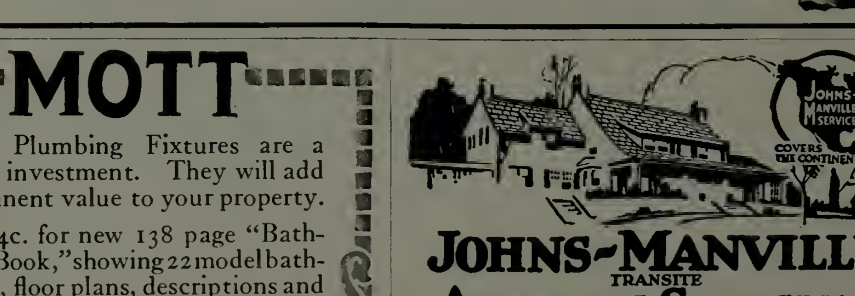

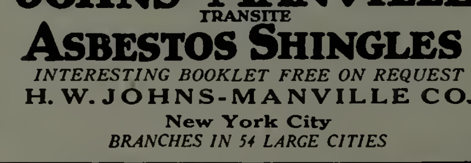

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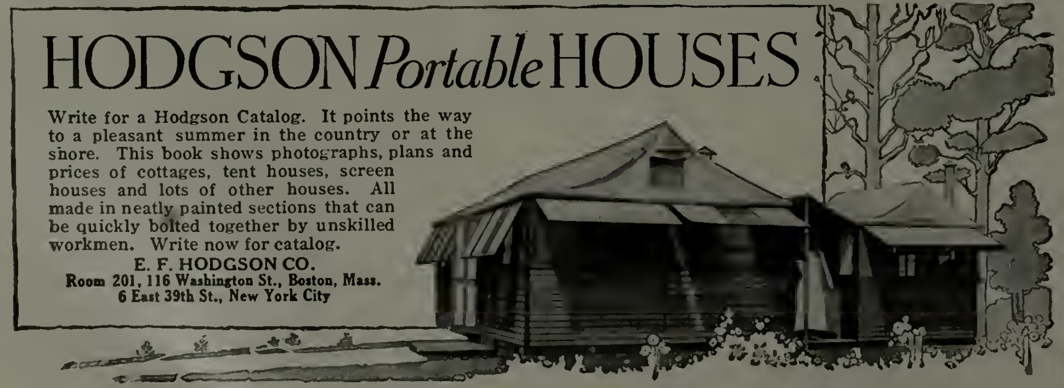

collectors. The market values are rather high, considering the character of the ware. Pieces have been sold at prices ranging from $5 to $125. Early Whieldon figures are worth from $20 to $50.

ANSWERS TO QUERIES ABOUT ANTIQUES

I NOTE in the August, 1916, number of Country Life the picture of a silver pitcher. I have one almost a facsimile of the illustration. It has been in my family for many years. The mark on the inside of the base standard is "Ball, Tompkins & Black, successors to Marquaw & Co." Could you place the period of this for me? Is it American or French type? Has it any particular interest or value outside the family sentiment?

T. M. P., New York City.

Your pitcher is an American piece. I am afraid it has value only for the metal and for its interest as an heirloom, since the maker was in business about 1846, which is rather late to interest collectors.

I AM enclosing a picture of a Windsor rocker. Will you please tell me what the value of such a chair is? E. H., Monroe, Mich.

This chair is of rather late period and is worth from $5 to $10.

Although of rather late date, and not of great value, this Windsor rocker is interesting

WOULD you kindly give me the period, national connections, and value of the following plates: (1) Blue and white background, round shaped; dark blue and light brown, with a touch of orange; drawing somewhat Chinese motif; marked "Turinval, Ceylon." (2) Cream background; sunflower pattern (worn away through part of the centre); marked with monogram, "J. G. & Sons." A. M. B.

The first is undoubtedly one of the regular blue and white Staffordshire plates made around 1820. Views from all over the world were reproduced on these plates. The second is by Gardner, a Staffordshire potter who was more noted for his lustres. There is no special value to either of these plates. They bring a good deal less than they did a few years ago.

HAVING been much interested in your article on gate-legged tables in a recent issue of Country Life, I take the liberty of asking if you can tell me why so many of them have had the feet cut off. I have a very fine specimen with the lower rounds worn quite flat by generations of human feet, apparently, but the b[illegible] on the lower supports for the legs were evidently removed, which I am told is often the case. While the lowness of the table makes it rather more artistic, it could hardly have been as convenient for a dining table as for other uses, and the fact arouses one's curiosity.

J. L. N., Milford, N. H.

There are two or three reasons why so many gate-leg tables are minus the lower portion

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their legs. Most of them were originally made for dining tables when high chairs were in use. Later they were moved to other rooms where they were thought to look too high, and they were therefore cut down.

Another possible explanation, also, is that one or two of the feet may have been broken or worn, and all of the feet were therefore cut off as the easiest way to make them even.

W. A. D.

COMPETITION AND BETTER DAIRYING

HE countrywide production of better, cleaner milk is a consummation that calls for the education of both producer and consumer. The former must be shown the possibility and desirability of turning out a higher quality product, and how to do it; the latter must be shown the difference between good and poor milk, and, in addition, made to realize that the better it is, the more difficult and expensive it is to put on the market.

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Bacterial count	35	For perfect score, less than 500 per c.c. More than local legal limit receives 0
Flavor and odor	25	
Absence of visible dirt	10	
Percentage of fat	10	For perfect score, 4 per cent. or over. Less than 2.7 per cent. receives 0
Percentage of solids not fat	10	For perfect score 8.7 per cent. or over. Less than 7.8 per cent. receives 0
Acidity	5	For perfect score .2 per cent. or less. More than .24 per cent. receives 0
Appearance and condition of bottle and cap	5	

In the case of cream the item "Solids not fat" is discarded and the value of the "Percentage of fat" increased to 20.

Although the same score card is applied both to market and certified milk, which, of course represent different types of product involving different methods of handling, the entrants in the certified class are usually ruled out of the other.

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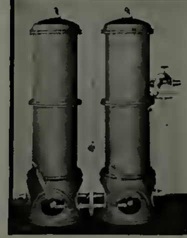

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By S. A. Everitt, *Treasurer*

Sworn to and subscribed before me this 31st day of March, 1917.
(*Signed*) Albert H. Jennings, Notary Public
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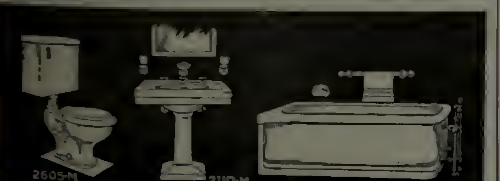

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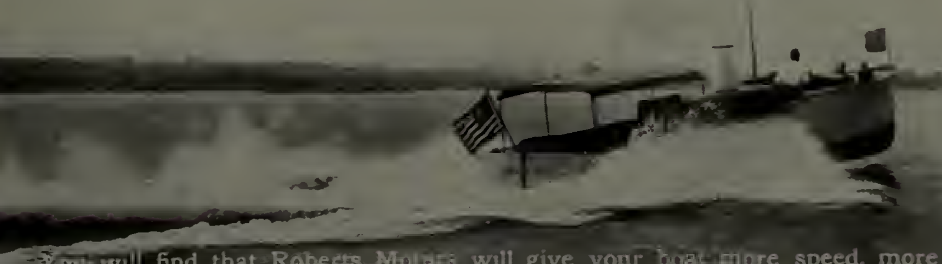

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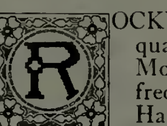
This was originally the front of the Berrien house, but is now the rear

WASHINGTON'S LAST HEADQUARTERS

By Mildred Stapley



ROCKY HILL, where George Washington had his last Headquarters, lies about five miles from Princeton on the way to Morristown. In the autumn of 1783, when the General was frequently riding over to the sessions of Congress in Nassau Hall, the road passed in front of his house; but things are changed now—the house has been moved, and a new road has been cut through the property close to the Headquarters' back door. Only the villagers and the few Princeton delivery wagons looking for a short cut know about it; and that perhaps is why automobilists whirl along the main highway and over the Somerset Hills, never suspecting that a little to one side lies the best equipped (if one may use the expression) Headquarters that Washington ever occupied.

Certainly it is not known as it should be. We first heard of it, oddly enough, through an English family who had settled there years before. Some unscrupulous Yankee had sold them, at a high figure, a big tract of land that they had never seen and which, not amenable to farming, is now at last allowing itself to be quarried. But these kindly folk seem never to have borne Rocky Hill any malice for their shrunken fortunes, and were as enthusiastic as any Descendant about rehabilitating the Headquarters when a little Association was formed for that purpose. It was this Association that moved the old house—as the only means for its salvation. It had long belonged to the railroad—let out to hordes of Italian laborers. As the company would not part with the land, but merely the house, a patriotic citizen who owned the tract adjoining, donated it, and the old building went a thousand feet up the road. It is well that they built solidly and honestly in Colonial days, else after the abuse this historic building had suffered, it would not have withstood the strain of being carried bodily to its new situation. Think of that little reception room where the stately George and Martha received Alexander Hamilton and other distinguished visitors, being blackened with smoky lamps and permeated with Italian garlic. Worse still, in George's special study upstairs, where he wrote his Farewell Address to the Army, foreigners who knew naught of our sacred traditions crowded about the table to play *moro*, or warmed their hands at the same hearth.

But one is glad to know that the new site was part of the original farm. Under the name of Rockingham it all belonged to Judge John Berrien, a prominent man in New Jersey, who died four years before the Revolution began. Whether it was named from the character of the country or after England's Prime Minister, the Marquis of Rockingham, we are not told. In 1783, when Washington's attendance was needed at Princeton by Congress, there being no available domicile there to accommodate his household, they approached the Widow Berrien who was then advertising her property for sale, and got a short lease of it for their General and his retinue. With the tents of his guard (under Captain Howe of New York) scattered over the grounds, and great people coming and going, the quiet old farm soon wore a most important aspect, and Rocky Hill's claim to fame was permanently established.

Mrs. Berrien's advertisement, published in the New York *Gazette* of

The present front, with the new road passing the door. The stone building at the left is the separate kitchen

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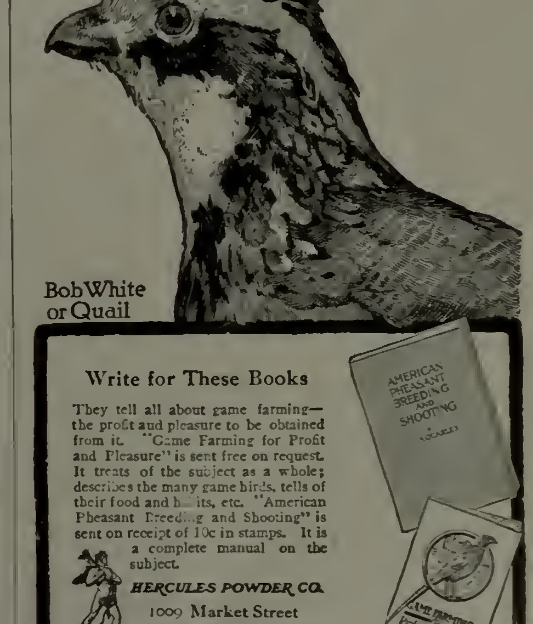

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A corner china closet in one of the rooms which owes its beauty to excellent moldings and heavily muntined glass doors

This room, with its original overmantel cupboard, is said to be unaltered since the Washingtons used it

July 5, 1783, is a quaint picture of the pretentiousness (for those days) of her country place. It reads:

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That very healthy and fine situated farm of Rockingham. It contains about 320 acres, well watered, suitable for growing wheat etc., etc. The house contains upwards of 20 rooms including a kitchen very conveniently contrived and genteely finished and cellar almost under the whole, etc.

This is but a small part of the description, which proves that it was no mean establishment of which the Revolutionary hero took possession on August 24, 1783, to remain until the news of the Treaty of Peace was brought to him there in the middle of November.

His work as Commander-in-Chief having ended, there is something peculiarly domestic in the aspect of the George Washington of Rocky Hill—the wealthy Southern gentleman in a Jersey farmhouse. Old letters tell us that he spent his time mainly in writing, and in receiving distinguished visitors. He sat for his picture to Peale; also to one William Dunlap who, I fear, was hardly a great enough painter to deserve the high privilege. But at any rate this artist was human if not a genius, and has left an interesting account of those sittings in the old Berrien parlor, of his delight at breakfasting and dining each day with the General and Mrs. Washington, and of the many visits paid them by members of Congress who rode out from Princeton.

We also learn that it was not merely the meetings of that austere body that took the great man into the college town five miles away, but that he attended commencement exercises and presented fifty guineas "as a testimony of his respect for the College of New Jersey"; that he rode a fine horse, had a beautiful saddle, and that he weighed 210 pounds and was such an imposing horseman that the country people around never failed to gather along the highway and admire him. And now, on that same road, automobiles dash by too swiftly to give even a thought to the dignified soldier who rode so often that way in the autumn of 1783.

There is a letter in the house to-day, "given at Rocky Hill this 9th day of November 1783" and signed "Washington," which particularly sets forth the domestic man before our eyes. It is addressed to Captain Howe, whose descendant, Dr. T. Morgan Howe of New York, presented it, along with a miniature of his ancestor, to the Headquarters Association. It says:

"Sir: You will have charge of the waggons which contain my baggage and proceed with them to Virginia and deliver the baggage at my house ten miles below Alexandria. . . . As you will have several ferries to pass some of them wide particularly the Potomack and Susquehannah, I must caution you against crossing them if the wind should be high. . . . Your road will be through Philadelphia and Wilmington to the lower ferry on the Susquehannah and thence by Baltimore, Georgetown, Alexandria, to Mt. Vernon. *You will enquire of Mr. Hodgeson if Mrs. Washing-*

Washington's four-poster brought from Lord Cornwallis's Brooklyn headquarters. Both Cornwallis and Washington have therefore slept in this bed—but not simultaneously

Washington's study. The centre table is from the home of George Mason, one of Washington's Virginia neighbors, with whom he often played picquet

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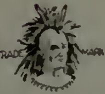

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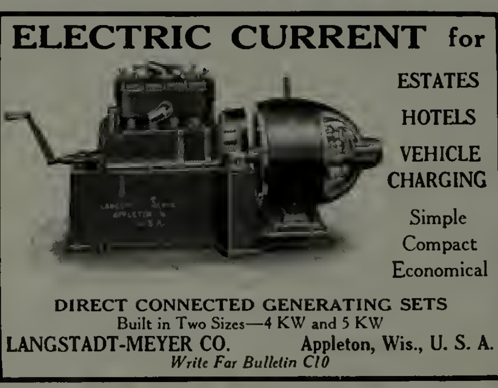

ton left anything in his care to be forwarded by waggon to Virginia and if she did, and you can make room for it let it be carried; if not desire him to send it by the next opportunity. . . ."

So even a great soldier and statesman had time to think of his wife's parcels! And Martha was not there to remind him, either, for she had already, as the letter implies, gone back to their Southern home.

One hundred and thirteen autumns passed over Rocky Hill before any one thought of preserving its historic house for posterity. Then the Washington Headquarters Association was formed with shares fixed at $10 each. Through the generosity of Mrs. Josephine Ward Swann of Princeton (a Berrien descendant) who purchased and presented the house to them, and through the gift of land mentioned, the Association got an excellent start. Subscriptions and donations came in rapidly, for the neighboring country is full of proud old Revolutionary families to whom such a project would naturally appeal. The result is that the Berrien farmhouse is to-day the most complete Colonial museum imaginable. Even those incapable of a patriotic thrill, will stand charmed before the glowing old brass and copper and pewter, the warm-hued old mahogany and walnut, or the fine-textured homespun linen that is abundant in every room; to say nothing of the appealing honesty and beauty of the permanent fixtures—the fine mantelpieces, the paneled walls, the built-in cupboards, the heavy-muntined windows, and the delightful old iron hardware so typical of Northern Colonial interiors.

Architecturally the interior possesses considerable merit, especially when one considers how remote it was from any centre of contemporaneous building activity. Everything is absolutely unpretentious, in true farmhouse fashion, but admirably well done. The dining room with its ample fireplace is perhaps the most interesting. Its low ceiling, seeming even lower because of its large area, is spanned by huge beams that support the joists above. Leading to the kitchen is a plain batten door with strap hinges. The room beyond was originally a serving pantry and not the "kitchen genteely finished and conveniently contrived," for that was a separate little stone structure. The entire side of the dining room where the fireplace is, is paneled, the other three sides being papered. Below each window is a little seat, panel enclosed. All this arrangement—fireplace, paneling, and seats—is repeated in the corresponding room above, which was the General's study.

In the parlor across the hall from the dining room, the most notable feature is the finely carved and gilded corner mantel. This has a history all its own. It once so far forgot its dignity as to leave its historic surroundings and accompany a former tenant to Orange, N. J., to be placed in his new residence there, but was later returned. The Rev. Stephen Pray, the devoted guardian of Rocky Hill's Colonial treasures, tells a tale of a very old blind lady of the Berrien family who had lived the first half century or so of her existence in the Headquarters and was brought back there after its rehabilitation. She knew every inch of the interior by heart and went about "seeing" (with her finger tips) whether everything was in its place. "And oh! here is the parlor mantelpiece again!" she cried. Then, running her hands across it, she added, "with the same Greek lady and gentleman at each side, too! And," stooping lower, "if here aren't the old andirons back in place that we sold to the Scudders of Penns Neck!" She was right—they were the same andirons; the Princeton Bank had bought them from the Scudder family and, on the petition of the Headquarters Association, had generously returned them as a gift.

The large panel above the mantel shelf is no poor piece of work, for despite its great age there is not a crack in it. However, the fireplace is not all that it should be, for irreverent occupants since the Washington days have crudely plastered up and whitewashed the fireplace opening, which, perhaps for good reasons, was left so in the recent overhauling. An unusual feature of this room and one that must have been an innovation in that rural district, is the plaster run cornice, for it was a touch of elegance reserved, as a rule, for city rooms.

Another built-in accessory on this floor that is well worth examining is the over-mantel cupboard in the little morning room. It is almost childishly crude—one wonders how it could be part and parcel of the same house that holds the "Greek

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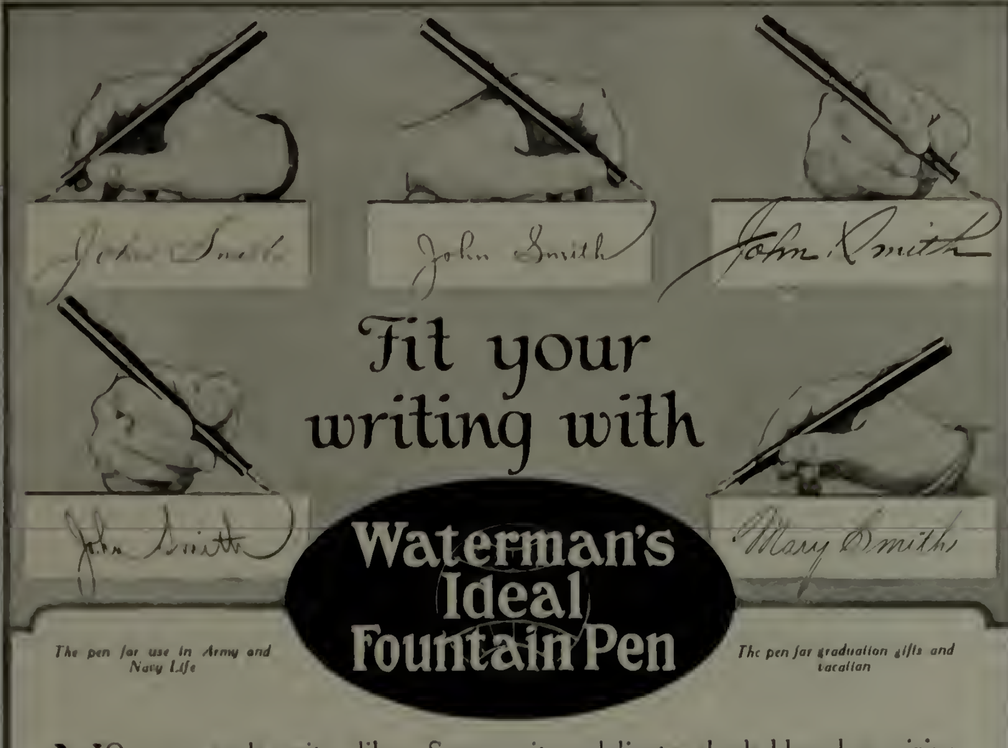

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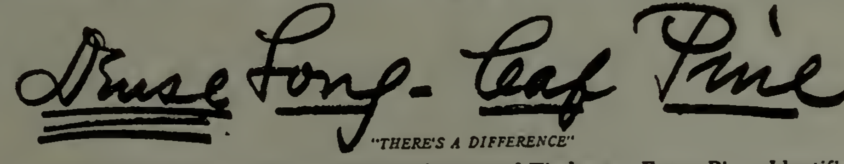

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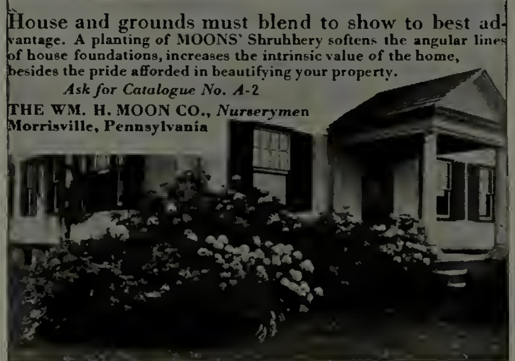

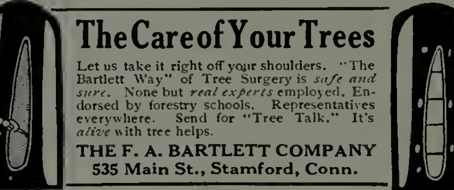

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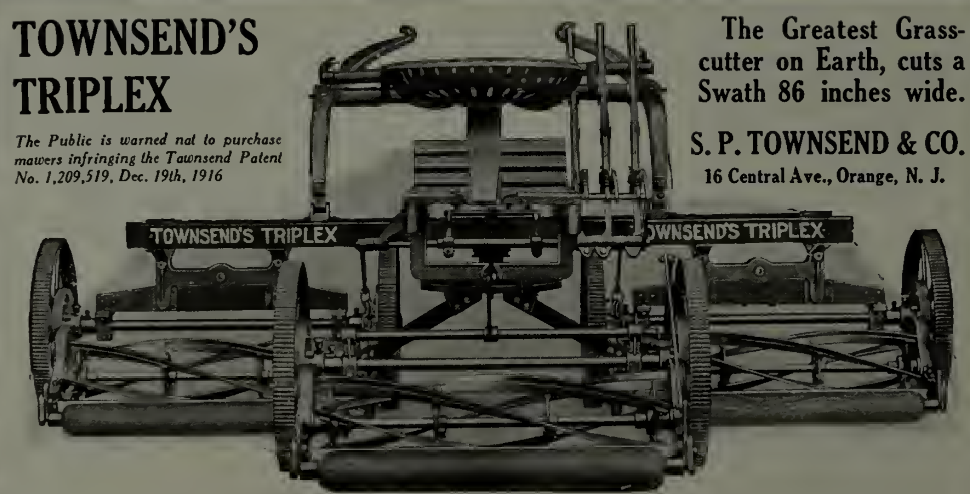

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lady and gentleman" decoration. The mantel on which the cupboard sets is merely an unadorned board, and below it an iron back and throat, probably already there in Revolutionary days, for it is of ancient type. Simple and home-made though it all looks, this is one of the most attractive spots in the whole house. The other cupboard illustrated—the china closet standing in a corner of another room—was a gift from a neighboring contemporaneous homestead, and therefore fits perfectly.

The exterior of the Headquarters is in no way striking—but it has those lines and proportions which make all old farmhouses satisfying to the eye. From its upper balcony the view is beautiful—out over Hopewell Valley where the council of war was held before the Battle of Monmouth. The village of Hopewell itself where John Hart, one of the Signers, lived, seems quite near. Along the side of the house near the balcony, those interested in iconography may see where that inevitable companion of youth, the jack-knife, was employed by the young men who made up His Excellency's guard. Scarcely one of them was more than twenty, it is said; and as they came mostly from New England coast towns, it is not surprising that their carvings are all of ships.

RIDER'S NEW YORK CITY. By Fremont Rider, assisted by Frederick Taber Cooper, Mary Alden Hopkins, and others. Henry Holt & Co., New York. Illustrated with 16 maps and 18 plans; 506 pages $4\frac{1}{8}$ x $6\frac{3}{8}$ in.; price $3.10 net.

A guide book to New York City and vicinity, including Newark, Yonkers, and Jersey City.

ARTS AND CRAFTS. Edited by Charles Holme, John Lane Co., London and New York. Illustrated; 204 pages; $8\frac{3}{4}$ x $11\frac{1}{2}$ in.; price, cloth $3 net; paper, $2.50 net.

A review of the work executed by students in the leading art schools of Great Britain and Ireland.

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A primer for the dairyman, based on the author's working knowledge gained on a Canadian farm.

THE HEALTHFUL HOUSE. By Lionel Robertson and T. C. O'Donnell. Good Health Publishing Co., Battle Creek, Mich. Illustrated; 191 pages; 6 x $9\frac{1}{2}$ in.; price $2.

Emphasizing the importance to health of beautiful colors and lines, and beautiful wall and floor coverings in the house, equally with fresh air and light.

ANNUALS AND BIENNIALS. By Gertrude Jekyll, author of "Colour Scheme for the Flower Garden," "Wall and Water Gardens," etc. With cultural notes by E. H. Jenkins. Imported by Charles Scribner's Sons, New York. Illustrated; 174 pages; $5\frac{5}{8}$ x $8\frac{3}{4}$ in.; price $3 net.

A new book by Miss Jekyll is always welcome, for she is one of the most inspiring of gardening writers. This present volume covers the best annual and biennial plants, and their uses in the garden.

THE PLATTSBURG MANUAL. By Lieut. O. O. Ellis, U. S. A., and Lieut. E. B. Garey, U. S. A., Instructors, Plattsburg Training Camp, 1916. With a foreword by Major-General Leonard Wood, U. S. A. The Century Co., New York. Illustrated; 303 pages; $5\frac{1}{2}$ x 8 in.; price $2 net.

A handbook for the man attending Plattsburg or any of the Federal Training Camps. The authors have selected from the standard technical service manuals the vitally important subjects and principles necessary to a working knowledge of the art and science of war and the technique of movements, and have presented them in the simplest terms.

THE FLOWER PATCH AMONG THE HILLS (Eighth edition). By Flora Klickman, editor of "The Girls' Own Paper and Woman's Magazine." Imported by Frederick A. Stokes Co., New York. 316 pages; $5\frac{1}{2}$ x 8 in.; price 6/.

Recounting the author's own gardening and other experiences at her English country home. The book deals with the district around Tintern Abbey.

THE BLUE CHINA BOOK. Early American Scenes and History Pictured in the Pottery of the Time. By Ada Walker Camehl. E. P. Dutton & Co., New York. Illustrated, 309 pages; $6\frac{1}{4}$ x $9\frac{1}{4}$ in.; price $5 net.

This book does not undertake to cover the entire field of blue china, as the title suggests, but

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deals only with the particular ware known to collectors as Staffordshire historical pottery. Supplementary chapters describe the collection of presidential china in the White House, and give a complete checking list of known examples of Anglo-American pottery.

HIGHWAYS AND BYWAYS IN GALLOWAY AND CARRICK. By the Rev. C. H. Dick. Macmillan & Co., London and New York. Illustrated; 536 pages; 5 x 7¾ in.; price 6' net.

In the uniform Highways and Byways series, and covering a district which has remained unknown to the world longer than any other part of Scotland. The illustrations are from drawings by Hugh Thomson.

THE JUMEL MANSION. (Edition limited to 800 copies.) By William Henry Shelton. Houghton, Mifflin Co., New York and Boston. Illustrated; 257 pages; 7½ x 10½ in.; price $10 net.

There is probably no house in America within which has occurred so many events of romantic interest and historical importance as the old Jumel Mansion, built in 1765 by Robert Morris on Harlem Heights, at the upper end of Manhattan. In this history, the author, who is Curator of the house, now preserved as a museum by the D. A. R., has gone into the minutest documents, and tells vividly the story of all the happenings with which it was connected. The book is lavishly illustrated with old prints, portraits, etc.

VEGETABLE GROWING. By Jesse George Boyle, B. S., M. S. in Agr., Associate Professor of Horticulture, Purdue University. Lee & Febiger, Philadelphia. Illustrated; 350 pages; 5¼ x 7¾ in.; price $2.25.

Covering the principles involved in vegetable production, with sufficient detailed information to show the connection between principles and practice.

THE SECRET TRAILS. By Charles G. D. Roberts, author of "The Feet of the Furtive," "Kings in Exile," etc., etc. The Macmillan Co., New York. Illustrated; 212 pages; 5 x 7½ in.; price $1.35.

Probably few juniors who love animals are unacquainted with Mr. Roberts's stories. This collection includes some tales of domestic animals as well as their wild brethren.

CITY RESIDENTIAL LAND DEVELOPMENT. By Alfred B. Yeomans, Landscape Architect. The University of Chicago Press, Chicago, Ill. Illustrated; 138 pages; 9 x 12 in.; price $3 net.

This volume consists mainly of plans submitted in a competition held by the City Club of Chicago for subdividing a typical quarter section of land in the outskirts of Chicago. More than local interest is added by the fact that the plans cover the problem of such subdivision for any large city.

DISEASES OF THE DOG. By Frank Townsend Barton, M.R.C.V.S. (Captain A.V.C.), author of "Everyday Ailments and Accidents of the Dog," "Our Dogs and All About Them," etc., etc. The Macmillan Co., New York. 255 pages; 4¾ x 7¼ in.; price $1.50.

First aid for those who have charge of dogs, covering minor ailments and accidents that can be effectively handled by the novice.

THE SITE OF ST. PAUL'S CATHEDRAL, BOSTON, AND ITS NEIGHBORHOOD. By Robert Means Lawrence, M.D., Richard G. Badger, Publisher. Illustrated; 299 pages; 6¼ x 9¼ in.; price $3.50 net.

Concerning old traditions of that section of Tremont Street, Boston, centring about St. Paul's, with biographical sketches of early residents, and glimpses of life in Boston at different periods.

THE BOOK OF THE PEONY. By Mrs. Edward Harding. J. B. Lippincott Co., Philadelphia and London. Illustrated; 259 pages; 6¼ x 8¾ in.; price $6 net.

Not only is this volume an inspirational appreciation of the peony, but a very plain and practical guide for growing this sister of the rose. The illustrations are numerous, twenty of them being in full color.

PARKS: THEIR DESIGN, EQUIPMENT, AND USE. By George Burnap, B.S., M.A., Landscape Architect of Public Buildings and Grounds, Washington, D. C.; with an introduction by Richard B. Watrous, Secy. American Civic Association. J. B. Lippincott Co., Philadelphia and London. Illustrated; 328 pages; 7 x 9¾ in.; price $6 net.

Primarily for the use of landscape architects and those having in charge the development of parks, this first volume in the "Landscape Architecture Series" will appeal to any one who is interested in civic improvement.

WE DISCOVER THE OLD DOMINION. By Louise Closser Hale, Dodd, Mead & Co., New York. Illustrated by Walter Hale; 374 pages; 5¾ x 8¼ in.; price $2.50.

Those who have read Mrs. Hale's previous delightful "Discoveries" will need no introduction to this latest one describing a motor trip to and through Virginia.

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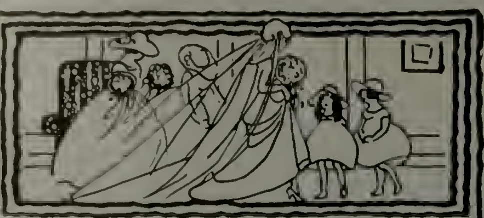

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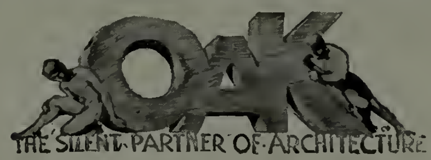

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AN ALARM CLOCK CIRCUIT BREAKER

THE following describes an automatic switch which was built for the purpose of breaking an electric circuit at any pre-arranged time. Its uses are many, such as shutting off lights, stopping a gasolene engine, ringing an alarm, or any other purpose that the builder might require it for. The idea is ingenious in its simplicity.

A wooden frame, A, was built wide enough so that the sides fitted snugly against the sides of a common alarm clock. Two small holes were drilled in the base board for the legs of the clock, in such a position that the back of the clock came flush with one edge of the frame. The alarm winding key of the clock was of the style that slowly turns while the alarm rings and the spring unwinds.

An ordinary "one way" knife switch, with a single blade, B, was next procured. The blade was removed and two small holes bored through

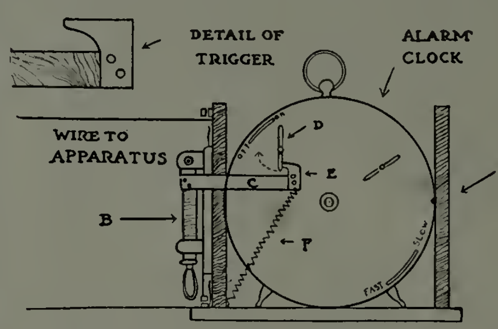


Diagram showing how the alarm clock circuit breaker operates

it about three quarters of an inch from the pivot-hole. Then a lever, C, cut from a piece of fibre such as is used in automobile transmission bands, was riveted at right angles to the blade through the two small holes, with copper rivets. The length of this lever was determined by screwing the switch to the outside of the wooden frame nearest the alarm key of the clock. With the handle of the switch down straight and the winding key, D, in a perpendicular position, the end of the lever extended about a half inch beyond the key. A brass trigger, E, was screwed to this end of the lever, as detailed in the sketch. When the switch was closed, as shown, the end of the trigger just projected through a hole in the winding key, and held the lever in a horizontal position and the switch closed.

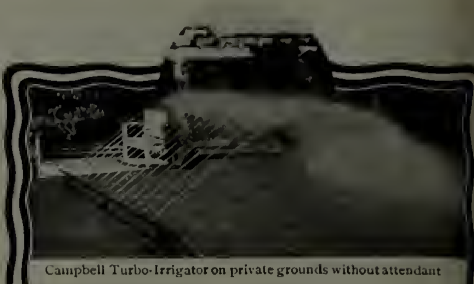
A small spiral spring, F, was secured to the lower corner of the frame with a screw-eye. The other end was hooked through a hole in the trigger, when the clock was being used. Then the switch was connected in line with the electric circuit.

The operation of the contrivance can be readily seen.

The alarm was set to go at a certain hour, when it was desired to open the circuit. The point of the trigger was inserted in the winding key and the spiral spring hooked in placed on the lever. At the appointed time the alarm went off, the winding key turned in the direction of the arrows, and the trigger was released. This allowed the spiral spring, F, to contract, which opened the switch, marked B, and thereby shut off the current.

When the arrangement was not in use the clock was removed and used for its original purpose.

L. B. ROBBINS.



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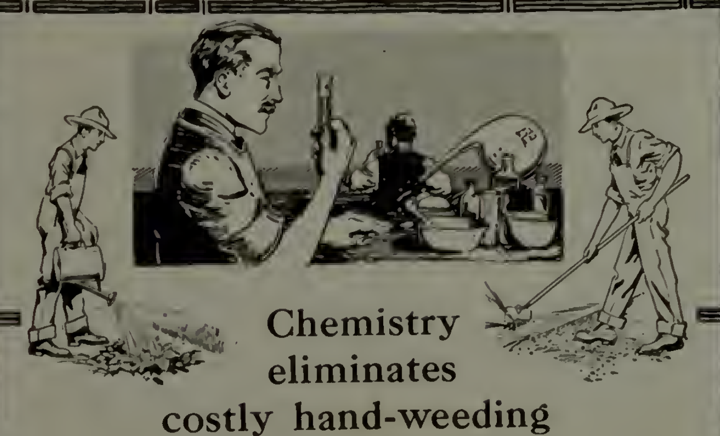

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The STORAGE BATTERY *and its* MAINTENANCE

By ALEXANDER JOHNSTON

WHEN a certain philosophically inclined gentleman of ancient Greece, strolling one evening in post-prandial contemplation along the shore of the Adriatic, picked up a bit of amber and rubbed it on his sleeve, with interesting results, he little realized how great a boon he was conferring on humanity. From the haphazard experiment of Thales has sprung the great science of electricity, which in its utilitarian aspect has probably contributed more than any other one thing to the struggle of mankind to achieve physical comfort and well-being. He who understands the fundamental principles of electricity may harness it to his bidding and it will warm him, light his path, cook his food, clean his house, and drive all sorts and conditions of machines, each contributing something to the comfort and pleasure of modern life. On the other hand, to the man who does not understand it, electricity is not a servant but merely an annoying truant, failing when it is most needed, a deep and deadly mystery, serving little else but to cultivate the vocabulary.

Now electricity plays a considerable part in the operation of the modern motor car, though the stellar rôle is reserved for a totally different type of power. In the early days of the automobile industry it seemed to be a toss-up as to which of three sorts of power—electricity, steam, or gasolene—would become the predominating form for use in self-propelled vehicles. For the present, at least, the fates decided against electricity, which, nevertheless, has had to be called upon to perform most of the subsidiary operations in the gasolene-propelled vehicle. Without the use of electricity to ignite the gasolene vapor fuel in the combustion chamber of the engine, the modern gasolene motor would be impossible. The ingenuity of the engineers would probably have discovered an alternative if they had been denied electricity, but it could have been but a halting substitute at best, for no small part of the high efficiency of our modern internal combustion engines is due to the perfection of their ignition equipment.

Within the past few years, moreover, electricity has come to play an even more important part in the operation of the motor car than was originally assigned to it. The electric lighting equipment and the electric starter, added to the electrical ignition system, make it imperative that the motorist of to-day shall know something of the operation and care of the particular form of electrical energy used on the car.

It happens that the source of electrical energy on the car—the battery—is also the prime source of trouble for the motor car owner. Short circuits, broken terminals, broken wires, and all the other ills that may afflict the electrical system, are merely annoying, but trouble in the battery may mean an expensive repair or even a replacement. In the second place, even relative failure of battery efficiency is reflected in all the electrical equipment deriving its power from this source. Where battery ignition is used in connection with electric starting and lighting equipment, decreased efficiency in the battery will result in disturbing the operation of the motor and in cutting down the effective work of the two important subsidiary systems. Obviously then, the motorist ought to know something about the construction and proper method of caring for the so-called storage battery.

To begin with, the name storage battery is a misnomer, in that it tends to convey the impression that electricity is gathered and held in the battery as milk is in a bottle, if we may be permitted the humble simile. As a matter of fact, the battery actually produces electricity by means of chemical activity.

In construction, the ordinary storage battery consists of a series of lead plates contained in a hard rubber vessel which is filled to a certain point with a solution known as electrolyte, the active compound in which is sulphuric acid. Now between the lead plates and the sulphuric acid solution there is set up a chemical activity which generates electrical power. In the course of this operation there is produced a substance, whitish in color and known as lead sulphate, which is deposited on the lead plates. In producing this lead sulphate, the electrolyte loses some of its strength and in the fulness of time becomes practically nothing but clear water. The battery is then completely shorn of its power and no longer furnishes current to supply ignition sparks, light the lamps, or start the engine. When it is in this condition, the battery is said to be discharged.

Now if the discharged storage battery be connected with some source of electric power and the current is turned into the battery, the exact opposite of the previous activity takes place. The lead sulphate is driven off the lead plates back into the water, which again becomes a sulphate solution, or electrolyte, whereupon the battery is said to be charged again and is ready to generate electricity through chemical activity as before.

It should be noted that the chemical activity is always present in a storage battery until it is completely discharged. Even when the circuit is open and there is no call for electrical current, this chemical action still goes on, but as soon as the circuit is closed and the battery is being called upon to supply current, the chemical activity increases enormously.

The chemical action which takes place between the lead plates and the electrolyte, with its given output of electrical energy, also generates a certain amount of heat. This heat inevitably causes the evaporation of a certain proportion of the water in the sulphuric acid solution, leaving the fluid with an undue proportion of the acid. For this reason, in order to maintain the proper proportions of sulphuric acid and water in the solution, it is necessary from time to time to add distilled water to the electrolyte. The lead plates must be kept completely covered with the solution, or severe injury or even destruction to them may result. It is a very simple matter to unscrew the caps on top of the battery and make sure that the proper quantity of electrolyte is present, and the car owner ought to make this a regular weekly inspection during the active motoring season.

Obviously also, the battery user will want to keep track of the degree to which his unit has become discharged, through the weakening of the solution by deposits of lead sulphate on the plates. An instrument, known as a hydrometer, is provided for this purpose. The hydrometer consists of a sort of syringe of glass with a rubber bulb at the upper end and a rubber tube at the lower. The rubber tube is to be inserted in the vent of the battery, when, by compressing and releasing the bulb above, a quantity of the electrolyte is drawn up into the glass cylinder. Inside this glass syringe is a smaller glass cylinder, with graduations indicated on it and so weighted that it floats upright in any fluid and shows the specific gravity of the liquid. The specific gravity of properly proportioned electrolyte is 1.3; that is to say, it is .3 heavier than distilled water. If the hydrometer gives a reading of 1.28 to 1.3 then the solution is correctly proportioned, or in other words, the battery is still practically fully charged. If, on the other hand, the hydrometer shows that the specific gravity of the fluid has been reduced to 1.15 say, then it may be taken for granted that the battery is nearly exhausted and it should be recharged without delay.

It may happen on occasion that a certain amount of the electrolyte has been spilled, or otherwise lost. In this case, it will be evident that just as much of the acid content as of the water will have gone. It is necessary, therefore, when this happens, to add enough of the actual acid solution to bring the contents of the cells up to the correct amount, and of course the additional fluid will have to show a specific gravity of 1.3.

Heat is the principal cause of evaporation, and consequently in summer the battery will need more frequent attention than in winter. In warm weather the owner should add water to the cells once each week, whereas in cold weather once every two weeks will be often enough. Distilled water, filtered rain water, or water made by melting snow must be used.

If in examining the battery it is found that one of the cells shows a much lower level than the others, unless this particular jar was not filled to level at the last replenishment, or unless some of the liquid has been spilled, it may be assumed that the jar is cracked. In this case the broken unit must be replaced immediately. If the battery is new, the service station of the manufacturing company will replace the injured part without charge.

As sometimes happens, the convenience of battery operation carries a danger with it. Charging the battery of the present-day car is done by a generator installed on the vehicle. These generators are so arranged that they carry on the operation of charging the battery whenever the car is in motion, which compensates in the main for current losses, since the current-yielding unit is being charged as fast as it gives out its energy. From this convenient arrangement too many car owners assume that the battery is practically a self-sustaining organism, and they neglect it. Now while the generator does make good most current losses, it does not put water in the cells. This must be done by the owner and done at stated intervals, as we have indicated.

The specific danger that lies in allowing the battery plates to get dry comes from the fact that much heat is engendered in the chemical action that produces the electrical current. With the solution covering the plates, the heat is kept down, but when the plates become dry, they get very hot. This heat causes the active material to drop out from between the grids, and the plates to warp and bend; the wooden separators crack and fall out of place, and short circuits occur between the plates. In other words, the battery burns itself out in a very short time and no effort avails to restore it to usefulness.

While the generator on the car helps greatly in the proper maintenance of the battery, it is not infallible, even for the particular service that it is supposed to perform. It is entirely possible with the generator either to undercharge or overcharge the battery, which is as bad as actual neglect. The amount of charging done by the generator obviously depends upon the amount of driving done by the car owner and also upon the character of the running. One person may use his car entirely in daylight, not employing his electric lights at all, nor using his starter frequently. Comparatively little electric current is drawn from the battery, but the generator runs steadily nevertheless. As a result the battery is overcharged. On the other hand, another type of driver will use his car often at night, employing the starter frequently. Demands for current are heavy, and the generator, work as it may, is not able to make up the losses. The car owner trusts everything to

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WILD FERNS IN THE GARDEN

FEW people realize the possibilities of a wild fern garden until they have tried one. In nearly every garden there is some spot that is the despair of the gardener, some dry shady spot, some bare unsightly place, or some northern exposure where grass refuses to grow, and it is in such places that wild ferns will flourish with well-nigh incredible vigor. In a year, dry, bare spots can be turned into lovely patches of green. Hardy and often evergreen, ferns require little or no attention during the cold winter months, standing the severest spells with ease, and send up their lovely fronds in early spring to last until the cutting frosts of fall, or until replaced by the new fronds of the coming year. And too, there is an endless variety of species and cuttings of fronds; so that the collection of all the ferns in a region is an exciting and ever fascinating hunt, and carries one into the woods and fields and swamps.

Almost any region of mixed woods and open country in the Eastern United States will yield thirty varieties of ferns, and forty is a number not infrequently found within an area of a few miles' radius. Every wood has some ferns, most at least a dozen, and those with well shaded spots and brooks often contain more. I know of one place where, within a radius of forty yards, twenty-three species and two hybrids have been found. But woods are not the only places for ferns; roadsides, railroad embankments, and marshes are filled with them. Different species, however, live in these different habitats, and in transplanting them to the garden, it is well to remember this, for it is safe to say that a fern will flourish in a garden only in a situation somewhat similar to its native haunt; that is, a fern growing naturally in a shady spot will do well only in a shady spot in cultivation. There are enough species, however, to satisfy most conditions, and we find ferns growing in moist shady places, dry shady places, wet sunny spots, dry sunny spots, and upon moist as well as dry rocks. As each species of fern has a definite habitat, and since it determines where we should place them in our gardens, one might think that a knowledge of species is necessary. It is not, however, for we can generalize; and on the assumption that few gardens have truly shady moist spots, ferns from such places should be planted in the shadiest and dampest portions of the plot, preferably with a northern exposure, and with very little full sunlight. I have found that garden ferns will grow luxuriantly in much drier locations than

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they have been accustomed to; and that by close planting their native condition can be simulated, for the fronds so shade the soil that the moisture is held for long periods. Ferns from dry shady woods should be planted along with those just mentioned, although they will stand much more dryness; and species found growing in full sunlight will grow practically anywhere. These are the species to use in covering up dry, bare spots in the yard, and to fill in with under shrubbery.

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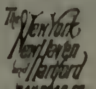

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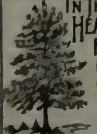

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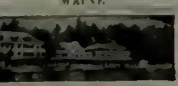

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THE GRAND, Mont Vernon, N H. Grand location overlooking 4 states. Orchestra Modern hotel Golf Booklet.

THE MONADNOCK Colebrook, N H Modern Best of everything Village in White Mts. Fine roads. Trout fishing

Forms for July will close June 1st.

MASSACHUSETTS

BRANT ROCK HOUSE Brant Rock Mass May to Nov 100 rooms On Mass Bay Fine beach. Ask for illus. booklet

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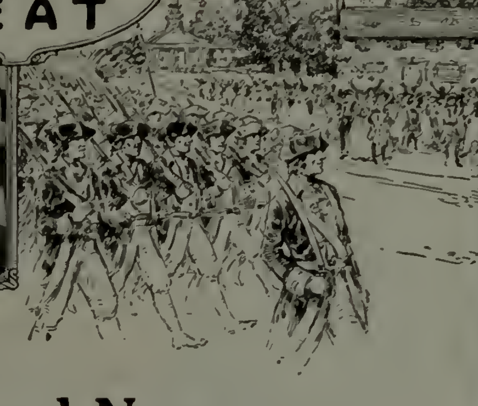
RHODE ISLAND

Cold Spring House, Wickford, R. I Near Narra. Pier. Tennis, bathing; home table. Booklet. Carpenter & Wright.

KELSEY HEALTH HEAT



Dining room in the old Patrick Henry House, Brookneal, Va. Although the fireplaces have been carefully preserved, every room is made comfortable by Kelsey Health Heat.

Then and Now

NOTWITHSTANDING the back-chilling, face-burning fireplace method of heating in the days of the Revolution, folks were then a sturdy lot, notably free from colds and akin troubles.

They had ample fresh air in their homes.

There was no way of preventing it.

The fireplaces ventilated while they heated.

So does the Kelsey Health Heat.

Not only does it heat with *large volumes* of freshly heated, fresh air; but it automatically mixes with its freshness, just the right healthful amount of moisture.

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The greatest Health Resort in the world is located in Battle Creek, a quiet, inland city in picturesque Michigan.

Here you find real "rest" and seclusion, a delicious dietary, health-building baths and treatments, ample facilities for outdoor diversions and a delightfully informal social life.

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Where-to-go forms for July close June 1

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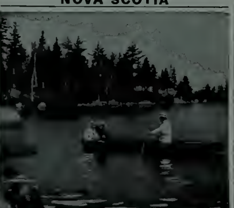

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Attractive Log Cabin and Bungalow Life, Comfortable Hotels and Club Houses on the edge of the wilderness. Moderate prices.
Wonderful blue-green bays and silvery lakes, abounding with salmon, trout, gaspereaux, and deep-sea fish.
IT'S REAL VACATION
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Only a Day's journey from New York and Overnight from Boston
"Yarmouth Line" steamers connect with
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Write for particulars on Tour No. 104
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LOUR LODGE and cottages, Digby, N. S. Free from flies, mosquitos and hay fever. Golf, Tennis, Boating, Bathing, Fishing. Garage. Write for booklet.

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Offers superior accommodations at rates which are high enough to insure the best in service and cuisine. Golf course adjoining hotel grounds.
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Boston's largest, family hotel, beautifully appointed. Choice suites of any size for motor parties at reduced rates from June 1st. to October. Private garage.
Both hotels management of P. F. Brine.

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Golf. Tennis. Swimming pool. **Hotel Greylock** New garage. Capacity seventy cars. Williamstown, Mass. *"The Village Beautiful"*
Write Henry N. Teague for Booklet & Rates

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Heart of the White Mts. **FABYAN HOUSE** FABYAN'S, N. H. Starting point of famous cog railway to summit of Mount Washington. Wonderful scenic features. Excellent cuisine. Genteel clientele. All amusements for patrons of all ages.

ADIRONDACK MTS. N. Y.

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Coldthwaite Inn, Bellport, L. I. on Great South Bay. Cool, comfortable, charming; sailing, bathing, tennis, golf. Table supplied from own farm. Circular.

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HOTEL BUTLER Large airy rooms. Cafe without peer. Center of things. Taxi fare 25c. Rooms $1.00 up; with bath $2 00 up. Home comforts to the traveler. A. CHESHIRE MITCHELL, Mgr.

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Home for the aged. A limited number of cases. Childishness or old ladies and gentleman of good family find a suitable cheerful home and excellent attention at **Waldheim Park** Oconomowoc, Wis. For particulars address Miss Mary L. Bird, Matron.

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BROOKSIDE INN AND COTTAGES
On the top of the Allegheny Mountains. Altitude 2,500 feet. The most ideal mountain resort in America. 10 miles from Oakland, Md., on the B. & O. R. R. 18 years under same management. Apply for booklet. E. J. Kirkpatrick, R F. D., Oakland, Md.

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For Safety, Comfort, and Pleasure **Old Sweet Springs** Elevation 2300 ft. One of the best known and most popular resorts in the Alleghenies. Table unsurpassed, polite and efficient service. Golf, Tennis, Motoring, Horseback riding, Dancing. Large swimming pools and mineral water baths. Under new management; write for booklet. George O. Taylor, Mgr., Sweet Springs, Monroe County, W. Va.

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The MAGNET of the NORTH BAY VIEW HOUSE·BAY VIEW, MICH. Golf, Tennis, Fishing, Boating, Bathing. Pure Air & Water. Good Food & Beds. Modern. Open June 1st. Rates reasonable.

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AFTER SEVEN YEARS HAS COMPLETED A NEW BOOK OF SHORT STORIES ENTITLED

"A DIVERSITY OF CREATURES"

FOURTEEN STORIES FOURTEEN NEW POEMS

TO READ THEM IS TO RENEW THE MAGIC OF MANY OF THE GREAT KIPLING CREATIONS OF THE PAST TWENTY-FIVE YEARS WITH A NEW UNDERTONE OF THE WORLD WAR BREAKING FORTH IN AT LEAST TWO STORIES OF THE HIGHEST GENIUS.

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Red leather, each, net, $1.75

Kipling's two war books: Sea Warfare (net, $1.25), and France at War (net, 60c.).

PUBLISHED BY DOUBLEDAY, PAGE & CO., GARDEN CITY, N. Y.

they have been accustomed to; and that by close planting their native condition can be simulated, for the fronds so shade the soil that the moisture is held for long periods. Ferns from dry shady woods should be planted along with those just mentioned, although they will stand much more dryness; and species found growing in full sunlight will grow practically anywhere. These are the species to use in covering up dry, bare spots in the yard, and to fill in with under shrubbery.

Walking fern (*Camptosorus rhizophyllus*). This fascinating variety propagates new plants not only in the usual manner of spore reproduction, but also by having the tips of the fronds take root where they touch the soil

Lady fern (*Athyrium Filix-fæmina*). This plant, growing in a dry and sunny bare space, reached a height of three feet the first summer after transplanting

Some ferns are found growing in limestone rock, and for garden planting, a good home substitute for this is crushed plaster mixed with some earth; or crumbling mortar from an old stone house is even better.

In the fall, when the sap is again descending to the roots, is the best time to transplant ferns, though spring plantings readily set themselves, and leaf out with almost uninterrupted vigor. Summer, however, is the best time to locate big, hardy plants; and it is at this season that I have done most of my transplanting. Few plants, I have found, die from summer moving, though the fronds generally break off sooner or later, and the plants are unsightly for some time; but otherwise they are none the worse for moving. By fall the roots are thoroughly set, and the plants come up strongly the following spring. In transplanting, as much dirt as possible should be taken up intact with the roots, and the whole rolled

IF you expect to build a garage to accommodate more than one automobile, its convenience will be greatly increased if the doors are hung so that all can be open at once.

STANLEY GARAGE HARDWARE

provides this convenience. It is a complete line of Builders' Hardware designed especially for garage use. It includes hinges, door holders, latches and bolts suited to garages of all sizes, costs and types of construction.

Stanley Garage Door Holders, No. 1774 keep doors from slamming against each other, or against the outgoing and incoming cars.

When planning your garage the Stanley Garage Hardware Catalogue P-6 will be helpful. Send for it to-day.

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"Good-Morning, Rosamond!" is the lively title of a delightful novel by Miss Constance Skinner. Rosamond was an out-of-doors young lady, and she is fortunately accompanied by many sympathetic drawings by Thomas Fogarty, who is an out-of-doors illustrator.

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please bear in mind that there is still plenty of

WHITE PINE

Send for our free booklet "WHITE PINE IN HOME-BUILDING."
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Attract the birds and otherwise add to the charm of your garden by using Wheatley Garden Pottery.

Our catalogue on request

"Bird Bath" No. 319A 33 in. high Bowl 22 in. wide Price $15.00 complete.

Wheatley Pottery

is weatherproof and inexpensive. Order direct from the Pottery. We pay the freight on all purchases amounting to $5.00 or over. (U. S.)

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Established 1879. Dealers attention

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Send for booklets on White Mountains, Maine, New Hampshire and Vermont Lakes and Woods, Berkshire Hills, Cape Cod, Marthas Vineyard, Nantucket, Narragansett Bay, Casco Bay, Penobscot Bay, Mt. Desert, Bar Harbor, and the ocean coast of five states.

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NANTASKET BEACH
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Located on ATLANTIC HILL 100 ft. above the sea, overlooking one of MASSACHUSETTS BAY'S finest beaches. Unexcelled bathing facilities.

Adapted to the needs of those who desire seashore refreshment, not too far from the city's activity.

Desirable cottages to let for housekeeping. Meals may be taken at the hotel whose cuisine is famous.

AWAY FROM ALL FORTIFICATIONS
Outside the field of attraction for land or sea demonstrations. Within 20 miles of Boston's food supply.

Booklets and rates at Hotel Thorndike, Boston
BOX 21 LINFIELD DAMON, Manager

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IN THE HEART OF THE WHITE HILLS
FOREST HILLS HOTEL Franconia, N.H.
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There was no way of preventing it.

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David Grayson says:

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If you welcome books that take you out of the bicker of daily routine, plant you on a hilltop in morning air, wash you with the clean rain and blow upon you with healthy eye-opening winds —try David Grayson. His books are a philosophy of even, genial, grateful common sense, teaching a love of the goodly plain things the Lord has given us, the smells, sights, sounds, touches and tastes of the country; the wealth of love that lies in the hearts of humble men. You come away from these books with re-sharpened sense of the colour, perfume and ecstasy of daily living.

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ADVENTURES IN FRIENDSHIP — HEMPFIELD

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into a newspaper for convenience and safety i carrying. They should not be watered befo planting, for instead of freshening them, it tend to wilt them. If, however, they have been ou of soil some time and are wilted, a thoroug soaking will help to bring them up. Roots, alon should always be soaked in a bucket of wate but when covered with dirt, care should be take to prevent the dirt from washing off. Aft planting they should be watered, and again ever day for a week, after which they require no a tention, unless the weather be exceptionally dr In preparing a place for ferns, a little enrichi of the soil will well repay the gardener, thou almost any soil will grow some species. Ric leaf-mould from the woods is ideal; but a mi ture of last year's leaves and well rotted manure more convenient for most people, and proves a excellent soil.

Probably the best soil in any region is foun right among the fern roots of plants growin upon rocks, where the vegetation has decayed an piled up for years. This soil is particularly suit to rock species.

Ferns have few enemies, and come up ye after year increased in size and vigor. One two species are sometimes attacked in the fall b insects, but with the exception of spoiling a fe fronds, they do the plant no injury. In case accident to the fronds, new ones soon take the place, for nature has provided the plants wi leaf buds for years to come, and on injury to o set, sends out another to replace the old. In fo weeks' time, after a severe hail storm, some plan which I had under observation had fully grov fronds.

And to those who can find pleasure in havi ferns in their garden, let me say that they w find infinitely more happiness in knowing about them, and that such knowledge can read be gained from any one of a half dozen simp textbooks.

Raymond Wheatley Moore.

PORTABLE POULTRY FENCES

IN MY poultry and garden wo I have found portable fram 3 x 6 feet in size and covered wi inch-mesh poultry netting, ver convenient. The frames are lig and easy to handle and can used in many ways. Two of them set up the form of a V as shown in the illustratio make an excellent temporary yard for sma chickens. If a covered yard be desired, th frames may be set up A shaped, with a th

The portable fence in use

frame or a board at the end. A square ya is made by fastening several frames together the ends, there being a screw eye at the to and bottom of each frame through which a be wire is slipped. In spring and fall, when t chickens are running in the garden, the conten of the hotbeds are protected by laying t frames over the beds, they being just the size the sash used.

This season when I wanted to prevent t sparrows entering the barn through an op window, I simply set one of these frames aga the window; the birds could not pass throu the small mesh. Also, I trained some climb cucumbers over two of the frames. I am co stantly finding new uses for these frames a should not like to be without them.

E. I. Farrington.

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Cushions of Ease and Elegance

MOTORING runs merry as a marriage bell when you drive on those *cushions of ease* and *elegance*—**Silvertown Cord Tires** trade-marked with the **Red Double Diamond.**

Look into that bared section of a Silvertown tire, and read in its *sturdy, rubber-saturated* **cable-cord** its resilience, its *gasoline-saving* economy, *smoother-riding* comfort, and *prolonged mileage* you can not afford to be without.

10 Silvertown Cord X-cels:

1. Increased engine power
2. Smoother riding.
3. Fuel saving
4. Speedier
5. Coast farther
6. Start quicker
7. Easier to guide
8. Give greater mileage
9. More resistive against puncture.
10. Repaired *easily* and *permanently*

The B. F. Goodrich Company
Akron - Ohio

Also maker of the famous fabric tires Goodrich Black Safety Treads

"Silvertowns make all cars high-grade"

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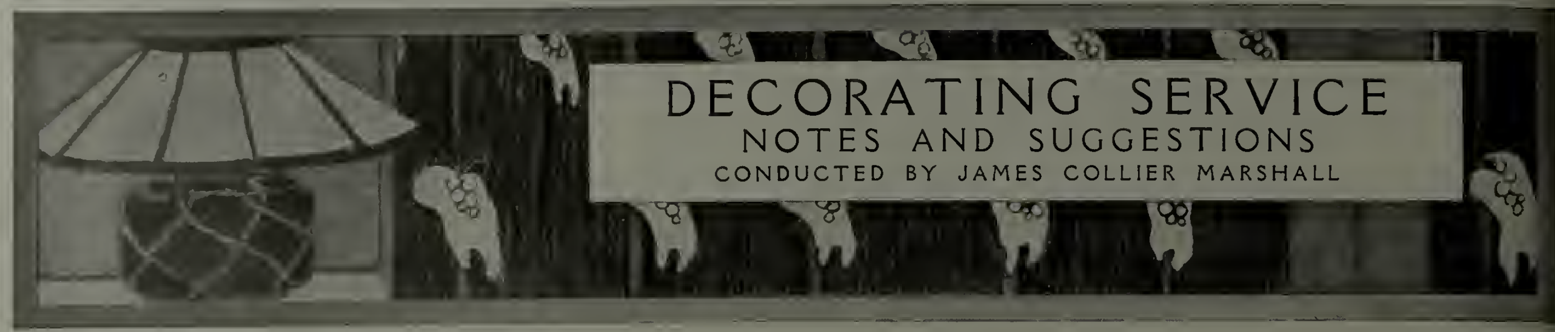
As the third generation of Dahlia growers, we but follow family traditions, that hand the Dahlia down to us as the most easily grown and most decorative of all flowers. We consider them a heritage, know most by their names, love them all and look forward to the time when everybody will feel toward them as we do.

We Grow Many of the Best Sorts
Illustrated in this Issue of Country Life

We cannot grow all of them so we grow only the best. As practical growers we have long since discounted those with poor foliage, weak stems or imperfect flowers. Our intimate knowledge of the cut-flower market has taught us the requisites of a perfect Dahlia. Those measuring up to highest standards, we grow in large enough quantities to enable us to offer them at reasonable prices.

Call on us or make it a point to see our exhibit at the Mineola Fair. During August and September, the acres of Dahlias growing on our farms prove the centre of constant admiration of hundreds of visitors. Should you find it impossible to see our Dahlias in all their glory this summer, write us for flowers of the kinds that interest you. Let us mail you our free catalogue describing the leading favorites.

Long Island Dahlia Gardens
Finger Brothers, Mgrs.
Hicksville, Long Island, New York



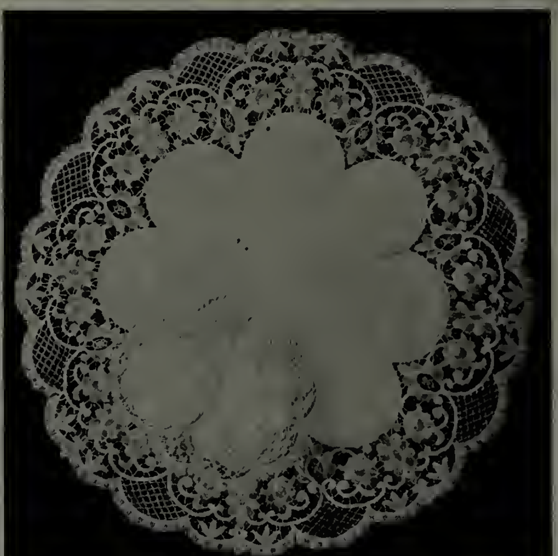
LINENS FOR THE COUNTRY HOUSE

WHETHER or not the war is having any effect on the linen market, certainly the prices on some articles are lower than usual, a condition attributed by some to the long-continued strife and the cheapness of the labor that produces these textiles and needlework. Be that as it may, this is a timely opportunity to pick up genuine bargains in household linens and especially as regards those articles trimmed with lace, which are usually considered luxuries.

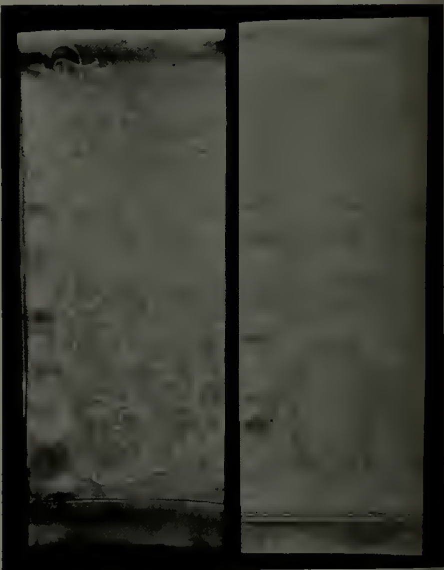
Lace edged towels are among the things on this list. Very rich looking ones are to be had in broken lots, and really one does not care to have duplicates of such needlework, at most reasonable prices. The majority of these are of huck with three- to six-inch wide Italian lace edgings, while many have an embroidered pattern between lines of faggoting besides the lace border. In these the lace is much narrower, three inches or less, their prices varying according to the work, and one can form an opinion as to what this might be by being told that the guest towel with lace inset in the left hand picture is only 75 cents.

There is exceptional value in this bed set, composed of two large towels, two cloths, and a mat of excellent quality, at $5

Plain huck toilet towels at $6.75 per dozen, fancy ones at $7.50, guest (huck) ones at $3.75, and an individual lace one at 75 cents



Luncheon sets of Brussels lace are seldom found in such quality of design and work as this of twenty-five pieces at $195



A well woven pattern in fine huck is as effective as embroidery. These towels cost, the dozen, left, $15, right, $12.50

Cross stitching still holds its own in the matter of decoration. Not only is it used for table and bed sets, but for the heavier toilet aids as well, the newest bath sets being monogrammed in this work; the smartest of these have the chief initial outlined with a single running thread of black. It will be seen at once how effective this will make a blue-bordered white mat, monogrammed in the middle in the same blue, with the centre letter so accentuated.

Incidentally, the marking of such sets has become more formal; the letters are very simple in design and well proportioned, in either oval, round, or square shaped monogram, the whole being enclosed in a band the width of the widest stitching in the letter.

Linen bedspreads have taken a new lease on life this season, which is a relief from the ornate ancient brocades from China and Italy that have overdressed beds during recent years. The linen ones shown are more like the ones of our childhood than those of a later period. The linen is sheerer and finished with a four-inch hem, either double hemstitched or faggotted; and instead of knotty looking embroidery, there are insets of weblike antique lace. In the more elaborate ones there is also a running five-inch width of insertion that, when the cover is spread, lies not on the bed but hangs just beneath the edge which gives the bed as well as the cover a softer look.

These lace trimmed spreads come also in a fine cotton scrim that is very graceful. These, however, have more faggotting, there being one at the top of the three-inch hem and one row four inches above that, and while the hem itself is trimmed with two-inch antique point, there is less lace in the centre and that is well distributed.

Then, too, there are some very sensible spreads of narrow ribbed piqué for summer use, that scalloped, edged, and monogrammed in the centre are very good-looking and serviceable.

Next to lace itself in effect is a jour work. This pattern comes in centrepiece, runner, doilies, and napkins, at a very reasonable price and will lend richness to any board

Another of these tub bed coverings is one of coarse damask that has a group of blue lines making a two-inch stripe alternating with a plain white one of the same width, and over the whole climbs a woven tracery vine. The rolled hem is finished with a dainty picot edging that is very effective.

Picot edging shares honors with cross stitching for the simple table sets, though the latter in two colors on raw linen seems somewhat the more in demand. However, the oblong shaped doilies, called abbey cloths, are finished with a coarse picot that robs them of their otherwise monastic simplicity and adapts them to any use

In this Hand-woven Seamless Aubusson Carpet, imported by W. & J. SLOANE, the beautiful Louis Seize design is composed of a soft cream ground, enlivened by delicate chintz colorings, with inner and outer borders of rose. Size 12 ft. x 8 ft. 6 in. Price $650.

Hand-Woven Aubusson Rugs

The vivacity of the French supplies the most desirable motif for the dainty furnishings of the Drawing Room, Music Room and Boudoir.

To complete such a room the ideal floor covering is the Hand-Woven Aubusson Carpet.

Superb examples are to be found in our stock; and, notwithstanding the war, such carpets especially designed by our French artists for particular schemes of decoration, are now being made abroad.

Skilled advice—the result of long experience—is at your service.

W. & J. SLOANE

Interior Decorators Floor Coverings and Fabrics Furniture Makers

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33

Some Decorations for the Out of Doors

So MANY inquiries have come to me for relief panels for porch an garden use, that it may be interesting to many to mention th graceful concrete one reproduced here which speaks for itself in th matter of grace and proportion. It is really incredible that a mold coul turn out so finished looking a work. Note the filminess of the draperi which are neither blurred themselves nor do they obscure the lines of th figures that seem hand modeled, so plastic are they. Then, too, th color of this pan is noteworthy f its warmth. A these elements art are to be co sidered in selec ing such a piec This one wi prove highly sa isfactory eith as an overma tel piece or the garden wal Its size is 34½ 17½ inches, i price, $10. T same pattern plaster is $5.

This concrete frog is a four-foot giant. With two replicas of himself, front feet resting on the basin rim, he spouts water far into the pool

Apropos of th subject, the ba kets of fruits a flowers of carv stone, so soug by lovers of It ian antiques, a now to be had in concrete quite as decorative and at much lower cost.

The frog shown here is a concrete giant. Four feet long, he is fin modeled and proportioned. The picture does no justice to his mascul beauty, nor does it tell that he was designed to be used in triplicate arou

There is much grace in this classic panel of dancing women, whose freedom of movement enhanced by noteworthy molding and color work and it is very low in cost

a large pool with his fore feet resting on its rim, though sitting on the ear while spouting water far into the pool. It is an interesting conception.

More restful than concrete is the good-looking garden swing seen he whose pale green canvas top is striped with a darker shade that is seen a or the cushions, while the seat upholstered in green linen offers the last wo in comfort. The well braced back is comfortably padded while arms on t e s give further ease. The stand is $5.25; the awning, $7.50; the hammo $ .25; the pillows, $4.

J. C. M

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Not only does cork find favor for this use, but also for stool and chair seats in the bathroom. The one shown here is a good example of a cork-seated bath chair. Excellently proportioned, finished with white enamel and non-slip rubber foot pads, it sells at $11.

The table seen here, of the gate-leg variety, is console in form when the movable leg is closed, as pictured, and when open the top is slightly oval. These points adapt it admirably for the porch or small house where space must be conserved. Of mahogany it sells at $13.50.

The quaint little individual coffee pot with creamer and sugar jugs arranged in stack form is another interesting thing that will appeal to the summer hostess, who must consider this season the question of preparing breakfast trays by a much depleted service corps, for the men are already going off to do their bit. This porcelain pot will save much polishing of silver and it comes at the small price of $1.25.

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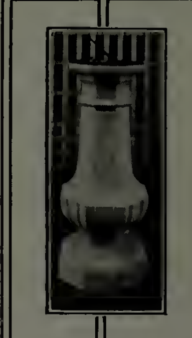

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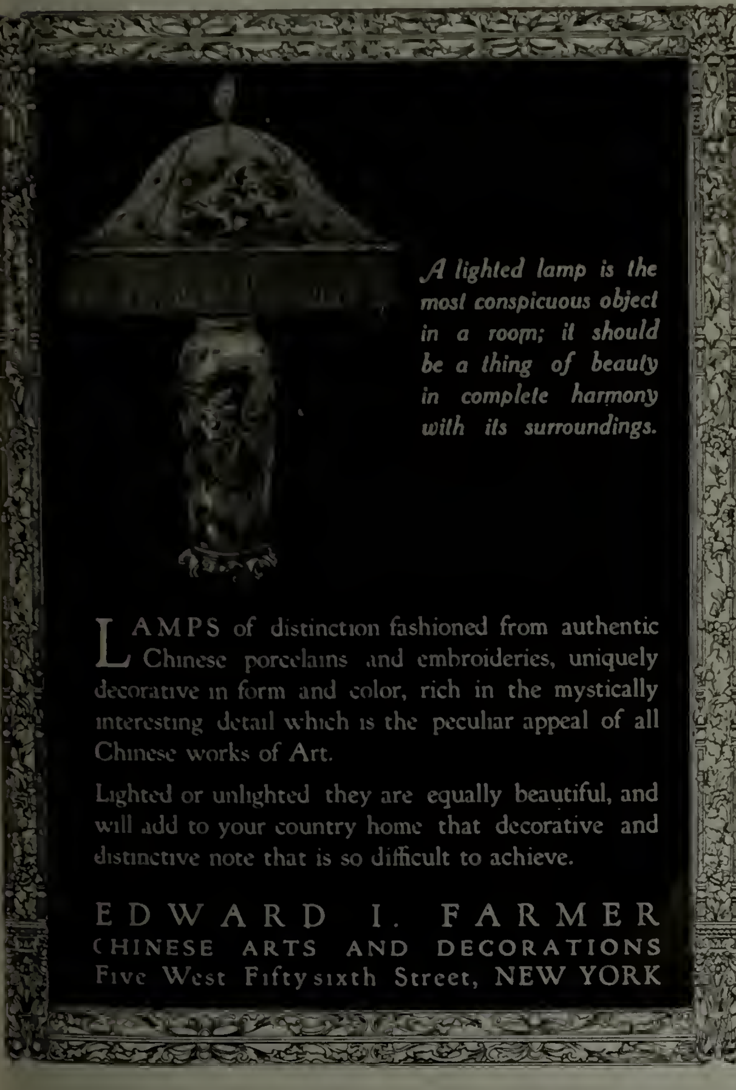

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OWING to the customs of the season, artificial lighting for the summer home requires more shading than for the longer hours of winter, and any new methods of screening are always looked upon with favor.

Several good-looking things of this sort are to be seen in the shops, the most original of which are generous-sized shields of pierced metal gracefully shaped and daintily painted. Such an one is seen in the middle picture decorated with a Watteau-like scene in pastel colors on a buff ground, garlanded by natural tinted flowers. It is so arranged that it can screen either a single bracket light or a cluster of lights, and may also be used for a table lamp. It is, however, seen to best advantage with a sizeable candle sconce. These may be had in various sizes and colors to order. This one is 15½ inches long and costs $9.50.

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J. C. M.

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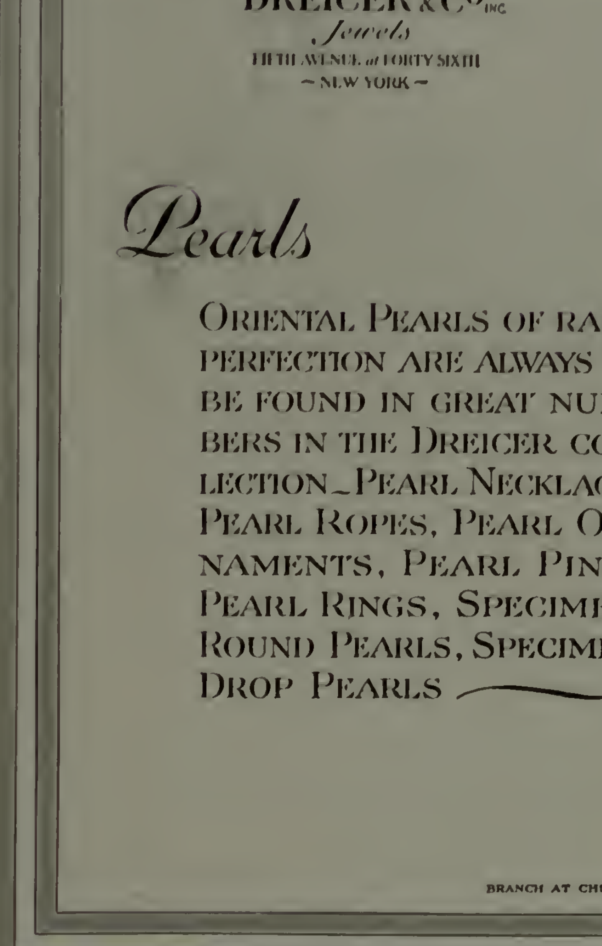

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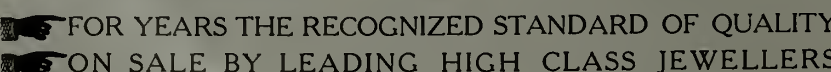

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DRAINAGE RECLAMATION AND DUAL RESULTS

THE drainage of swamp lands on a large scale has two main and distinct results, and it is hard to say which is the more important in its relation to human welfare. In the first place, since swamps are the breeding places of mosquitoes and since mosquitoes are the only natural means of transmitting yellow fever and malaria, it follows that the destruction of these breeding haunts automatically checks the spread of these diseases, and paves the way for their complete extermination over large areas. The histories of the cleaning up of Cuba and of the Canal Zone supply abundant testimony as to the practicability and value —economic and humanitarian—of thus lessening the "white man's burden" of preventable diseases.

In the second place, practically every acre of drainable swamp represents potential crop raising farm land, an additional contribution to the campaign for a more abundant, less costly food supply. This potential value is rarely placed above $3 or $4 an acre, but with the investment of from $3 to $10 for drainage and from $12 to $30 for subsequent clearing of timbered areas, this theoretical value rapidly changes to a very real one ranging upward from a minimum of $50 or even more per acre, not including the worth of the timber obtained in clearing. What this means to the country as a whole is gradually revealed when it is noted that there are approximately 75,000,000 acres of such land distributed among thirty-nine states. The largest state acreages are, roughly, 18,560,000 in Florida, 9,600,000 in Louisiana, 6,173,000 in Mississippi, 5,832,000 in Minnesota, 5,760,000 in Arkansas, 3,420,000 in California, and 3,000,000 in Virginia; and, generally speaking it is in these states that the greatest progress is being made in swamp reclamation. Of course this work differs from the drainage operations of the individual farmer in that it involves territory owned by different parties and, frequently, located in two or more adjoining counties or states. Consequently there arise fundamental details and problems of a social and legislative nature which it has taken a great deal of study and considerable experience to adjust and solve satisfactorily. Some of these are outlined and explained in a report issued by the Chamber of Commerce of the United States, which, after calling attention to the opportunities mentioned above, discusses some of the administrative and constructive issues as follows:

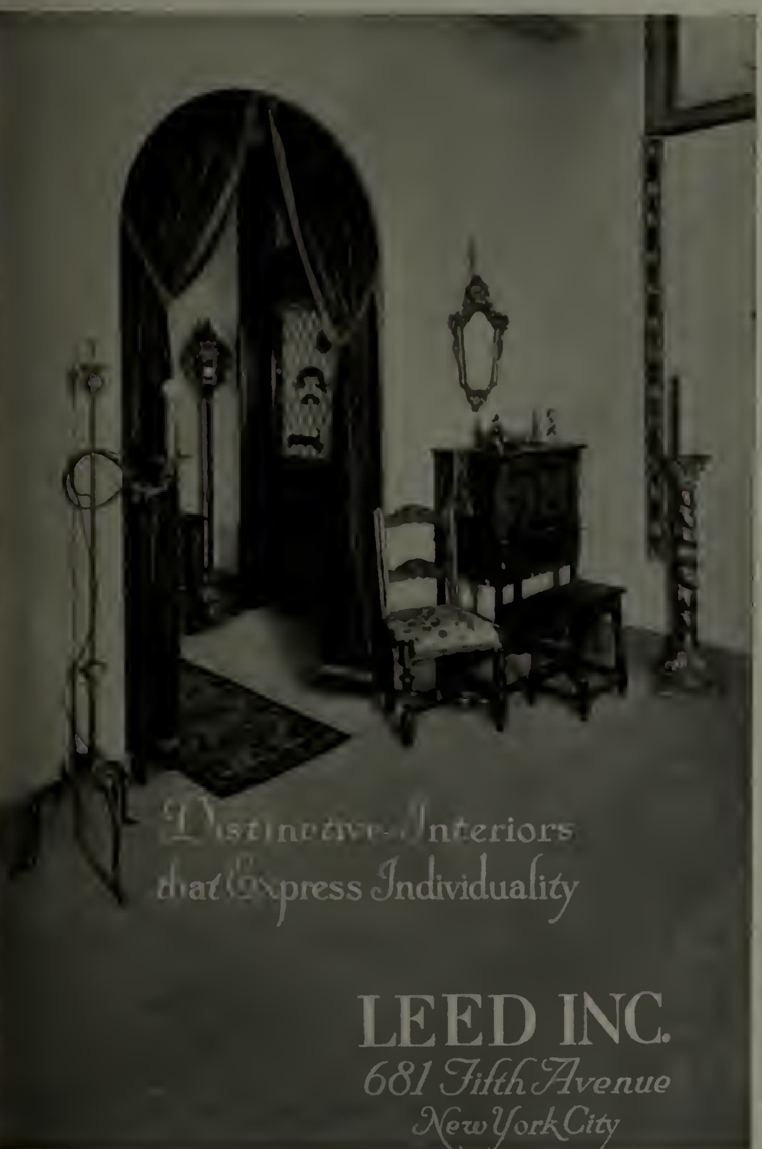
The work of swamp reclamation is practically all done by private enterprise, sometimes by individuals, sometimes by chartered companies, but more often by coöperative organizations in the form of what are known as drainage districts. The districts are formed usually by the majority, sometimes two-thirds, of the persons who own the lands to be drained and who signify their desire, according to certain legal methods, that such lands be drained. If a petition be approved, then all action from that time is according to certain definite and carefully prescribed legal procedure and under the care and supervision of state authorities. Every possible precaution is exercised to make it a strictly business proposition, free from speculation and exploitation for personal gain.

Taxes are levied upon the land to pay the initia expenses, and after that, drainage bonds, as they are called, are issued, for the continuing costs and for the completion of the work. Taxes are levied annually to pay the interest and the principal on the bonds, which are a first lien on the land, the same as any state taxes. The bonds bear from 5 to 6 per cent interest, and run from twenty to forty years, being generally on the amortization plan. They are usually regarded as sound securities and safe investments Both laws and methods of procedure differ somewhat in details in the various states, but are essentially the same in the principles involved and the results attained.

In the engineering problem of drainage there ar usually three principles involved: first, provision f the disposal of the water from the surrounding watershed or more elevated land; second, taking care the surplus precipitation upon the drained land, run off, as it is technically called; third, protecti against backwater or overflow from neighborin rivers in times of flood, to which may be added pumping station to dispose of the run off when th waters of the neighboring river are so high that the will not take the run off from the district.

The drainage districts in southeast Missouri an southern Louisiana embody all of these principle and may be taken as typical of the difficulties an accomplishments of the drainage problem.

The Little River district in southeast Missouri



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the most important drainage project now in operation in this country. It embraces 560,000 acres of swamp lands, has an area of 1,136 square miles, is 90 miles long, from 4 to 30 miles wide, and covers a large part of seven counties in southeast Missouri. The cost of construction will be about $5,000,000, and the work is now nearing completion. When completed there will be more than 700 miles of ditches and levees in this district.

In Louisiana the matter of drainage is usually simplified by the absence of high surrounding watersheds, since the alluvial plains have regular contour. The lack of much slope to the sea, so that the drainage may not be one of gravity, is made up by the numerous bays, bayous, and rivers, which offer easily accessible outlets for the run off.

The district to be drained has always to be protected entirely by encircling levees, for the many streams in Louisiana have a fashion of wandering all over the surface of the surrounding country. In addition to a comprehensive system of canals and lateral ditches, there is always a pumping plant to take care of the run off, which is led into a reservoir and then pumped into some bayou, lake, or outfall canal. Even in comparatively flat land, the drainage ditches soon dispose of the surplus water. By natural seepage and capillary attraction the water in the wet land presses steadily toward the ditch, and the level of the ground water is lowered accordingly.

LINSEED *VS.* COTTONSEED MEAL

AS IS generally known, these two by-products are among the most available and most popular of nitrogeneous concentrates for cattle and sheep feeding. Owing to a noticeable similarity in composition, they are sometimes considered and used interchangeably—with disappointing results—by persons who are not acquainted with one important difference between them, which is referred to by a correspondent who writes as follows:

"Can you tell me why linseed meal is laxative and cottonseed meal constipating, since they do not vary much in composition?"

After considerable search and the interrogation of authorities we have obtained from the United States Bureau of Chemistry the following hypothetical explanation, which appears to exhaust the available information on this subject:

"We have made no investigations to determine this point, nor can we find mention of any such investigations in the literature on the subject; however, it appears to us that the following is possibly the correct explanation of why these two meals have opposite properties:

"Cottonseed meal is very high in protein, and when fed alone or in large quantities makes a very concentrative ration with comparatively little waste. It has been the general experience of those engaged in feeding experiments that high protein feeds containing little waste are constipating in that not enough waste is present properly to stimulate the bowels. Also, the cottonseed oil present in the meal is not known to possess any special laxative properties.

"Linseed meal is also high in protein and also contains comparatively little waste; however, linseed meal does not usually contain as large a percentage of protein as cottonseed meal. Also the flaxseed contains a considerable quantity of a gum which swells with water to make a viscid, slippery, almost odorless mucilage. It is probable that this mucilage, formed by the action of the gastro-intestinal secretions on the gum, acts mechanically in such a way that the food and waste materials move more easily through the gastro-intestinal tract, especially the bowels. Also the oil present in linseed meal is known to possess laxative properties.

"The above is only a theory and is simply offered as a possible explanation of the difference in action between linseed meal and cottonseed meal, relative to their laxative or constipating properties."

The slight differences mentioned by Dr. Alsberg are indicated in the following average analyses of the two materials (the figures for the linseed meal are averages of those for the old process and new process forms).

	MOISTURE	PROTEIN		FAT	FIBRE	NI'OGEN FREE EXTRACT	ASH
		Total	Digestible				
Cottonseed meal	9.4	45.3	43.0	10.2	6.3	24.6	6.6
Linseed meal	7	35.7	30.8	5.35	8.1	35.2	5.5

E. L. D. S.

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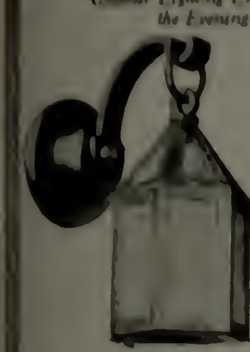

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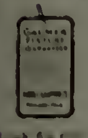

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AS YET there are not so many swimming pools that each experiment does not offer something of fresh, if not novel, interest. The one that Dr. Louis F. Frank has had constructed at his summer home on the Milwaukee River is especially valuable, aside from the prime object of recreation, because it is full of suggestiveness for the suburbanite. Dr. Frank's place, though nominally in the country, is actually within the city limits of Milwaukee, and he is therefore able to settle the vital water question by availing himself of the municipal supply—which in this case comes from Lake Michigan.

The basin is of reinforced concrete, with walls 11 inches thick. The inner dimensions are 20 x 30 ft., with a water depth ranging from 4½ to 5

The pool has a capacity of 21,000 gallons, and cost to build (several years ago) $650, of which $400 was for concrete work, and $250 for plumbing

feet, the lowest part containing the outlet to the sewer. There is also an overflow. The cost of the pool, which has a capacity of 21,000 gallons of water, was $400 for the concrete work and $250 for the plumbing.

The greater part of one season Dr. Frank was much chagrined because of his inability to keep the pure water from the lake clean. Often it would become turbid and of a dirty greenish color within a week, owing to the algæ and the germs from the open air. After various experiments with filters of sand and charcoal, alum and formaldehyde, he found sulphate of copper an efficient agent for sterilizing the water and keep-

For the summer home that is not on the water a swimming pool is almost indispensable

ing it clear for weeks. The sulphate was used in the proportion of one part to 500,000 parts of water, or about five ounces in 21,000 gallons.

In the matter of his study along this line, Dr. Frank says: "About forty forms of algæ are recorded, which are exterminated by sulphate of copper in proportions of one part of sulphate of copper to 2,500,000 parts of water.

"Regarding the detrimental action of sulphate of copper on goldfish, experiments in trout ponds in Massachusetts have shown the brook trout to be more sensitive than any other fish, 1 in 7,000,000 being the maximum strength that can be endured by trout under five inches in length. Dilutions of sulphate of copper which will not injure fish of certain species are:

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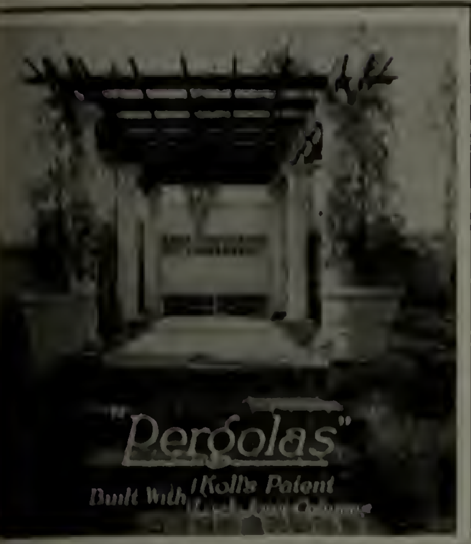

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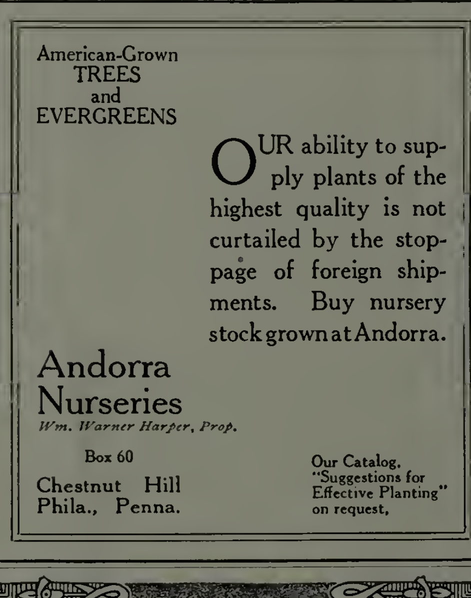

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Benjamin Goodrich.

CAPITALIZING THE "HAS-BEEN" COW

ONE of the important elements of th successful management and im provement of a dairy herd is th disposal and replacement of ani mals that for one reason or anothe have outlived their maximum use fulness. Sometimes old age alone may be th determining factor; injuries of more or less sever ity may lessen an animal's ability to return profit; or it may be that while she has not deter iorated, other younger individuals have develope and improved sufficiently to overtake and su pass her. In any case, the task is to get rid of h at the most propitious time, when she will brin the largest net return above any and all expens that she may, then or in the near future, repr sent. And it is the careful, observing, industr ous—or as some insist on saying, the "lucky" stockman that is able to decide just when th point is reached.

My experience has shown me how easy it to err in this connection; sometimes I have so too soon, sometimes delayed too long. But la fall I happened to make a decision that prove just about right and seems worth telling about.

Pansy, the cow in question, had reached an a when I had decided to sell her, and as she was freshen late in October, I planned to let her go as new milch cow. But when it came actually completing the deal, I found that no one wou pay more than $55. She was a large Holstei good to look at, an easy keeper and in excellen condition, except that she had only three mil quarters. Even though a cow gives, as she di as much from these as the average individual do from four, a dry quarter is a distinct disadvantag

Well, we had ensilage, hay, and plenty grain on hand at the mill, and milk was bringin 4¾ cents a quart, so the thought occurred to m that it might pay to keep her over winter eve if she had to be sold in the spring for less. " she gives twelve quarts a day for thirty days I figured, "then ten quarts daily for sixty da more, and even eight quarts for thirty da longer (and I knew that, barring accidents, s would) she will bring in $57. It does not co more than 25 cents a day to feed her, so after 120 days, she sells for as low as $45, I sh make $17 by holding her."

As it happened, the outcome more than jus fied the venture. The first dividend was $5 fro the sale of her bull calf when only a few days ol Then during the first forty days of her lactati period she gave daily thirteen, instead of t twelve quarts that I had anticipated. She co tinued to do so well that at the end of the 1 days she had given 1,440 quarts, on the streng of which I kept her fifty days more, when s increased her winter's production to 1,8 quarts, representing an income of $88.50. D ducting the cost of her keep, $42.50, the net r turn was $46 for milk, plus the $5 for the ca Moreover, she took on some flesh and sold for $ instead of the $45 I had estimated, thus turni in altogether $101, or $46 more than I could ha made by selling her in the fall.

Of course things do not always work out well as in this instance, but the experience su gests the possibilities, and the advisability keeping an eye on tendencies and conditio present and future, and being ready to recogn and take advantage of the best opportunity t offers.

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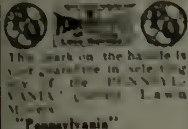

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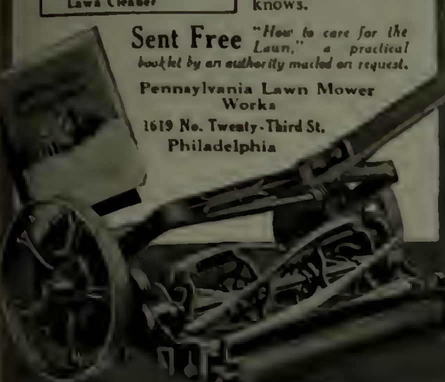

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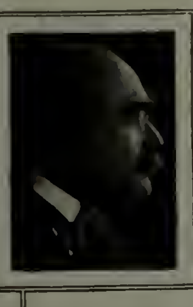

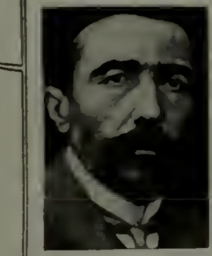

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Trekking by Automobile

IT IS my Cumæan prophecy that women will be expert in motor driving before the war is over, if they profit by the course of sprouts they are being put through at present. The young enthusiast we meet on the highways and byways in the country, even in this strenuous work, is an appealing young person. She is well turned out from the top of her new motor veil to the tip of her well-shod foot.

The motor veil, which is to play a conspicuous part in the belongings of the modern women driving is in chiffon in various gay colors, and is attached to the close little motor hat by snaps at the brim. These may be unfastened in front when the veil is not in use so that it then falls about the neck in soft and becoming folds, but still remains fastened to the hat in the back.

A motor coat, which is smart and useful, is in Scotch wool jersey; also in Lovat of brown heather mixture. These coats are long, with a belt, and large pockets. The buttons are covered with the Jersey cloth. The collar is rolling but may be made to button closely about the neck. These coats were the smart thing this past season at Palm Beach.

A sweater which is sheer and fine as a cobweb is one of the alluring things seen in the motor outfits this season; they are so filmy they do not suggest the warmth they really possess. They come in a pull-over model in Angora, with or without sashes. The colors are in cedar green, Copenhagen blue, fawn, and purple.

Another model, in the same sheer Angora, opens like a coat sweater, and has pockets and a sash, though no buttons are visible, the collar making the fold to the hem.

A white linen shirt with rolling collar is worn with these, but the shirt collar is seldom worn over the sweater as the sweater collar itself gives a more graceful line.

Stockings in heavy ribbed effects are seen. These stockings come in the light shades to match the sweaters or to contrast with them. A charming pair of fawn colored silk stockings match in tone a fawn colored pullover sweater in the fine Angora wool, and with a white skirt and fawn colored hat, make a picturesque sporting outfit. Another pair of stockings was in rose pink stripes on a white ribbed background; with these were worn a rose pink sweater with white and rose colored striped skirt, the latter plaited with the rose underneath only showing in the flare. With this was worn a white hat with pink flowers embroidered on the hat.

White sports shoes, with leather trimmings in black, tan, blue, and green may be had, but they do not come in rose, as yet.

A "Motor Camping Outfit" is one of the newest luxuries for the twenty-four hours' run. The outfit consists of a folding camp-fire frame with galvanized iron shields to protect the fire from wind. This little affair makes camp cooking a sinecure. The frame folds flat into a canvas case, 10 by 12 inches long. With this camp outfit comes a small canvas bag containing a set of aluminum dishes. Another case has a folding light-weight table and two feather-weight folding chairs. These are constructed with a view to the limited storage space of the average car.

Men's angora wool knitted waistcoat, light in weight. Comes in leather mixtures and in brown and gray. Serviceable for the sportsman in motoring.

A motor "throw on" coat in soft wool jersey with rolling collar and belt, in a gray green leather mixture. Indispensable for a tour in summer

IN WAR-TIME, khaki is so expressive and impressive, that sports clothes have taken on a military aspect this season. Men who are motoring for the pleasure of it at present are ready, on a moment's notice, to turn their sports' equipment into sterner service.

Scotch tweeds and rain-proof materials are most serviceable done into motor suits as alternatives for khaki. A new suit is seen in a brick-red with an invisible stripe of green through it; also suits in green and mixed heather shades show that the men are also dipping into the dye-pot when in mufti. The suit coats are made full and have a double box-plait in the back, or are gathered slightly into the back. The swivel sleeve, which is the invention of a noted tailor, is being used with effect by those men who think that comfort is a potent part of efficiency even in sports. The breeches to these suits come in the long, full cut, gathered in at the knee in a cuff, or the long conventional trousers.

Motor overcoats are cut the same as in other seasons for, as one man told me, he may change his cook and the style of his food often, but his clothes, or his tailor, never! The long motor overcoat is an indispensable part of the kit. They come in a light weight wool but are warm and comfortable; as they are rain-proof, they make driving in an open car, in the uncertain summer weather, a thing less perilous to a man who wishes to arrive in prime condition at the end of his journey.

A cashmere sleeveless jacket is another necessary thing in the sports outfit. They are fine and soft and come in gray, brown, and tan, and a certain reddish heather mixture.

Sweaters for men change very little, but this year a model is being shown in a pull-over style, and has a collar which buttons up snugly around the neck, or may be left open. These sweaters are much shorter than the ordinary kind, reaching scarcely below the belt and are finished with a band.

Motor and aviation socks show again that color is creeping into the man's apparel. The gayety of the combinations in these socks quite outvies the women's. They are heavily brushed and are in soft wool. A striking pair has large yellow diamonds on a white background, the diamonds having gray centres. With these socks a yellow tie is to be worn. It sounds lurid but it is really most effective for even a conservative man. The combinations in these socks are seen in three shades of brown, deep red, and green; also in black and gray.

An integral part of a trekking outfit by automobile is the sleeping bag, for use in case some mishap keeps the tourist from arriving at an inn in time to put up for the night. These bags come in dark green canvas; they are lined with fleece, and may be folded neatly in the sportman's luggage. An air pillow, 11 x 16 inches, which may be folded into a neat little case, completes the outdoor sleeping paraphernalia.

A narrow brown canvas case which is guarded even more carefully by the sportsman than even his mess kit, contains the light-weight fishing rod which is a marvel in balance and elasticity.

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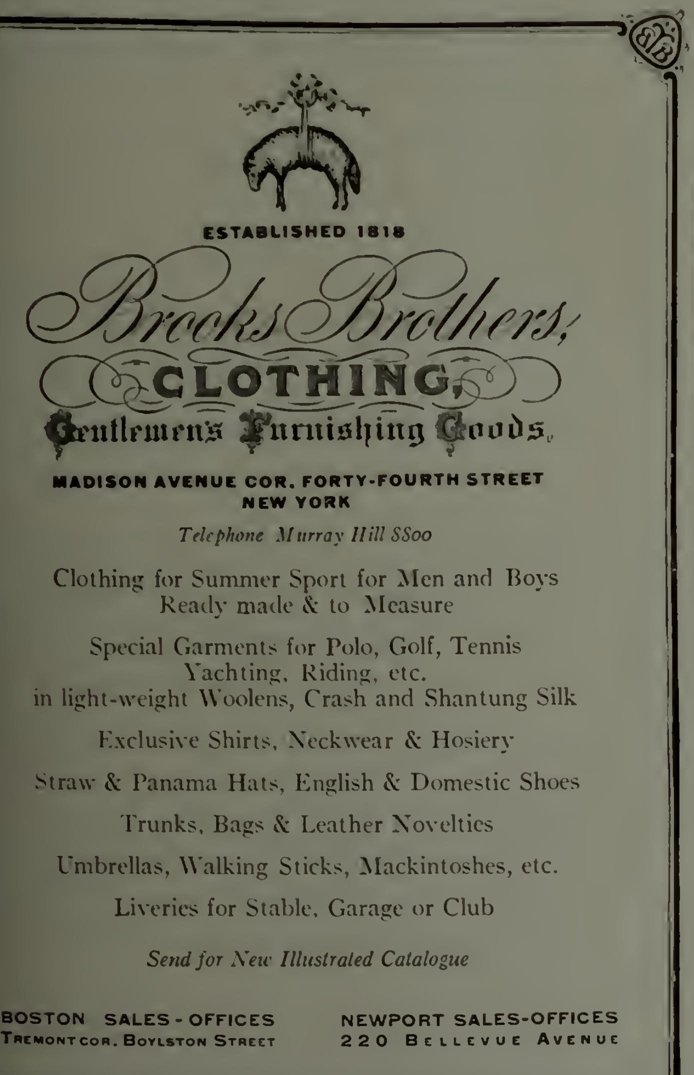
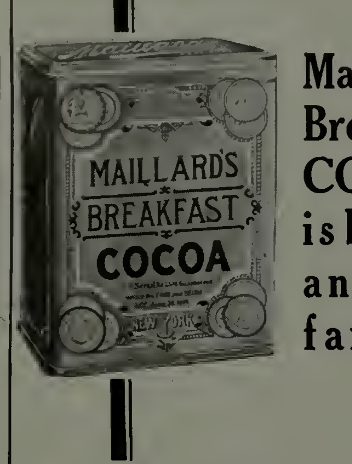


TABLE DELICACIES

A Hamper for the Motor Run

ANN REMSEN



Maillard's Breakfast COCOA is best—and goes farthest

Maillard

AT GOOD STORES

A MOTOR run a deux may be one of two things; either great happiness or complete misery according to the thought given and preparation made for the pleasure and comfort of the inner as well as the outer man. A woman realizes, if the fate of Nations depends on how they are fed, that the hamper is the most important part of the motor baggage. We can always find an Inn for dinner, but for luncheon or tea, or if by chance we experience a blow-out at 12:30 on a lonely, if lovely, stretch of road, life does not seem as tragic when we know there is a hamper near filled with delectable food.

Tempting bits for the motor hamper—a jellied meat course, a salad and some delicious sandwiches with a hot or cold "something to drink" put up in a thermos bottle, a bottle of olives, a jar of salted almonds, a tin of flaky cheese straws make "the wayside bite" a feast indeed.

The hamper contains a covered box of aluminum or nickel for the piece-de-resistance. This box should first be lined with a fine white oiled paper with pieces to fold over the top of the salad or meat. A tempting cold dish and easily served is Chicken in Aspic.

CHICKEN IN ASPIC

Boil a good-sized chicken in water to which has been added two tablespoonfuls each diced carrot, onion and celery, two sprigs each parsley and thyme, two cloves, a half teaspoonful peppercorns and salt to season. Cool in the water in which it was cooked. The next day take out the chicken and cut in dice. Take the fat from the stock, heat and clear by bringing to a boil with the white and shell of an egg.

Skim as fast as the scum rises, then strain through a flannel. To three cupfuls of this strained stock allow half a box gelatine that has been soaked for an hour in a half cup cold water. When this is dissolved in the hot stock set all aside to cool. As the jelly begins to stiffen, wet a mould with cold water and set in a pan of broken ice. Pour in a thin layer of the jelly and as it stiffens lay in chicken dice and several rounds, if you like, of tongue or dice of boiled ham. Pour in more of the aspic, then, as it cools, more of the chicken, and so on until all the chicken has been used, having the aspic at the top. Set on the ice to form. Serve with mayonnaise which may be carried in a glass jar.

Tongue with cold veal and chicken, or ham are always alluring. Few people know how to cook a ham well. The following recipe is a simple and excellent one.

BOILING A HAM

Wash the ham or shoulder, and if very salt soak it over night in clear water. Place in a large kettle on the stove, cover with cold water,

Clysmic—Of Course

What else—It is so far the best table water that you are almost *certain* to find it served at the next banquet you attend.

15 grains of Lithia Salts to the gallon.

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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, founder of Applecroft Experiment Station, and author of "Household Engineering," etc. *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 The New Country Life, 11 W. 32nd St., N. Y.

…come to a boil and when it begins to boil, …, then push at once to the back of the stove, …e it will simmer gently for an hour.
…t the end of this time pour off the water and … with fresh boiling water, which removes the …, smoky taste. For every ten pounds meat … one-half cupful sugar in this second boiling … and simmer gently until tender.
…he usual time allowed is fifteen minutes to … pound. When tender take from the fire, … allow the ham to cool in the water in which … has been cooked. In cooking one-half ham, … that has been cut, keep the cut side up to … the juices. This can be done by propping … meat with a clean stone set on either side … ham.

MOCK PATE DE FOIE GRAS SANDWICHES

…boil one half pound calves' liver; pat dry on …oth, cut in dice, and fry gently with a little …n, four mushrooms and three shallots, all …ed fine. When done—and it must not be …wed to overcook, which toughens it—put … a mortar and pound to a smooth paste. …on with salt, pepper, a piece of grated nut… and powdered mace, then rub through a … and spread. A few chopped truffles im…ve the flavor.

OLIVE SANDWICHES

…lace a dozen large olives in a bowl and pour … them enough boiling hot water to cover. …stand five or six minutes, drain and set on the … until cold. Stone and mince fine. Mix with … level tablespoonfuls mayonnaise and a …lespoonful fine cracker or crumbs, and spread …ween thin slices of white or whole wheat …ad.

CHICKEN SALAD

…lean and cut up the chicken, wash thoroughly … put into a kettle of boiling water; add a …pped onion, a tablespoonful of chopped …rot, a half teaspoonful of celery seed and salt … pepper to taste; allow the chicken to boil …idly for five minutes, then push back on the …ge, where it will simmer gently until the …cken is tender; take up the chicken, cut the … in large pieces from the bones and, after …ting all skin, fat and gristle, cut the meat into …all dice. Measure, then cut nice white crisped …ery into the same sized pieces—enough to …ke about two-thirds of the quantity of chicken. … the salad is not to be used immediately keep … chicken and celery apart until time to serve. …fore standing the chicken away moisten with …ne of the liquor in which it was boiled. This …es as it cools and adds much to the delicacy … the salad. Also sprinkle a tablespoonful of …non juice over the chicken. Make a good stiff …yonnaise and add a little whipped cream if …ired. Garnish the salad bowl with lettuce …ves, mix the chicken and celery, dust with salt …d pepper, put in sufficient mayonnaise to coat …ery piece and then arrange on the lettuce …ves. Put a little extra mayonnaise on top as a …rnish and finish with a tablespoonful of capers, …ves, and celery tips.

FISH AND POTATO SALAD

This dish may take the place of both meat and vegetable and, with crisp toast, may form the …tire bulk of the supper. When you are boiling …e potatoes for dinner boil an extra quantity …r your supper salad. While they are boiling …t into a bowl half a teaspoonful of salt and a …ltspoonful of pepper; add a tablespoonful of …negar, stir until the salt is dissolved; then add …ur or five tablespoonfuls of olive oil; stir, beat …til smooth; add a grated onion, and slice into …is, while hot, four good-sized potatoes; toss them …til they have absorbed every particle of the …ressing. Put them on a cold dish and stand …side. At serving time dust the salad with …nely chopped parsley or celery; cover the top …ith sardines, and sprinkle over it two table…oonfuls of vinegar or the same of lemon juice, …nd serve.

WALDORF SALAD

Cut into bits enough celery to make one cupful. …oak it in ice water. Also cut into small dice …ur medium sized apples which have been pre…iously peeled. Lay the apples in ice water for a while. Then drain both apples and celery, mix them, adding half a cupful of English walnuts. Cover with mayonnaise dressing and serve on crisp lettuce leaves.

CHICKEN SALAD

There is a great deal of latitude permitted in making chicken salad says a noted housekeeper. A chicken salad admits of mixing many tempting things in with the chicken and which varies the dish greatly.

BACON AND CHEESE SANDWICHES

Take round of sandwich bread, cut off crust before slicing, slice bread in pieces one half inch thick. Mix one slightly beaten egg with one jar of club cheese, pinch of salt, and red pepper. Butter bread with plenty of cheese, put on top three slices of crisply fried bacon and put under broiler until cheese is melted. This makes a delicious sandwich of toasted bread, melted cheese and broiled bacon.

CREAM CHEESE AND OLIVE SANDWICHES

Cream or Neufchatel cheese beaten until creamy with the addition of a little more cream, then mixed with finely minced ripe or green olives, makes a delicious sandwich filling. So also does cream cheese mixed with finely minced green peppers or sweet red peppers that have been canned.

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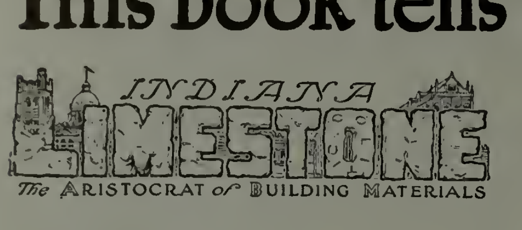

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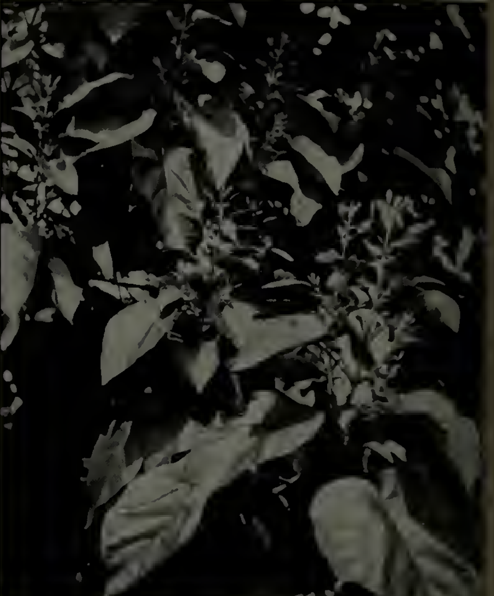
THE PRINCESS TREE

URING the last ten years or so ther has been gaining in public interes a tree which by its habit is mos conspicuous. It is a newcomer i certain sections, and its large leave and large seed pods always at tract attention, but few know that it is th princess tree (*Paulownia tomentosa*). It i almost always erroneously referred to as a catalpa In the case of the latter named tree, there ar about ten species found in the United States each with its own virtues and vices. But all o the catalpas bear long, bean-like seed pods. A this point is where the princess tree may be easil distinguished from the catalpa; it produces seed pods about the size of guinea eggs, much re sembling cotton bolls. The leaves of the prin cess tree are arranged on opposite sides of th twigs, in pairs, while those of the catalpa are ar ranged along the twigs in whorls of three.

For the last fifteen years I have observed thi tree growing as far north as 36 degrees in th United States, and its behavior and service hav greatly pleased me. It is a deciduous tre



On the ends of the twigs the blossom buds are formed for ne year's blooming

which produces very large leaves if its roots ar well supplied with organic matter. It bloom every second year, in May, before the leave appear. The flowers are violet colored and ar held like those of the chestnut, but the individua florets are upright like the gloxinia. The see pods do not reach maturity until the second year, and while green they are covered with a stick exudation as a protection against insect pest The pods hang on the tree throughout winter, an the wind makes of the tree top a gigantic rattl box, producing a jingling mass of sounds. Whe the pods burst, the seeds scatter by natur wings, and readily take root.

One of the most remarkable characteristic of this wonderful tree is its rapidity of growt Planted in good, rich soil, the tree will grow s or eight feet in height the first year from see The leaves, especially of the young trees, gro to a remarkable size. Some of them attain diameter of thirty inches, and even greater, o one- and two-year trees. The leaves remain o until the first killing frost, and on the mornin thereafter every leaf drops; by noon the tre which was in full glory twenty-four hours prev ous is distressingly nude. This business-lik manner of handling its foliage makes it most de sirable as a shade tree. At six years from see I have observed a tree thirty feet high, fourte inches in diameter at the base, and with a sprea of top thirty-four feet in diameter.

Since the San José scale is preying up maples, oaks, and other shade trees, I see in th princess tree a great future. Its thick bark wit milky sap does not seem to be a favorite with th scale insects, and although where my observ tions have been taken the scale is killing oaks an fruit trees all around the princess tree, not a singl scale has been found on it.

It does have a few enemies, like the leaf miners, which spoil some leaves, but these ar

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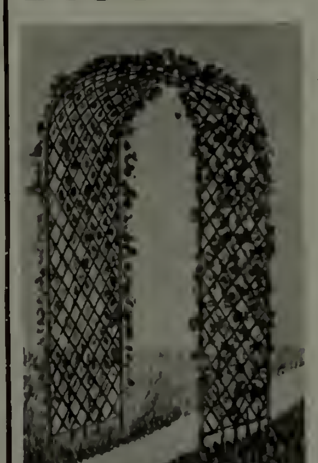

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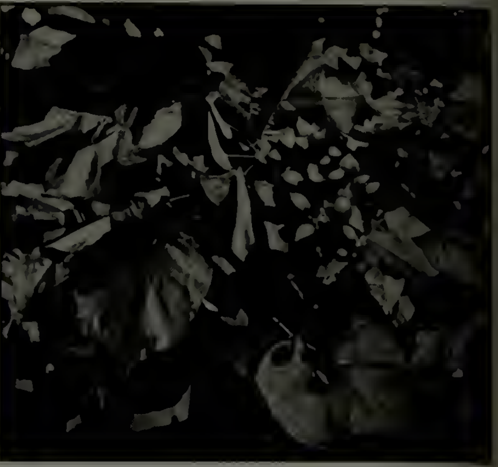


A cluster of seed pods of the princess tree

easily controlled. The tree never suckers up from the ground unless bruised; when roots become exposed and bruised, the adventitious buds begin to appear immediately. The princess tree manages its business affairs to perfection. It takes into consideration its income of moisture and fertilizing elements and develops its top in accordance therewith, never setting any more branches or leaves than it can properly nourish and keep at a uniform size. To remove any roots unbalances it quickly; the leaves immediately are reduced in size, and the tree at once begins to kill as many small branches as are necessary to regain its equilibrium.

The princess tree was introduced to us from China and Japan, and it may be observed growing in abandoned fields and vacant lots, where it has planted its own seeds. It is inclined to branch near the ground, which destroys its ability to produce much merchantable timber, but the wood is soft, light, and easily worked, and is highly prized in China and Japan. If given the least encouragement, this interesting tree will spread and establish itself on abandoned farms, and as it is a fast grower, it should be given a trial as a producer of wood for commercial purposes.

ROBERT S. WALKER.

SILAGE *VERSUS* BEETS FOR DAIRY COWS

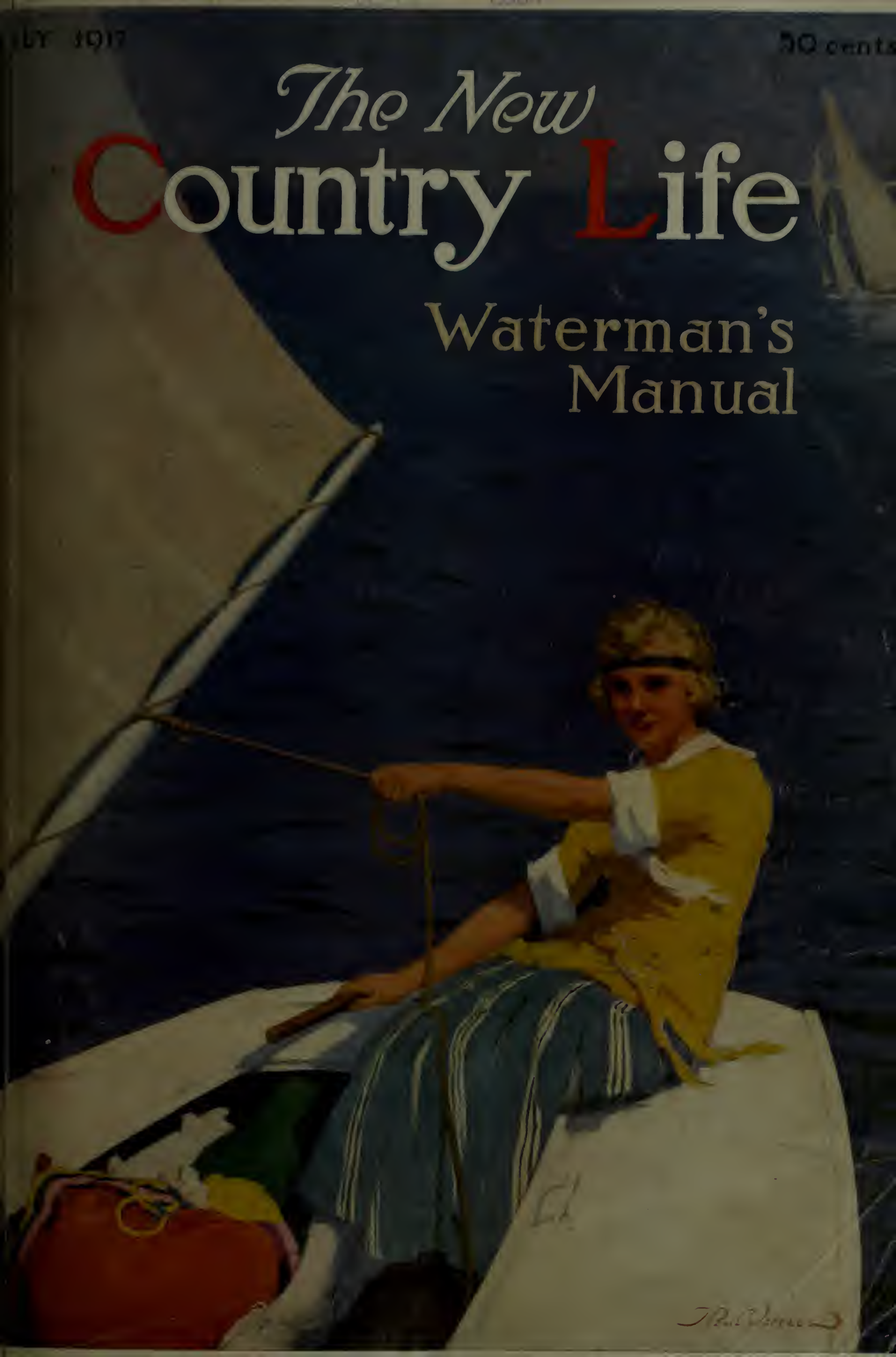
DIRECTIONS for the mixing of rations for dairy cows almost invariably contain the recommendation "that "about a third of the total dry matter should be supplied in the form of roughage such as silage or beets," which naturally leaves the impression that there is little or nothing to choose between the two materials mentioned. In a general way, as far as their palatability and effect on the health of the animals is concerned, this may be true, but it is worth noting that in different series of investigations conducted in Ohio, Pennsylvania, and Nebraska, over a number of years, the feeding of roots *invariably resulted in a slightly greater yield of milk than when silage was used.* In Ohio, however, a supplementary effect of their use was an increased consumption of other feeds in sufficient degree more than to balance the profit from the larger production. Moreover, it was found by comparing the cost of production and composition of the two forms of roughage, that two pounds of dry matter was produced in the form of silage at a less cost than one pound of dry matter in the form of beets.

The obvious conclusion—and one that should hold the attention of the practical dairyman—is that silage is a more economical and therefore more desirable form of roughage than beets or beet pulp, *except* in the feeding of cows for tests and record making, when the stimulating effect of the beets and their ability to increase the yield of milk are more important considerations than the actual cost of the ration.

E. L. D. S.

ENGLISH SETTERS—A CORRECTION

ON PAGE 42 of this issue, a picture of the English setter Champion Babblebrook Joe is shown, his ownership being erroneously credited to Mr. Edward D. Garr. Mr Garr is the dog's handler; Mr. Louis McGrew, of Pittsfield, Pa., the owner.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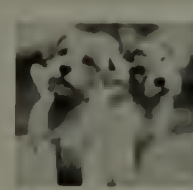

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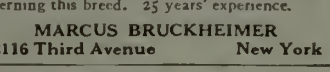

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NEWS *of the* BREEDS *and the* BREEDERS

A Cosmopolitan Berkshire Boar Grand Leader, 2d, the splendid Berkshire boar shown in the accompanying illustration, was farrowed in March, 1913, on Mr. W. S. Corsa's Gregory Farm at White Hall, Ill. While a young pig he was sold to Mr. A. B. Humphrey of Escalon, Cal., whence he journeyed to the Panama-Pacific Exposition to win the grand championship and head the first prize aged herd. Incidentally he sired also the reserve grand champion of the Exposition and the first and second prize winners in the class for get of one sire. Now he has been sold by Mr. Humphrey and is to travel back East to Douglassville, Pa., and the farm of Mr. M. R. Thomas. Naturally, the East can consider itself the gainer; but after all, so long as such animals remain within its borders, the whole country can share the feeling of satisfaction which their ownership arouses.

A Jersey That Keeps It Up Lou 2d of Hood Farm (Lowell, Mass.) started on a new yearly record May 1, 1917, after having completed five similar authenticated tests, and produced six living calves since March 3, 1911. Her lowest record, made as a two-year-old, was 7,465 pounds of milk, 512 pounds of butter, and her average for the five tests is 10,277 pounds of milk, 701 pounds of butter. While making these records she has also been winning one bronze and two gold medals, offered by the American Jersey Cattle Club for production. Lou 2d's grandsire is Hood Torono, too well known to need introduction; one of her daughters is already in the Register of Merit, and her son, Lou's Torono, owned by Fairview Farm, Geneva, O., though still young is performing in a manner that leads manager J. E. Dodge of Hood Farm to feel positive that "his progeny will be worthy his great breeding."

High-Water Marks in Holstein History: I—The Brookside Sale The months of May and June, 1917, can well be marked in brilliant crimson on the calendars of Holstein breeders—indeed of all breeders and dairymen throughout the world. The first brought, on the 15th, 16th, and 17th, the great dispersal sale of the Brookside herd at Lacona, N. Y. Founded in 1875 by the late Henry Stevens, and later conducted by him and his sons, this herd has long held a position in Holstein annals that is no less fundamental than exalted. The dimensions of the sale and its quality were in thorough keeping with the national importance of the event. The entire 309 head sold for the imposing sum of $242,665, averaging $785 apiece. The highest prices were, for bulls, $10,500 paid by Mr. N. W. Salmon of Glenfield, N. Y., for the famous King of the Pontiacs, and $10,400 paid by Mr. M. Phillip of Red Creek, N. Y., for King Model; and for cows, $6,350 which Mr. E. C. Bull of Stewartsville, N. J., paid for the four-year-old K. S. P. Diona, a 33-pound daughter of a 40-pound dam. Later it was announced that King of the Pontiacs had again been sold at a much higher figure to five joint buyers. Among the most prominent purchasers were Mr Paul T. Brady of Pawling, N. Y., who took twenty-four head for something more than $40,000; Mr. Quentin McAdam of Ithaca, N. Y., mentioned elsewhere in these columns as an owner of notable animals, who paid $6,100 for Maple Knoll Helm; and Mr. Fred F. Field, of Brockton, Mass., who took the history making Pontiac Clothilde DeKol 2d for $2,600, and another 37-pound cow for $4,200.

II—The Holstein-Friesian Meeting The second event of note was the annual meeting of the Holstein Association held at Worcester, Mass. on June 6th, and marked by the enthusiasm, progress, and efficiency characteristic of this organization. The routine matters and reports simply emphasized the success that is constantly attending the breed and its backers, as regards membership (which now numbers 10,074), finances (which show a cash balance of more than $215,000), registrations (totalling 73,847 for the year), transfers (75,884), and achievements in milk and butter production, many of which have been noted in these columns from time to time. The elections resulted in the maintenance of all present officers, including President D. D. Aitken, Secretary F. L. Houghton, and Treasurer W. R. Smith. Special legislation as reported at this writing resulted in the subscription of $100,000 for Liberty Bonds; the donation of $1,000 to the American Red Cross; and the contribution of $1,000 to the memorial fund for Ex-Governor W. D. Hoard. However, even the events of the meeting were thrust into the background by the sensational features of the greatest sale in dairy history that followed on June 7th and 8th.

Grand Leader, 2d, the prize winning Berkshire boar that was farrowed in Illinois, developed and triumphantly shown in California, and recently brought East to Pennsylvania

III—A Record Of Records With complete returns still unavailable, it appears that the average price for some 140 animals was more than $2,050, and that more than $150,000 changed hands the first day. But of transcendent interest and significance was the sale of the five months old bull calf King Ormsby Jane Rag Apple for $53,200, the highest price ever paid for a dairy animal! The buyer and seller—and who shall say which is the more to be envied—were Mr. D. W. Field of Brockton, Mass., and Mr. Oliver Cabana, Jr., of Buffalo, N. Y., respectively. Yet if ever such a price were justified, now is the time, for back of the 250 pounds of black and white quality and vigor stand an inheritance and a record of achievement that have never been touched. The calf's sire, Rag Apple Korndyke 8th, with fifteen A. R. O. daughters, brought $25,000 at auction; his dam, Ormsby Jane Segis Aagie, is the only cow to have made two weekly records of more than 45 pounds of butter in two consecutive lactation periods, and is holder of all records for all breeds and ages for 30 to 100 days; his granddam, Segis Aagie Netherland, was former world's record holder and champion butter producer for 30 and 100 days. In short, the animal, no less than his price, seems justly entitled to this supreme elevation in dairy history. His fame has already shed its light on Pine Grove Farm; it will now proceed to illuminate the progress and achievements of Dutchland Farms. Other sensations were (1) the sale, for $18,000, of Glen Alex Queen De Kol, the world's champion senior two-year-old, who now goes from Mr. A. C. Howe's Glen Alex Farm, to Hollywood Farms, Hollywood, Wash.; and (2) the sale of the world's champion junior four-year-old, Wandermeere Belle Hengerveld, by E. Le Roy Pelletier of Michigan to J. C. S. Shanahan of New York, for $18,300, the record price for a dairy cow of any breed.

The world's highest priced dairy animal, King Ormsby Jane Rag Apple, the five months old Holstein bull calf, which sold for $53,200 at Worcester, Mass., on June 7th. Mr. Oliver Cabana, Jr., his former owner, stands behind him; Mr. D. W. Field, the purchaser, has just taken possession

The 1917 Guernsey Meeting Progress was certainly the keynote of the annual meeting of the American Guernsey Cattle Club, held in New York City on May

1916. The previous year's business showed gratifying growth, the membership list now totals [illegible], the herd register now carries 116,230 entries; a gain of 4[illegible] per cent over the preceding year in number of bulls registered, and of 37 per cent in cows registered and in transfers were made. Despite the dangers of ocean travel, 28 bulls and [illegible] cows were imported; some 300 breeders are testing some 1,300 cows, the average production of [illegible] cows that have received certificates is 9,316 pounds of milk, 464 pounds of fat; 6 cows have made year's records of more than 18,000 pounds, 14 of more than 16,000 pounds, and 121 of more than 12,000 pounds, 3 cows have gone above 1,000 pounds of fat, and 38 above 900 pounds, and the finances of the organization are in a flourishing condition.

Results of the meeting itself, which was attended by some 150 breeders from eighteen states were: the election to the Presidency of Mr. Robert Scoville of Chapinville, Conn.; the re-election of Secretary-Treasurer Caldwell, and Vice-Presidents W. D. Hoard and S. M. Shoemaker, the election to the Executive Committee of Messrs. C. L. Hill, J. L. Fisher, and F. H. Baker, the appointment of Messrs. W. W. Marsh, J. L. Russell, F. H. Baker, N. I. Bowditch, and S. M. Shoemaker to cooperate with the Council of National Defense; and last, but of monumental importance, the adoption of an amendment regarding advanced registration. This provides that if, in addition to fulfilling the requirements in her respective class, a cow shall carry a calf or calves 265 of the 365 days of the test, the letters used to designate her class shall be doubled. For instance such a cow starting a test between three and a half and four and a half years shall be called of "Class D D" instead of "Class D" as heretofore. Inasmuch as the Guernsey club first started the advanced registry work, it is quite probable that this idea, having now been approved by it, will be at least taken under consideration by the other breed organizations in the near future.

Associated with the present campaign for conservation and production, the spirit of the meeting was all for increased effort to extend and develop the dairy industry, its resources, and its accomplishments. A further gratifying step was a unanimous vote to give to the English Guernsey Society £100 to be spent by it for any war use or for any other purpose that it may choose.

The New York State Meeting Guernsey breeders of New York met in New York City on May 15th and reviewed a year of prosperity and activity. Interesting addresses were delivered by Professors E. S. Savage, of Cornell University, on the practical care of dairy cattle, and F. C. Minckler, of New Jersey, on publicity and organization. Officers elected were, President, F. M. Smith, Springfield Centre; Vice-Presidents, D. C. Blandy, Greenwich, C. H. Heckler, Roslyn, C. H. Royce, Ithaca, G. M. White, Freehold, and C. L. Whiting, Avon; Secretary-Treasurer, J. H. Seaman, Glens Falls; Members of Executive Committee, G. E. Tarbell, Smithville Flats, and F. G. Benham, Canandaigua.

Three Good Guernseys Creditable Guernsey records have recently been increased by those of three cows from Pennsylvania, Minnesota, and California, which are worthy of mention and more than a passing glance of appreciation. Malinda Glenwood 3,802, the Eastern representative, owned by Mr. Frank G. Thompson of Brookmead Farm, has completed as an eight-year-old her second record, making 17,025 pounds of milk, 811.67 pounds of butter fat. The member from Minnesota, Starlight's Contrast 33,439, made very close to the same figures, namely 17,701.9 pounds of milk, 811 pounds of fat, as a six-year-old. But in this case the test suffices to give her the title of Champion Guernsey of the state—a title which, as far as the senior three-year-old class is concerned, she already held, and still holds. A further point in her favor is the fact that she completed her test test with the very considerable handicap of one disabled quarter which, injured in her youth, has since become totally useless. Imp. Mildred II of Les Godaines, owned by Mr. W. H. Dupee of Santee, Cal., has brought fame to her herd, her breed, and her native home by completing a record of 14,890 pounds of milk, 702 pounds of fat. While by no means a dual purpose cow she has two distinct claims for recognition,

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AT PUBLIC AUCTION
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BEST BREEDING FLOCK IN AMERICA
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in handy holders enable them to have *refined dairy salt*—all natural impurities *taken out*. No more forgetting. Saves time and work. Ask dealer and write for free booklet.

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Turn to the Real Estate Directory at the front of this magazine and choose from the selection of country and suburban properties there offered for sale or rent. If you don't see what you want, write to the Manager of the Real Estate Department and he will give you his personal assistance in finding one. Whether he finds it or not (and the chances are that he will) there will be no obligation or cost on your part.

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1st Single Harness, Chicago, 1916

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A limited number of ponies ready to ride and drive, just the thing for summer fun. Also three youngsters coming one year. All will be sold at "give away" prices as I must close them out.
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GUERNSEYS

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GUERNSEYS

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Langwater Dairymaid sold for $6,150.00 at sale on October 10, 1916—the highest price ever paid for a Guernsey Cow. Her blood is being continued at Langwater Farm through her son, Langwater Steadfast.

75 head of Langwater Guernseys sold October 10th at auction made an average of 1075; establishing a record in the dairy world.

Bull calves of this blood for sale.

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Senior Herd Sire
MAY KING OF LINDA VISTA, 17946

Junior Herd Sire
DON IAGO OF LINDA VISTA, 28387

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The Leading Two-year-old Milk Record of the Breed
15,436.10 lbs. Milk , 705.56 lbs. Fat

Several Bull Calves and a few Young Heifers of choice breeding for sale

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C. W. BARRON, Owner Address W. S. KERR, Manager

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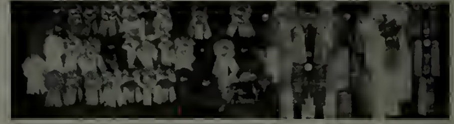
Upland Farms offers bull calves sired by show winning bulls of distinctive breedings.

We have a few females for sale from time to time

Our herd won more prizes at the National Dairy Show than all the other Guernsey Breeders of New England.



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IPSWICH MASS.

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Junior Champion at National Show Bred at Sunnybrook

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A. R. Records average 579.47 lbs. fat, with increases in progress

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Herd regularly tuberculin tested

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Guernsey Products
Unsurpassed Flavor and Natural Golden Color

Guernsey Milk contains 5% butter fat and over 14% total solids. It is therefore very high in food value.

Mature Guernsey cows average over 10200 pounds of milk a year.

Such a combination of qualities is unequaled.

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100 Strong, Hardy Plants, either Superb or Progressive, sent post paid on receipt of $2 cash with order.

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Herd founded 1890. *A. R. Work started* 1912

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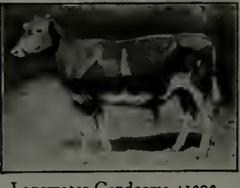
For Sale
Prize Guernsey Bull
"Langwater Gendarme"
MAY ROSE—GOLDEN SECRET CROSS



Langwater Gendarme 41293
Dropped May 28, 1916

Sire Langwater Fashion 23660. First prize, Framingham, 1913. Second prize, National Dairy Show, 1914. His five bull calves in the Langwater Sale brought an average price of $890 each.
Dam Raymond VIII's France of Lewison 36505. Now on A. R. test. In 123 days she has produced 3,233.9 lbs. milk, 140.84 lbs. fat in Class A.

This young bull is stylish, fashionably marked, bred for heavy production and is now ready for light service. A half brother has been retained for use in the Langwater herd.

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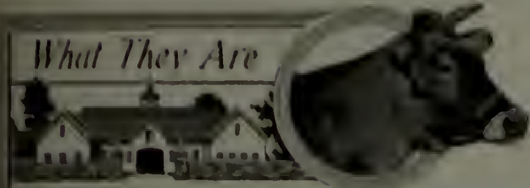
BELSIRE 18645

BROOKLAWN FARMS Morris Plains, N. J.
D. H. McAlpin, *Owner* A. E. Wright, *Superintendent*



JERSEYS

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of [illegible] sexes. Every calf dropped in 1916 offered without reserve. A [illegible] opportunity to secure a little foundation herd, the results of nine- [illegible] years of careful work. They combine utility and beauty. We [illegible] for a coarse ugly looking calf or cow. They must be handsome to look at as well as producers. They are nearly all from Register of Merit dams and there are several show calves in the lot fit to [illegible] and win their share in the hottest company. Send for annual Sales List.

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Lead the Breed for large yearly production

Sophie's Adora 269,594, World's Jersey Champion Junior 4 year old, yearly record 15,852 lbs. milk, 1044.7 lbs. butter. She is a line bred Sophie Tormentor, Sophie's Adora her sire, her dam and both grandsires bred by Hood Farm.

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American Jersey Cattle Club
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Brookwood Farms Jerseys

HERD HEADED BY

IMPORTED GOLDEN FERN'S NOBLE
A. J. C. C. 145762

Conceded on the Island of Jersey to be the winner of more prizes and the sire of more butter record cows than any other Island Bull.

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BEN ROBYN FARM

Woodbury, L. I., N.Y. — Francis L. Robbins, Jr.

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"Prices reasonable." Personal examination preferred, but we will ship under guaranteed representation. Write for catalogue.

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WOODBURY LONG ISLAND, N. Y.

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The herd is headed by FAUVIC'S PRINCE 107961 a son of IMPORTED GOLDEN MAID'S PRINCE and twice GRAND CHAMPION at Brockton (Mass.) Fair. Most of our cows are prize winners and all of them are exceptional producers and of show-ring type. A bull calf for sale.

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Over 100 Head Jerseys. Imported Foundation. Large, Rich Milkers

YEARLY TUBERCULIN TEST

Po'keepsie by Ferry — Highland, N. Y.

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One of our kind—Majesty Louise

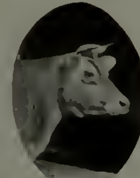
Record 14,199 lbs. milk, 830 lbs. butter

Bull calf dropped Sept. 30, 1916, sired by Oxford Majesty, for sale. A limited number of calves by the same sire, out of high testing dams. Also sons and grandsons of Gamboge's Knight.

WM. L. FRY, Manager, Paoli, Pennsylvania

Kellairn Farm Jerseys

REGISTER OF MERIT HERD



Herd headed by Raleigh's Fairy Boy 5th and Karnak's You'll Do

Our cattle appeal to discriminating buyers because they combine to a wonderful degree the three essentials, beauty, large production and fashionable blood lines. Foundation herds our specialty.

J. E. KELLY, Proprietor — Xenia, Ohio

Hamilton Farm Jerseys

Margaret of H. F.

We are offering for sale several "typy" cal heifer calves from Dams now on Official Register of Merit tests, all sired by "Production" and "Butter" bulls; also, several young bull calves of exceptional breeding and individuality.

Write for Sale List

HAMILTON FARM, Gladstone, N. J.
FRED HUYLER, *Manager*

namely, the above record, and the fact that she was the first prize four-year-old cow at the Panama-Pacific Exposition.

A New Ohio Jersey Champion Ohio has a new junior two-year-old champion Jersey in the cow Lipsa, which, starting at the age of two years and four months, has produced 11,509.3 pounds of milk and 684.3 pounds of butter fat. At the start of her test she weighed 673 pounds, and at the end of the year, 884 pounds, showing a gain of 211 pounds. Lipsa not only sets a new standard for her class, but also teaches through her feed and cost records a lesson in profitable milk production. During her test she consumed $134.54 worth of feedstuffs including grain, hay, ensilage and roots. Her milk, sold at 10 cents a quart, brought $541.60, enabling her to return $407.06 over and above her feed cost; she also presented her owner, Mr. R. L. Pike, of Geneva, O., with a heifer calf.

Brothertown Farms An establishment that has done its full share in making Holstein history is Brothertown Farms, located at Deansboro, Oneida County, N. Y., and owned by Mr. Quentin McAdam of Utica. The first cow in the world to make an official record of more than 30 pounds of butter in a week was Sadie Vale Concordia, who was developed at Brothertown Farms. This record, made in 1903, stood for some time; and even since then the blood of this wonderful cow has been the basis for breeding operations that make possible a number of important statements about the Brothertown Holstein herd that apply to no other establishment in the world. For instance, there have been bred and developed at Brothertown Farms two of the twenty-two cows that have made 7-day records of more than 40 pounds of butter; one of these is a daughter of the foundation cow, Sadie Vale Concordia, while the other is sired by a son of that daughter.

One of Brothertown Farms' two 40-pound Holsteins, K. K. S. V. Topsy 220088

King Korndyke Sadie Vale, sire of Topsy, head of the Brothertown herd, and one of the most outstanding and well bred of all Holstein bulls

The present head of the herd is King Korndyke Sadie Vale, a son of Sadie Vale Concordia 4th, the 41-pound daughter of the foundation 30-pound cow. His first twelve daughters to freshen have records averaging more than 26 pounds of butter in seven days, at an average age of only two years, ten months. He has ten daughters that averaged 27.77 pounds of butter in seven days at two years eleven and a half months; he is the only six-year-old sire having a 40-pound daughter; and the only son of a 40-pound cow having a 40-pound daughter; his sire has produced a 40-pound daughter, making the two the only father and son of the breed each with a 40-pound daughter; although only six years old, King Korndyke Sadie Vale has two three-year-old daughters with records averaging 37.39 pounds of butter in seven days. Another of his daughters is the youngest 29-pound heifer of the breed, while his 40-pound three-year-old daughter made a record that put her second in her class, after dropping a pair of twin calves that weighed 180 pounds. Such facts seem to back up the claim that King Korndyke Sadie Vale represents the greatest combination o. high-record backing and proven transmitting power along the lines of both production and individuality that the Holstein breed has ever brought forth. At any rate, his sons already head some of the largest and best herds in the country.

For More Sheep and Better Farms The Columbia Shepherd's Staff has been organized with headquarters at the M. I. C. Building, Manassas, Va., and the following objects: to promote sheep husbandry, which for a hundred years before the Civil War was the leading animal industry around the District of Columbia; to compel respect for the Sabbath and to enforce existing laws against the wandering dog; to disseminate—by means of a reading room where there shall be kept books and papers on cattle, sheep, and other grazers, turkeys, insectivorous birds, etc.—knowledge concerning and active interest in these things; and to coöperate in the prosecution of claims for damages done such creatures.

Sustaining members or patrons upon payment of $5 are relieved of further dues and liability; farmers directly interested may become members upon payment of $1 a year to Bryan Gordon, Esq., Treasurer, Manassas, Va.

The Spread Of the Ayrshire Mr. J. W. Clise's Willowmoor Farm, Redmond, Wash., recently established the Ayrshire breed in a previously untried but promising territory, by filling an order for two carloads of registered stock, one of twenty-five young bulls and the other of twenty-five heifers.

To Tell What Markets Want Many farmers know how to raise hogs, but the hogs they raise are often not the sort that the markets can use and pay profitable prices for. In an endeavor to prevent this waste of effort and to raise the standard of the swine shipped to central points, the Chicago packing firm of Armour & Co. is distributing to farmers throughout the country a booklet on hogs and hog raising, the work of Mr. F. R. Gentry, general hog buyer for the Company, and Dr. R. J. H. De Loach of its Bureau of Agricultural Research and Education. Describing grades, types, cuts, dressing qualities, etc., as classified in the packing plant, this is practically a discussion of hog ideals from the market standpoint. It should prove of immense practical and economic value.

A Record For Ponies Mr. Chas. E. Bunn's summarized report of the success of his ponies for the 1916 show season, issued on the eve of the opening of the 1917 circuit, contains among others the following noteworthy features: the winning, at five state fairs, of 100 first and championship premiums, with a number of seconds and thirds; the winning at the New York National Horse Show of 6 firsts 5 seconds, 5 thirds, and 2 fourths; the winning at the Chicago International of 12 firsts, 8 seconds, and 3 thirds; a total win for the season of 174 firsts and 19 championships; and the winning of first for sire and produce, at the state fairs of Illinois, Minnesota, Missouri, and Michigan, and the National of New York, by Prince of Wales, a Shetland just under twenty-six years of age.

The Curles Neck Dispersal Sale Few, if any, previous sales of trotting bred stock have brought together such a galaxy of stars as were knocked down at Madison Square Garden on June 6th, when Mr. C. K. G. Billings disposed of all the stock from his James River breeding establishment. By bringing $30,100—far and away the top price—The Harvester, 2.01, that grand old twelve-year-old son of Walnut Hall and Notelet, for seven years the world's champion stallion and noted as a sire of speed horses, maintained his supreme position in the trotting world. His new owner is Mr. Paul Kuhn of Terre Haute, Ind. William, 1.58½, was bought by Crouch & Sons, Lafayette, Ind., for $8,000; and Directum I, 1.56¾, his bitter rival in many a race, was taken by Mr. S. S. Shuster, Ellenville, N. Y., for $3,200. No other striking figures were reached, but the competition and final level for which The Harvester was responsible, held on a deservedly high plane this closing chapter in the history of a famous stable.

The Glenside Milking Shorthorn Sale The imported and home bred Milking Shorthorns offered at Mr. L. D. May's Glenside Farms, Granville Centre, Pa., on May 29th, showed clearly the results of his many years of faithfully constructive efforts for the advancement of the Milking Shorthorn cause. Breed partisans registered a tremendous moral appreciation of his endeavors, by their attendance and their generous bidding. The thirty-nine head realized $39,325—an average of $1,008—thirty-four females averaging $1,055. White Queen, an imported cow, topped the sale at $3,000 and went to C. A. Otis; Glenside Minnie May, a two-year-old heifer was bid in by A. E. Palmer, at $2,550; Glenside Roan Fern, a very attractive and refined yearling heifer, was purchased by Flintstone Farm, for $1,025. The success of the event constitutes a noteworthy expression of well warranted confidence in a man whose name is firmly established on the honor rôle of Milking Shorthorn breeders. The Glenside auction afforded inspiration for proper appreciation of true breeders' art.

Pure Bred vs. Grade—The Old Story The inevitable results of using a pure bred bull, especially in the raising of dairy cows, is shown in the accompanying photographs, but even more strongly by the following data for the two cows pictured: the sire of the cow Dena was a Shorthorn; her dam was a Red

Dena, a typical scrub dairy combination of Shorthorn and Red Polled blood, whose average production for four years was 5,481 pounds of milk, 263.5 of butter fat

Rose, Dena's daughter and stable mate. Her inheritance from her pure bred Guernsey sire has enabled her to average 10,000 pounds of milk, 545.5 of fat

Polled cow; her average yearly production for four years was 5,481 pounds of milk, 263.57 pounds of butter fat. Dena has had four calves by two pure bred Guernsey bulls; the first, Spot, has averaged 5,848 pounds of milk, 265 pounds of fat, for four years; the second, Rose, has made 9,886 and 10,114 pounds of milk, and 364 and 545 pounds of fat, respectively, in two lactation periods; the third, Lizy, and the fourth, Muley, have made as two-year-olds, 5,827 and 7,015 pounds of milk, and 288 and 356 pounds of fat, respectively. The average of these last seven records shows an increase of 31 per cent. in milk

AYRSHIRES

The Ayrshire Breeders represented on this page are recommended by Country Life. For information concerning the Ayrshire breed, address

COUNTRY LIFE READERS' SERVICE DEPARTMENT
Garden City New York

Iroquois Farm

Cooperstown, New York

[illegible] Grand Champion at National Dairy Show and Champion [illegible]

The National Dairy Show awarded the following to Iroquois Farm Ayrshires.

Grand Champion Cow, 1st Aged Cow; 1st. Best five cows in milk, 1st Senior Heifer calf, 2nd In yearling, 2nd. Graded herd.

We offer for sale a limited number of registered Ayrshires and registered Shropshire sheep.

Address all communications to

Waldo C. Johnson, *Agent*

Cooperstown New York

STRATHGLASS FARM AYRSHIRES

Quality & Production

HUGH J. CHISHOLM, *Owner*
JOHN LIVINGSTONE, *Supt.*
Port Chester New York

Jean Armour III

The new World's Champion Senior three-year-old Ayrshire cow produced 21938 lbs. of milk, 859.65 lbs. fat with an average test of 3.92 per cent.

We are offering for sale a yearling son ready for service out of Jean Armour III that is a show bull containing 25 per cent the blood of Howie's Dairy King and 25 per cent the blood of Lessnessock's Gem Good Gift. Also a five-month-old grandson of Jean Armour III.

W. P. SCHANK Avon, New York

Ridgewood Farm

Wm. Frazier Harrison, breeders of
Registered Percheron Horses & Ayrshire Cattle
BREEDING STOCK FOR SALE
Berkshire Swine — *Personal Inspection Invited* — Barred Rock Poultry
ARTHUR H. WALKER, Mgr. Oreland, Montg. Co., Pa.
Telephone, Ogontz 575

Middlesex Meadows Farm Ayrshires

Only A. R. cows kept in herd. The dam of our herd sire has four A. R. records aggregating 58,627 lbs of milk, made in four consecutive years. One very high-class bull calf and several heifers for sale.

A Henry Higginson (*owner*) W. R. Coutts (*Sup't*)
South Lincoln, Massachusetts

Important

Conditions affecting the cattle industry are critical

PRODUCTIVE cattle—profitable cows are required. That means a big demand for purebreds.

We believe that the

AYRSHIRE

is a breed which justifies the thorough investigation of every Patriotic Breeder who realizes the necessity for increasing the output of Dairy Products.

AYRSHIRE BREEDERS' ASSOCIATION

C. M. Winslow, *Secretary*

32 Park St. Brandon, Vermont

FAIRLEA FARMS

WILSON H. LEE, Prop., Orange, Conn.
AYRSHIRES
HERD HEADED BY
Isoleigh Harry Lauder—*sire* 15133
Netherhall Rohin Hood—11476 *Imp.*
Nancy of Fairfield Farms—19301 *Imp.*

Kilmarnock Ayrshires

Ayrshires from the William Galloway Farms are the kind you want for a foundation herd.

Eight years ago I started an Ayrshire herd. It was the best investment I ever made. It has solved the prohlem of making profits on $500 an acre land. There is genuine pleasure and profit in an Ayrshire herd.

From the very best foundation stock I have builr up a herd of high milk production and Grand Champion winners in these few years.

I now have a few choice hulls and heifers for sale at right prices. Our herd is headed by Auchenbrain Good Gift 15487 who stands for rare individuality and high milk production, and Willowmoor Peter Pan 26th 16048, Junior Champion of the Panama-Pacific Exposition.

I have a few choice bulls ready for service and bull calves for sale, together with a few females.

WILLIAM GALLOWAY FARMS Waterloo, Iowa

World's Champion Ayrshires

We own the First, Second and Fifth Highest Producing Ayrshire Cows.

Their records average	23518 lbs. milk,	1059 lbs. butter		
Best Ten " "	17476 " "	792 " "		
Best Thirty " "	14335 " "	654 " "		

Stirling Silver at 16 years nf age. She has produced 14 living calves. We offer her daughter sired by Kates Good Gift, whose dam produced 23022 lbs. milk, 1080 lbs. butter, in one year. A few good cows and choice young stock for sale.

PENSHURST FARM, Narberth, Pa.

Bull Calves and Heifers

We have for sale, several Bull Calves, out of A. R. Cows. Also a few highly bred young Heifers. Prices reasonable. Correspondence given prompt attention.

DELCHESTER FARMS
Thos. W. Clark, *Mgr.* Edgemont, Pa.

Offering for Sale
Several Grand Foundation Cows
Imported and Canadian-bred

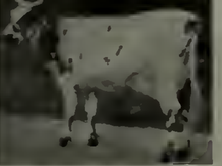
Clover Home Farm

GOUVERNEUR, N. Y. George E. Pike

For Sale—Forty pure-bred registered Ayrshire cows and heifers in milk or coming fresh. Sired by mature bulls of merit. Bred and fed for profitable milk production. Herd of seventy. To be reduced on account of ill health of owner. This is a splendid opportunity to secure dependable stock.

Hill Terrace Farms

AYRSHIRE CATTLE *and* Berkshire Hogs



We have several young bulls for sale, one exceptionally good one by Rena's Champion and out of an imported heifer bred by James Wallace.

We are also offering a few Berkshire pigs of good blood lines.

For full particulars address

HILL TERRACE FARMS, Morristown, N. J.

and 27 per cent. in fat over their dam's average performance. And there isn't a thing to blame but those registered Guernsey bulls!

Where the Shorthorn Breeders are The following interesting compilation of the distribution of Shorthorn breeders has been made by Secretary Harding. With the continuance of present trade activity, a number of the Southern and Western states will advance well up in the list within a year or two.

State		State	
Alabama	80	Montana	195
Arizona	10	Nebraska	1,740
Arkansas	80	Nevada	10
California	80	New Hampshire	20
Colorado	170	New York	105
Connecticut	20	North Carolina	54
Delaware	1	North Dakota	575
Florida	10	Ohio	945
Georgia	55	Oklahoma	735
Idaho	135	Oregon	130
Illinois	1,855	Pennsylvania	225
Indiana	1,100	South Dakota	1,155
Iowa	4,070	Tennessee	135
Kansas	1,285	Texas	280
Kentucky	250	Utah	155
Louisiana	30	Vermont	50
Maine	70	Virginia	140
Maryland	25	Washington	115
Massachusetts	40	West Virginia	90
Michigan	590	Wisconsin	760
Minnesota	1,520	Wyoming	60
Mississippi	75		
Missouri	1,625	Total	20,871

A Long-Distance Ayrshire Crimson Rambler, owned by the Geo. F. Stone Estate of Littleton, Mass., has accomplished the remarkable achievement of completing her ninth cumulative Advanced Registry record, giving her a total official production of 93,345 pounds of milk, 3,369.66 pounds of fat, and nine calves; or an average yearly production of one healthy calf, 10,372 pounds of milk, and 374.9 pounds of fat. She is a good sized, rugged, easy keeping, sure breeding cow of the "old red" type, and was bred and raised on the same farm on which she is making her noteworthy records.

JERSEY DOINGS

THE Edmond Butler sale of imported Jerseys, held at Guard Hill Farm, Mt. Kisco, N. Y., on May 3d, brought a total of $51,000 for ninety-two head, an average of $555.43. The twin heifers, Imp. Darling Lassy and Imp. Lassy Darling, were bought by L. V. Walkley of Southington, Conn., for $2,625 and $2,100 respectively. Colt Farm, Bristol, R. I., purchased some excellent stock, including Staralden for $2,200, Imp. You'll Do's Pet for $1,400, and Stars and Stripes for $1,000. Col. T. S Cooper of Coopersburg, Pa., secured Sunray, the excellent grandson of Noble of Oaklands, for $1,200; Mr. S. R. Read of Chattanooga, Tenn., paid $1,275 for Imp. Jersey Snowflake; and Mr. T. DeWitt Cuyler, White Horse Farm, Paoli, Pa., bought Imp. Elsie's Dora for $1,025. The buying was brisk and all the other prices were uniformly good, showing a consistent demand for quality Jerseys.

AT THE annual Decoration Day sale of the Linden Grove Jerseys, held by T. S. Cooper & Sons, at Coopersburg, Pa., 110 head of Jersey cattle brought $82,780, an average of $752 per head. The top price was $4,000, paid by Mrs. C. D. Illingsworth of Fox Chase, Pa., for the superb seven-year-old cow, Simone of St. Saviours, with a record of more than 800 pounds of butter in a year, and a public Channel Islands test as a three-year-old of 50 pounds in one day. The most active bidders and heaviest buyers were Col. Samuel P. Colt, of Colt Farm, Bristol, R. I., and Mr. Thomas DeWitt Cuyler of White Horse Farm, Paoli, Pa. Among the animals purchased by Col. Colt was You'll Do's Weeping Maid, an exceptional bargain at $2,500; Mr. Cuyler secured, among other fine animals, Golden Matron for $1,200, You'll Do's Bonnie for $1,100, and My Jolly Violette for $900. Among the other buyers were Mr. Wm. Ross Proctor of Brookwood Farm, Barryville, N. Y., who got Golden Champion's Brown Maid for $1,850, and Sweet Dairylike, a beautiful solid-color cow, winner of the butter test prize on the Island in 1914, for $1,750; Ed. C. Lasater, owner of the famous Falfurrias herd in Texas; Mr. C. Hughes Manley of Baltimore, Md., who bought The Owl's Duchess for $1,200; and Quechee Fells Farm, Quechee, Vt., which gave $1,050 for the cow You'll Do's Clementina.

A RECEPTION to Jersey breeders and enthusiasts was held at Meridale Farms, Meredith, N. Y., on May 31st and June 1st. A special car took a number of guests from the Cooper sale direct to Oneonta, where they were met by Mr. Ayer and his son-in-law Mr. Fry, and taken by automobile to the farms. Here headquarters were established at Meredith Inn, that unique and inviting feature of the Farms; but in view of the scenic beauties of the locality, the quality of the animals in the herd, and the many interesting details of the farm operations, but little time was spent there or in any other one place. The home and outlying farms were visited, the creamery and all its efficient butter making operations inspected, the different units of the herd reviewed, their simple but thoroughly practical quarters surveyed, and the most prominent individuals carefully studied. A feature of the afternoon was a parade, including Mr. Ayer and all the guests, each leading a Jersey, of which a permanent record was made in moving picture form.

CALIFORNIA NOTES

THE first annual sale of registered Hereford cattle ever held in California took place on the D. O. Lively Stock Farm at Mayfield, on May 3d. The interest previously manifested was continued in greatly increased degree throughout the day of the sale. Forty-five head were sold at an average price of $373, and as a result of the sale seven or eight new Hereford herds were established in California. On the night of May 2d there was organized the Pacific Coast Hereford Cattle Breeders' Association; a committee consisting of Messrs. D. O. Lively, W. D. Duke, Madden, D. B. Harris, H. H. Gable, W. J. Bemmerly, and Professor Gordon H. True, was appointed to draw up constitution and by-laws and to report at the next meeting, which was scheduled for the State Agricultural Farm at Davis on May 29th.

Secretary R. J. Kinzer, of the American Hereford Cattle Breeders' Association, made his first trip to California to attend these events, and was much pleased with the climate and with the splendid outlook for the breed. Colonel Fred Ruppert who accompanied Mr. Kinzer had nothing but nice things to say of the people, the state, and the outlook for live stock generally.

THE sale of registered Shorthorn cattle on the Carruthers farm at Mayfield was marked by a good attendance and the sale of some splendid cattle.

LOS ANGELES is going to have a live-stock show. The State Legislature has appropriated $50,000 toward it, and Los Angeles business men will greatly increase this amount. Mr. C. E. Miller is President of the District Fair Association, under whose auspices the show will be given.

THE Whitten Hog Ranch in Tulare County has recently sold the last of 800 hogs which brought in the aggregate $35,000.

MR. T. T. MILLER has established a cattle raising business on his ranch in the San Fernando Valley. His foundation herd, valued at $50,000, is headed by Diamond Choice, a magnificent roan Shorthorn bull.

THE Federal Farmers Loan Bank at Berkeley announces that it is placing loans of $250,000 weekly. This will help speed up crop production.

THE Western Meat Company of Oakland is canning Belgian hare for which it is offering from 10 cents to 13 cents a pound. At least one other large packing concern, with main offices in Chicago, is looking into the subject and is expected to take up the canning of Belgian hare at an early date.

IN RESPONSE to the President's appeal, a meeting of practical farmers—one from each county in the state—was held in San Francisco on May 21st and 22d. It was unique in that only actual farmers participated and only farmers' addresses were heard. Resolutions were adopted asking the President to put one or more farmers on the National Council of Defense. A farm labor shortage was reported and emphasized, and legislation for the admission of Chinese farm laborers under bond was requested. A law preventing the use of grains for the manufacture of whiskey also was recommended.

HORSE BREEDING AND SPORT, HERE AND ABROAD

IN VIEW of the great influence upon horse breeding of the flat racing and fox hunting sports of England, it is discouraging to learn that these interests have been well-nigh obliterated as a result of the European war. The fox-hunting season, just finished, has not been a circumstance to what the sport was prior to 1915. All the best hunting people and hunt servants and even many of the "sporting parsons," "cross-country barristers" and "gate-opening doctors" whose waist lines preclude their arrival at the kill, have been drafted into the vortex of hostilities. The few left are cleaning such of their own timber-toppers as have not been utilized to draw heavy guns and crippled tanks, while the scarcity of fodder and oatmeal gruel renders the feeding of horses and hounds somewhat uncertain.

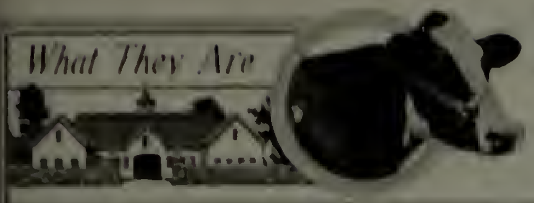
Think of it! Two seasons agone there were more than 200 packs of hounds in the kennels of England, Wales, Ireland, and Scotland, aggregating not less than 20,000 foxhounds, aside from numerous packs of beagles and deerhounds. Thirty days ago, when a sort of hound census was taken, not more than 12,000 answered the roll call. Kennelmen have been ordered to chop off heads by the wholesale; farmers' wives and daughters who, heretofore, have delighted in raising and caring for foxhound puppies until kennelmen required them, are busy, nowadays, making bandages, sewing kits, gas masks, and hosiery. Early in the war in many cases ladies volunteered to act as whippers in, while elderly country gentlemen undertook to attend to the duties of professional huntsmen. But about the middle of last season, the Food Economy Director—a hunting and racing enthusiast—conferred with several members of the M. F. H. fraternity, kennels were forthwith cut down one third, all hoary old hounds and many a fussy or riotous youngster was destroyed. Next October, when fox hunting opens—if it opens at all—there may not be a baker's dozen to salute an aged M. F. H. in Warwickshire, Leicester, Devonshire, or Notts. As for the fell country and the Yorkshire wolds, they're out of it entirely, more's the pity.

This eclipse of fox-hunting in England provides a fine opportunity for sportsmen in this country to bring over drafts from the far famed Belvoir and other noted packs, continue them on this side of the Atlantic, and ship the puppies home again "with bells on" after the war is over. The same should be done with regard to the hunting sires and dams that are still left in England. Our English allies are up against the feeding proposition. We shall do our sporting bit best in the manner suggested, if we do it now.

BEARING on this general subject comes the refreshing news that the suspension of flat racing and steeplechasing on the other side has not yet materially reduced the foal registration list. The records show 3,412 colts and fillies recorded last season, as against 3,567 in 1915, and 3,383 the previous year.

Suspension of racing over there will, however, have one capital result—the saving of the crop of two-year-olds which heretofore were sacrificed on the altar of mammon to satisfy the lust for abnormal tests of juveniles. Now, perhaps, we shall see all Thoroughbreds grow to maturity before facing the starter; and, perhaps, we shall witness a resumption of the old four-mile tests on which the lung power and endurance of present-day equine ancestry are based. All of which being interpreted, means that we may look for better and stouter Thoroughbreds by and by, and may credit them all to the situation brought about through the fury of the Huns.

A. H. Godfrey.



HOLSTEINS

The Holstein Breeders represented on this page are recommended by Country Life. For information concerning the Holstein breed, address

COUNTRY LIFE READERS' SERVICE DEPARTMENT
GARDEN CITY NEW YORK

The Best is Cheapest

Our kind of

PURE BRED HOLSTEINS

will put your farm on a paying basis.

We have bred and developed as many of the cows producing over 30 lb. butter in a week as all other establishments in the world combined

Our Sadie Vale Family

stands on the topmost pinnacle of popularity

Our Herd Sire

KING KORNDYKE SADIE VALE

is recognized as

THE LEADING SIRE OF HIS GENERATION

Send for proof of this statement and information concerning his get and other relatives in our herd

Quentin McAdam

BROTHERTOWN FARMS, 23 South Street, UTICA, N. Y.

THE BALSAMS STOCK FARM

Good pastures, an abundance of spring water and mountain air give size and health to our Holsteins. We can show you 270 head. Now is the time to visit the White Mountains and see them.

HENRY S. HALE, Owner
P. A. CAMPBELL, Mgr.

Dixville Notch New Hampshire

GRAYFIELD FARM

GREENWICH, N. Y.

Has at the head of its herd one of the choicest sons of Pontiac Korndyke. Sons and daughters for sale.

HARRY C. GRAY GREENWICH, N. Y.

Myrtlewood Stock Farm

offers for sale—A small surplus of Registered Holsteins. This Stock is choice, handsomely marked, and from producers of heavy capacity. A few young Bulls ready for service.

MacDADE BROTHERS

Myrtlewood Stock Farms OAKS, PA.

LORENZO FARM

CAZENOVIA, N. Y.

Inquiries asked for A. R. O. Cattle.

CHAS. S. FAIRCHILD

HOLSTEIN-FRIESIAN CATTLE AT PUBLIC SALE AUGUST 7 and 8

There will be sold at

Brattleboro, Vermont

125 Head of high class registered purebred healthy reliable cattle

These are consignments from herds of leading American breeders, including Oliver Cabana, Jr.; A. W. Brown; and Carl Amos.

Come to Brattleboro, the Holstein-Friesian Capital of America.

The Purebred Live Stock Sales Company

Strong Demand for Holsteins

The great popularity of purebred Holstein-Friesian cattle is well attested by the auction sale of 143 Holsteins at Worcester, Mass., June 7 and 8, 1917, when an average price of $2,073.21 was obtained. $53,200 was paid for a young bull, $18,000 for a heifer not yet three years old, and $18,300 for a cow. **All over the country there is a strong market for Holstein cattle,** and their size, individuality, healthy vigor, and uniform and profitable large milk and butter yields have made it so.

Investigate the "Black and Whites." Send for our literature.

Holstein-Friesian Association of America

F. L. HOUGHTON, *Sec'y.*

62-H American Building Brattleboro, Vermont

Broad Meadows Farms

PAWLING, N. Y.

250 Pure bred Holsteins

Home of Pietje 22nd's Son: K. P. Lyons De Kol Sir Peter Lyons.
Three of the best herd sires in the United States.

PAUL T. BRADY, *Owner*, Henry E. Lee, *Herdsman*

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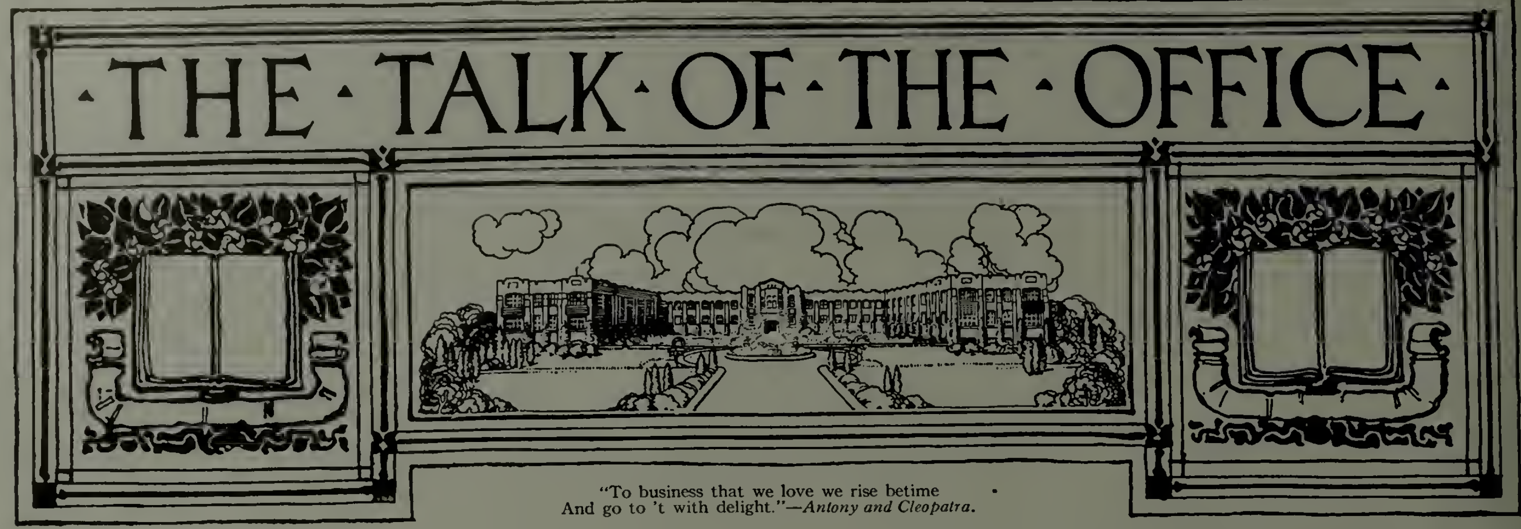

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And go to 't with delight."—*Antony and Cleopatra.*

NATURE BOOKS IN COLOR

WE HAVE added two sets of books in color printing which show a distinct advance over anything we have done before; but it is terribly difficult to carry over to the reader an impression of their value unless we can show the actual color pictures.

GARDEN GUIDES

The first is a set of little guides with a colored plate on every page to identify the flowers of the garden. The books are uniform in size and appearance with the Reed Pocket Guides, which some three hundred thousand people are using to identify trees, butterflies, flowers and birds. There have been heretofore no books to identify the garden flowers. The set contains 836 colored pictures, and the books are arranged for Spring, Summer, Autumn and Winter, a volume to each season. The text is helpful, short, direct, and interesting. It has taken a long time to make these books. They sell for $1.25 each in flexible linen, or $1.50 in a new and flexible *peau*, and can be had at your bookstore; or we will send you a full description by mail, or the books on approval.

WORTH KNOWING SERIES

The other books have, in a way, grown out of the Reed Pocket Guides, which have been useful for years in identifying the birds, flowers, butterflies, and trees. We felt that there was a need for four other books to carry the reader on to a knowledge of these animate things in nature, and these four books give the reader the life histories of the most interesting of our daily companions. The volumes are as follows:

Birds Worth Knowing, by Neltje Blanchan, with 48 color plates.

Butterflies Worth Knowing, by Clarence M. Weed, with 32 color plates.

Wild Flowers Worth Knowing, by Neltje Blanchan, with 48 color plates.

Trees Worth Knowing, by Julia Ellen Rogers, with 16 color plates.

This set of books, we think, is the most attractive that we have succeeded in making during a long career of nature book production, and the price has been kept low, $1.60 a volume, or $6.00 for the set of four books if bought together. Will you write to us about them. or examine them at your bookseller's?

BOOK PRICES

At least one class of business men has not taken advantage of the opportunity to make war profits—book and magazine publishers.

The cost of paper and the materials which go to make up books has risen from 30 per cent. to 150 per cent., and the price cf books has been increased with grudging and timid steps *an average of less than fifteen per cent.*

SOME MAGAZINE NOTES

At great expense we have been mailing *The New Country Life* in pasteboard cartons, so that the magazine might reach our valued subscribers flat instead of rolled. The plan has not been successful, because *Country Life* is now so heavy that copies are crushed in the mail, and the cartons have not protected them as we had hoped they would. We have a new form of rolling the magazine and protecting it which we hope will bring better results.

We thought we had improved the type of the *World's Work.* It was smaller, but, we believed, clear and legible, and the margins were better. We now think we made a mistake, so in July we have enlarged the type, shortened the line slightly for easy reading, and improved the margins. We hope you will like it.

The Garden Magazine has a new series of covers, drawn by a young Belgian artist, which will, we think, prove popular. This magazine is now a war food periodical, but we hope is losing none of its garden charm.

The *Red Cross Magazine* is improving. We now print 250,000 copies, and with the great achievements of the Society have many plans for extension. A $2.00 membership includes a year's subscription to the *Red Cross Magazine.* The profits go to the Red Cross Society.

Did you know that we make a Spanish edition of the *World's Work*, different from the American edition, and planned to suit the South American public? There is an English edition of the *World's Work,* too, made in London for its English readers.

Country Life Press is now issuing from its presses ten separate magazine publications each month—and they are worthy periodical citizens, all of them.

THE FRENCH BINDERS, GARDEN CITY, N. Y.

Our French friends are now comfortably settled in Garden City, binding books. This is their announcement:

We have the honor to announce to patrons who are interested in book bindings of the highest class that in coöperation with Doubleday, Page & Company we have begun work under agreeable conditions in the Country Life Press, Garden City, L. I., N. Y.

It is our firm purpose to adhere to our highest ideals. For this reason the number of books we can bind is very limited, and we respectfully request your coöperation in informing us as far in advance as possible of any binding you may wish to entrust to us. We charge from $5.00 to $150.00 or more per volume, in strict accordance with the amount of work involved.

We may recall the fact that under the imprint of "The Club Bindery," "The Rowfant Bindery," and lately "The Booklover's Shop" of Cleveland, Ohio, our work was well known and is now in no way inferior, but rather the reverse.

Leon Maillard
Henri Hardy
Gaston Pilon

"GOOD MORNING, ROSAMOND!"

is the title of a very delightful novel by Miss Constance Skinner, which Mr. Fogarty has really embellished with his out-of-door drawings.

Mrs. Gene Stratton-Porter, whose nature books and nature novels sell as regularly as the seasons come, has this to say of "Good Morning, Rosamond!":

"I just have a copy of Miss Skinner's exceedingly clever and laughable playlet, 'Good Morning, Rosamond!' It is perfection in style and entertainment, and a delight to the eye. . . . I can see no reason why it should not become a 'best seller,' unless being a first book and the War kill it. It really and truly is extremely good of its kind, which is light, but clean and wholesome."

ANDRÉ CHEVRILLON

M. Chevrillon's "England and the War" is one of the interesting class of books such as Taine's "History of English Literature" and Bryce's "American Commonwealth," where an authoritative and inspiring study of a foreign civilization is written by a member of some other nation. It is the more interesting to learn that M. Chevrillon is a nephew of the famous Taine. His book is a study of English national psychology during the terrific strain of war, written, as Rudyard Kipling says in his preface, "with the profound sympathy of one long acquainted with our lives, our history, and our thoughts. M. Chevrillon's analysis is nearer the root of the matter than anything that has yet been written by any Englishman."

André Chevrillon was born in 1864. Two years of his early childhood were spent in England, chiefly in the country, and when he returned to Paris as a schoolboy he retained an instinctive feeling for English scenery and English life. He studied English literature at the Sorbonne, and has made many visits to England. The study of English history and institutions has been his life hobby. M. Chevrillon has been a great traveller—in India, Egypt, Syria, Morocco, and the United States, where he represented the French Department of Education at the World's Fair in Chicago in 1892.

"THE PREACHER OF CEDAR MOUNTAIN"

Mr. Ernest Thompson Seton's first novel is a real success. We could print a dozen enthusiastic newspaper notices. The mere fact that Mr. Seton has written a novel, a tale of the open country, we think is sufficient to lead all his readers to want to have it.

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you will want to see the Evergreen Garden at the Country Life Press. It is an evergreen education. At the present writing one hundred and eighteen different species and varieties are planted and growing, and each one is labelled. Others will be added from time to time.

The New
Country Life

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Photograph by H. G. Mann

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HENRY H. SAYLOR, EDITOR

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THE LEADER IN THE RACE—A 20-FOOTER, CLOSE-HAULED, SAILING THROUGH THE PATH OF THE SETTING SUN

The New
Country Life

Volume XXXII — July, 1917 — Number 3

The canoe renders accessible waters that would otherwise be closed to the lover of nature and to the sportsman

The WATERMAN'S MANUAL

By LAWRENCE PERRY

Photographs by F. A. Walter, Edwin Levick, and others

NO SPORT is more beautiful or more inspiring in its sturdy wholesomeness than yachting. Its appeal is to the best human qualities both physical and mental; it makes for a clean, alert mind, singing red blood, and eyes that snap with the outdoor sparkle. Recent years in this country have seen extraordinary expansion in every branch of yachting and boating. The invention and perfection of the gasolene engine have opened our creeks, rivers, lakes, bays, and seas to hundreds of thousands of men and women, boys and girls, while the wind-driven craft count each year their increased legion of devotees.

There is a whole-hearted love for the water in every true American, an inheritance from the days when the country consisted of a strip of states along the Atlantic seaboard, and when the lore of the ocean and actual experience of it formed an important part of life. The breath of waters, salt or fresh, the rattle of driving spray against taut canvas or glass windshield, the swift cleaving of the summer sea, the matching of wit and skill against things elemental—all these play their part in the game of yachting, and constitute the lure of the sport.

There is no doubt that one of the first impulses of primeval man was to float in some manner upon any body of water which happened to be in his vicinity. The ancient dug-out has come down to us as proof that eventually he succeeded in gratifying his ambition, while the art of propulsion by sail was known in epochs when men wrote on bark or stone. It is therefore but natural that to-day the sport of yachting ranks high in our list of registered outdoor diversions, and that the trophy which stands for nautical speed supremacy, the *America's* Cup, is the most famous, as it is the most desired, prize in the calendar of international sport.

And the great beauty and attractiveness of yachting is that it is within the reach of all, the rich and poor alike, the young and the old. Your millionaire will sail in his 60-foot racing sloop, his 90-foot cruising schooner or auxiliary, or his palatial steam yacht; your poor boy will sail in his skiff with its leg o' mutton sail. And each in his way will have an equal amount of fun. Between the two, the devotees of the sport run the human gamut. Yachting principles, whether it be a motor boat or a sailing craft, are simple and undeviating. Any one may learn them. And, as said, hundreds of thousands of Americans have done so. They form a great guild, joined in a common pursuit—the racing and cruising men of the Atlantic Coast and contiguous waters; the hunter-yachtsmen of Great South Bay, Chesapeake Bay, and more southerly waters; the windjammers and motorboat men of the Great Lakes, of the smaller lakes of the Northwest and inland rivers; and finally, those who fare forth in sailing craft or power boats on the Pacific Coast.

It is hardly for such as these that this article is written—although it may be hoped that they would find it interesting, if not instructive—but rather for all who are contemplating, or who might be induced to contemplate, entering the ranks of those who from May to late September find their chief delight in facing the open waters at the wheel of a gasolene boat, the tiller of a sailing craft, or in the fragile canoe, paddling through rippling streams.

The small boat is the medium through which the sport of yachting is thrown open practically to every one who loves the water. Beginning with the light skiff or other type of rowboat, fitted with

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A thrilling moment in canoe sailing—jumping inboard on a sudden jibe

Inland racing sloop. It was on the lakes of the Northwest that yachtsmen applied the last word to racing freaks. These craft are in reality nothing more than thin slabs of boats

home-made mast and spars, and perhaps even sails, we range from the class of 13-foot dory, which with centreboard, rudder and tiller, leg o' mutton sail, jib, masts, and spars, can be purchased for about $75, on through catboats and sloops of various types, and sailing canoes. There are varieties of all these craft, handy and strong, that are inexpensive to buy, and cost to maintain almost nothing except personal labor—than which your true windjammer enjoys nothing more. Adapted for single-handed sailing, they offer at the same time opportunity for those skippers who are never so happy as when ordering a crew about.

The dory, to which reference has been made, is the product of Yankee fishermen. For many years before its adoption by pleasure seekers, it weathered the perils of the Grand Banks and other tempestuous fishing grounds. Formerly associated only with the fishing industry, dories are now to be found among the fleets of almost every yacht club along the Atlantic Coast. There are, in fact, dory associations; for these tight little boats are not only qualified for cruising but for racing as well. One reason for the boat's popularity, of course, is its cheapness, but the wideness of its appeal is also accounted for in the fact that it is safe; combine this element with handiness and a modicum of comfort, and you have about all that the average nautical enthusiast can ask for.

Withal, the dory is strongly built and has sailed through storms where better favored craft have failed. Care should be taken not to confuse the small boat of this type with craft whose model originated with the dory, which in fact are called "dories" but are incorrectly so termed, since they have round bilges, overhangs, and sometimes weighted centreboards. A new name should be invented for these. In the meantime they are not so good as dories, are not so cheap or reliable, nor yet so complete in an all-around sense as catboats or sloops.

Long experience taught the fishermen the best type and sheer for a dory, and the form should not be altered. They rarely capsize unless handled with great carelessness, and daring sailors have crossed the Atlantic Ocean in them. They are built mainly along the New England coast. Without spars and other appurtenances, they cost no more than $14 to turn out, and they sell for from $20 to $26. The approximate price of a complete 13-foot dory, as above stated is about $75; the 15-footer—15 feet over all—should not cost more than $100 complete.

The dory's mast is stepped with wire rigging which helps the boat in a good wind. The jib is set on a head stay which is very easily handled. The owner who has a knack for handicraft can have a lot of fun with his dory, building water-tight bulkheads fore and aft, installing lockers, improving rigging—doing, in fact, those multifarious things which make a boat safer, swifter, more comfortable, and consequently more enjoyable.

There is no better boat with which to learn sailing than a small dory, or say a 12-foot skiff with metal centreboard. In a craft of this sort the beginner may acquire all the rudiments of seaman-

Small craft of about 15 feet waterline length, which are ideal for boys who have passed their novitiate in simpler boats. Men, also, who are fond of small boat sailing will find these sloops in every way suitable

Here is a sloop, probably home made, or at least built outside at extremely low cost, which is a means *par excellance* for teaching the youthful nautical idea how to shoot

[illegible] lake racing. These craft are of the catboat type, probably the most popular [illegible] Racing cats are wonderfully handy and they are not expensive

The Star class of sloops is extremely popular on Long Island Sound, where clouds of them race every summer. It will be noted that while of scow or "sidewalk" construction, they have pointed bows—this for rough weather

Sloops of the Bee and Butterfly classes, which are ideally adapted to single-handed sailing, and have added thousands to the yachting roster

Racing dories. Fitted with sails, these boats are safe and very fast

ship and navigation, and gain, as well, a knowledge of how to take care of himself in various emergencies. In no case should he go out alone. In yachting, as in other sports, there is a right way and a wrong way, and correct principles in sailing are not likely to be learned through experiment; or if they are, the price to be paid in the way of capsizing, narrow escapes from drowning, loss of sail, spars, and the like, is altogether too heavy. An experienced sailor as a companion is always the best policy, and within a short time the novice will be in no need of his services.

Eventually the time will come when the yachtsman, no longer a beginner, has the desire to extend his scope of operations; he has an absorbing ambition to leave land-locked waters and to try his skill outside of headlands. Obviously his present craft is no boat for this purpose. It was never intended to be. What is now wanted is a boat which is decked, with a hull adapted to making its way easily through seas, and with a somewhat more complicated sail-plan than that to which he has been accustomed. For this purpose a round-bodied keel or centreboard sloop of say 15 feet waterline, 6 feet beam, and 3 ft. 4 in., depth, carrying a mainsail of 160 square feet and a jib of 34 square feet, would serve splendidly the purposes of single-handed sailing in fair weather, in almost any sort of water. And well handled, she would take her share of wind and wave. She could be employed in both cruising and racing. Thus advancing, the yachtsman—depending upon his means—will enter into still larger classes until the day comes which sees him sailing his own 30-foot sloop or 60-foot schooner.

Most likely, however, the catboat would precede the out-and-out sloop in the affections of the yachtsman. As a matter of fact, there are grizzled windjammers who have never outgrown the cat, simply because they prefer this type of yacht to any other; they find in it distinctive qualities which it possesses exclusively; they like its cat-like quickness in all nautical manœuvers, and find its all-around handiness splendidly adapted to all their needs.

Of the catboat it is not too much to say that it yields to no craft in wide variety of usefulness. Its habitat is on water shallow or deep; it finds its home amid conditions placid or tumultuous. It flashes in and out along the banks of tortuous rivers, or breasts the blue rollers of the Atlantic. Fashions in boats may change, do change, but the catboat continues a thing of beauty and a source of joy with her one mast and single expanse of sail. In these days of "sidewalks" and other racing freaks, the catboat holds serenely to her own; she has never degenerated into a mere speed machine, a statement which is made despite the fact that certain scow classes in the Middle West have adopted the cat rig—which, by the way, does not make them catboats, and they have no right to such designation.

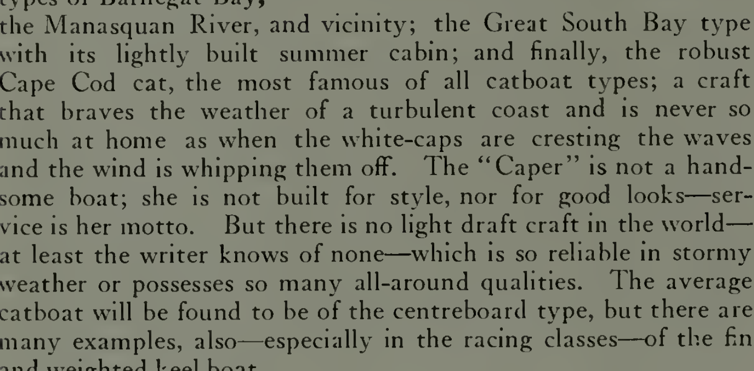
The racing cabin cat, the most familiar type along the Atlantic Coast, combines with ability to race, certain modest accommodations and a weatherliness which permit her to be used for pleasure cruises. The writer remembers, with many reminiscent twinges

in his back, the old sandbag days — probably every man, who began his racing or cruising in a catboat will find his memories equally poignant. But no longer does the cat rely upon bags of sand or shot for ballast; she carries outside ballast which makes the sailing of her a joy and not a back-breaking grind.

No craft surpasses the catboat in her handiness, and with her deeply stepped, stanchly stayed mast she will carry a press of sail in a stout, whole-sail breeze, and make light of tumbling head seas. There are, of course, all sorts of catboats. There are the light, open types of Barnegat Bay,

A 30-foot schooner of the Stamford type—one of the handiest craft known

Later design of inland lake scow—pointed bows have been added



the Manasquan River, and vicinity; the Great South Bay type with its lightly built summer cabin; and finally, the robust Cape Cod cat, the most famous of all catboat types; a craft that braves the weather of a turbulent coast and is never so much at home as when the white-caps are cresting the waves and the wind is whipping them off. The "Caper" is not a handsome boat; she is not built for style, nor for good looks—service is her motto. But there is no light draft craft in the world—at least the writer knows of none—which is so reliable in stormy weather or possesses so many all-around qualities. The average catboat will be found to be of the centreboard type, but there are many examples, also—especially in the racing classes—of the fin and weighted keel boat.

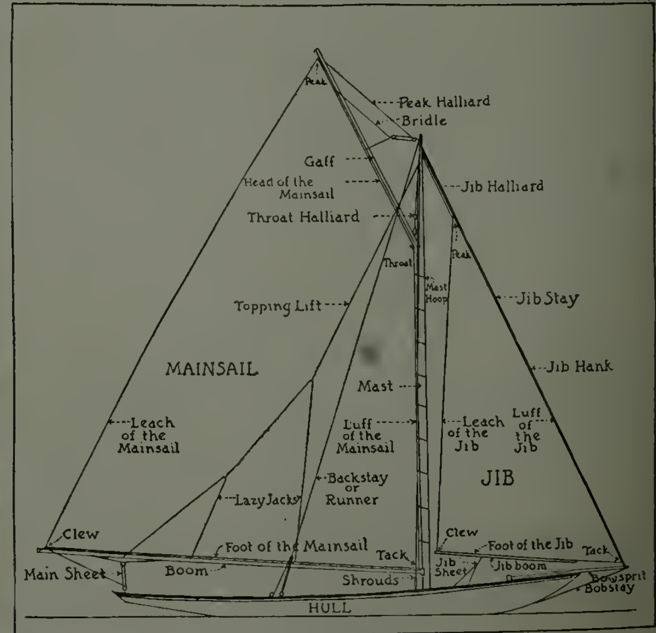
While a sloop might be designated roughly as a small fore-and-aft rigged vessel with one mast—generally carrying a jib, a forestaysail, mainsail, and gaff topsail—the type has many variations, especially in lengths under 25 feet. You will find sloops with and without bowsprits, with single or split head sail rig, with or without gaff topsails, keel, or centreboard; in fact the variations are multifold. Nautical-terminology has included some of these deviations from the original type within its scope, and thus we have, for example, raceabouts, knockabouts, and various sloops designated by class, such as the "Star" class, the "Bug" class, the "Lobster," and other classes which are distinguished by peculiarity of rig and hull design and construction.

Lots of them—but by no means all—are fairly orthodox as to rig, while the conformation of their hulls is of the rounded bilge type. In races of every important yacht club from Maine to Florida and along the Pacific Coast will be found clouds of these craft ranging in size from 15 to 50 feet waterline. But, after all, the sport of small-boat racing had its great impetus as a result of the production of a square nosed scow which defeated all opponents in the regatta of the Inland Lake Yachting Association, at Lake Winnebago in 1898.

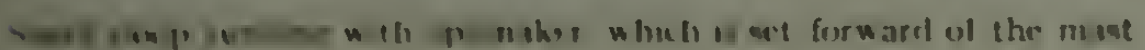
This boat, the *Argo* created a veritable sensation among inland lake sailors, and as the type immediately came to dominate the sport of yachting on the Western lakes, so its effects were eventually felt in the East, where myriads of sloop-rigged scows—or "sidewalks," as they have been termed—came into being. All the Bugs, Stars, Lobsters, and other classes which American yachtsmen now know, possess many of the scow characteristics, with the great exception, however, that designers have returned to the pointed bow which, it has been found, takes more kindly to turbulent seas.

In a general way however, these craft still merit the designation "sidewalk," being in fact mere slabs of boats—very much on the

In which the catboat shows her scope—a craft of the Cape Cod type



Sketch showing the sail plan of an average small sloop of 30 feet waterline and under. The spars are also indicated



[illegible] with spinnaker which is set forward of the mast

In the Handicap class, sloops of different sizes are matched on a rating basis

order of sneak-boxes with which hunters are familiar—their centre-boards, extending from four to six feet into the water. Somewhat smaller boats of this sort bear simpler rigs and are ideal for single-handed racing. The great point of attractiveness about them is their cheapness, their cost complete ranging from $200 up.

Considering craft of from 25 feet upward, one begins to enter into the realm of expensive yachting. A racing boat of more than 20 feet waterline length will require two paid hands or two amateur assistants, and the number of the crew, of course, increases with the size. Two jibs and a mainsail for a craft of 25 feet waterline length will cost not less than $130. Only a man of some means can maintain a crack 30-foot sloop, while the 40-, 50-, and 60-foot racing sloops are for the wealthy alone. The class of 40-foot sloops built for members of the New York Yacht Club two years ago cost $10,000 each, a price which, of course, does not include wages of crew, upkeep, sails, and the like. A suit of heavy working sails for a 40-footer will cost about $500, and this does not include spinnaker, balloon jib, and other racing or light canvas. These sloops, as those of the 30-, 50-, and 60-foot classes, are intended primarily for racing, and their deep keels and limited cabin accommodations, not to say their trim racing build, do not qualify them for comfortable cruising.

The most expensive craft that the world has known have been the great 90-foot sloops of the *America's* Cup class, sloops which cost from $100,000 to $200,000 to build, and an additional $200,000 to carry each through her season of preparation for the Atlantic blue-ribbon race. So enormous is the cost and maintenance, that when Sir Thomas Lipton challenged for the cup in 1914, both the defending club—the New York Yacht Club—and the challenger—the Royal Ulster Yacht Club—agreed to limit the size to 70 feet waterline length. But even so, the three sloops built to compete for the honor of meeting *Shamrock IV*—*Resolute*, *Vanitie*, and *Defiance*—cost not less than $100,000 each to build, while Sir Thomas estimated that his fourth attempt to regain the *America's* Cup would cost him at least $1,000,000. The British baronet spent in all $3,250,000 in his three unsuccessful essays to capture the greatest yachting trophy in the world. All of which will give some idea as to the source of the belief common among landlubbers that yachting is a sport for the millionaire alone.

But it is not. The average yachtsman has no thought of entering the cup defender, or even the big boat, classes. He has his own tight little craft and enjoys her to his heart's content. As a matter of fact there is a great deal more work and danger, than play, in big boat racing.

The schooner, which in the case of a yacht will have from two to three masts—usually two—is generally of large size, say more than sixty feet waterline. But some of the most able and pleasurable schooners afloat represent a happy medium of forty. Possessed of speed and ability to stand hard weather, and with comfortable quarters, they are splendid racers and fair cruisers; all in all, they are quite the most engaging craft that modern yachting has produced. The typical American racing or cruising schooner ranges in size from seventy to a hundred odd feet. They are the leviathans of the pleasure-sailing world, costly to build, expensive to maintain.

The desire to own a boat is, of course, instinctive with the boy

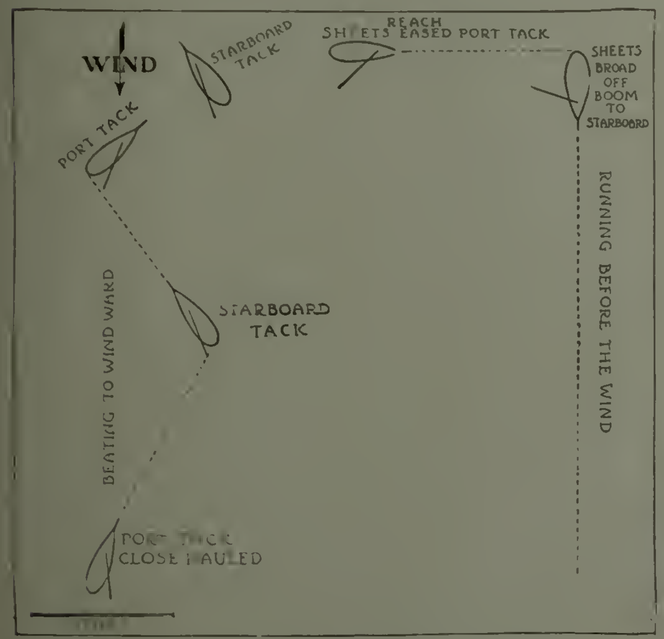


Chart showing the three cardinal points of sailing—the wind, reaching, and running—which the beginner must learn to negotiate

A popular type of cruiser is the auxiliary yawl which can defy the doldrums and go to port under power

Close hauled. A large racing sloop with lee scuppers awash. She is sailing to windward

One of the old type of large racing yawl which is now extremely rare

who has been reared in the vicinity of waters where wind-driven craft abound. To others the ambition comes as a result of summers spent at coast or lake resorts, or of experiences year after year upon the yachts of friends. However the desire may have come, great care should be taken by the prospective boat owner to be certain as to the uses to which he intends to put the craft. A sailing yacht is not like an automobile. Do you want a racing craft, or a cruising craft? It should be one or the other, if only for the reason that the boat which combines racing and cruising qualities is—unless specially constructed at a goodly cost—usually not very good at either. She will be too slow and heavy to beat her sister racers and at the same time will be too much of a racer to afford that comfort and stanch give-and-take ability which the out-and-out cruiser possesses. Also, consideration should be given to the sort of waters in which the boat will be used.

If it be decided by the prospective owner to build a boat, he should buy a good design from some designer or yachtsman who knows the game, and then have it built by a reputable builder. A jerry-built boat may cost a little less money at the outset, but in the end it will prove to be an extremely poor investment. Or if it be a case of purchasing a second-hand craft, by no means clinch any sale until a man who knows a great deal about boats has looked her over. If you have no friend thus equipped with knowledge, it would pay to hire some yachting skipper, or other man who is

Schooner yacht of the Pacific Coast where yachtsmen go in for deep sea cruising races

Copyright by F. A. Walter

Flag officers' yacht, *Resolute*—a 70-footer, built to defend the *America's* Cup

Robert E. Tod's Class A schooner yacht *Katoura*, one of the largest and best equipped racing schooners in the world

A 90-foot racer breaking out a big reaching jib. This is one of the most popular of the racing schooner types

Copyright by Edwin Levick

When sport attains the dramatic. The cruising schooner yacht *Miladi* reefed down in a howling gale in Block Island Sound. She was finally obliged to put into Stonington, being on fire from an overturned galley stove

competent, to ascertain how the boat to be sold has withstood the wear and tear of her years. Some grotesque boats, not worth their weight in junk, have been foisted upon tyros who did not take the pains to have their purchase inspected by discerning eyes. Because a boat has won cups in past years is no proof that she still retains that ability, and a commodious cook stove in a cosy looking cabin is no warrant that the hull which contains them may not leak like a sieve in a seaway.

If a racing craft is to be purchased second-hand, the prospective buyer should first make certain that she will fit into some of the classes wherein he proposes to sail her; if not, she will be of very little use to him, since the matter of time allowance will obtrude disagreeably, even assuming that she were permitted to enter some recognized class. The chances, however, are that she would not receive such permission, and thus her owner would be forced to sail her in a mixed class, if one happened to exist, or in a handicap division, in which an assortment of craft are raced subject to rating.

The skiff in which a motor of small horsepower may be placed—the beginner's boat

In the case of a cruising boat, it should be learned first of all whether or not her draught will permit her to sail freely on the waters where she is to be used, irrespective of tide. If she will float here only at high tide she will, of course, be useless. If she is in bad repair, is leaky, or reveals dry rot, she would better be left for some less scrutinizing purchaser. Have her hull tapped by a man who knows about boats; cuttings should be made in the underbody to see if the planks are sound. Investigation should be conducted throughout the boat from her keel to her mast. It is far better that the boat in question be high and dry, or hauled out, as sailors say, in order that the inspection may be thorough and complete.

One of the most popular types of motor boat—the runabout—which is adapted to a variety of uses

Buying a boat that is afloat is pretty much like buying a pig in a poke. However, a competent yachtsman can tell pretty much about the outside of a hull by inspecting the inside. If there is any bilge water, take it up and smell it. If it smells brackish and old, it's a good sign that there is no fresh water leaking in. There are many such points which the nautical wiseacre has at his finger-ends, and no one should think of purchasing a craft without the advice and assistance of such an expert.

The three primary essentials in buying a boat, according to Thomas Fleming Day, the great American authority, is first, to be certain that the bottom is sound; next that the decks are tight; and third, that the spars are in good condition. Further information is to be obtained only through sailing the boat.

In the early days of his novitiate, the beginner will learn that there are three cardinal points of sailing. First there is sailing into the wind, "beating" as it is called; second, sailing with the wind coming over the side, known as "reaching"; and third, sailing with the wind coming from the stern, or "running." Of all points of sailing, that of going into the wind is the most difficult to master. Of course no boat driven by wind can sail straight into the wind's eye. When we speak of sailing into the wind we mean sailing *toward* the wind. The boat makes its windward objective by a series of tacks at one angle and another until such time as the wind may be taken over the beam or from astern. The mechanical explanation of a boat going toward the wind relates to wind pressure and lateral resistance. The wind strikes the sail from one side of the bow or the other. The tendency of the boat, of course, is to go sideways, broadside to. But down beneath the hull is the keel or centreboard which prevents this sort of progress. With pressure exerted on the sail and resistance applied beneath the water, the boat moves toward the point of least resistance which, naturally, is straight ahead.

An example of sailing to windward may prove of value to the boy who this summer will have his first experience as a skipper. Assume, then, that your boat has moved away from moorings

New type of yacht tender, which is extremely fast, and stanch enough for ordinary purposes. President Wilson is seen landing

Day cruiser—a power boat suited for fair weather cruising on any body of water

and that the first point you wish to reach lies dead into the wind. Say the wind is coming over the port (left hand) bow of the boat. This means that we are on the port tack. We haul in the mainsail and keep the stem of the boat at about forty-five degrees or half a right angle from the wind. You are not sailing directly toward the objective, because that cannot be done; but you are making progress toward it at an angle. Be sure to keep the sail full of wind. When you see it quivering, then you know that you are pointing too close to the wind. When you have so sailed that your windward mark lies a bit past your beam, you push the tiller away from you and the boat heads up into the wind, the sails rattling and quivering as the bow slowly swings across until the wind comes over the starboard side. This is tacking, or coming about. Sailing on this angle, assume that the objective mark is brought close aboard; on the next tack thus you are able to round it and are in a position to proceed to the next point on a reach—that is with the wind coming fair over the side. There is little to do on this leg of sailing except to watch for changes in the wind, squalls and the like; presently we reach the third objective and let the boat square away so that the wind comes from the stern. More boats are capsized on this point of sailing than any other, it would appear, for the reason that poor steering will cause the boat to alter her position with relation to the wind; the big mainsail will suddenly fly over to the other side—"jibe," as it is called—and unless clever seamanship is employed the craft will be lying on her side.

But a jibe is only dangerous when it is unexpected. In rounding marks or changing the course of sailing, a boat is always jibed when it is desired to change the wind from one quarter (the stern section of a boat) to the other. When a boat changes the wind from one side of the bow to the other she tacks. When beating or reaching, a boat will of course heel or list sharply in accordance as the wind is strong. When this inclined position is too sharp to suit the nerves, or the cautious instincts, of the skipper, he can always bring the boat nearer to an even keel by easing off his mainsheet (the line that controls the mainsail) or he can relieve all pressure and cease headway by steering the boat into the wind and gradually hauling in the mainsail until the boom rests amidships. This process is called "luffing." In a sudden squall it is always essential to luff if the boat seems to be getting into trouble or it is desired to shorten sail. These are the elementary principles of sailing, and once grasped and properly applied, the young navigator finds himself in a position to branch out, acquiring one by one the finer points of this most delicate and beautiful art.

A modern automobile type of runabout. Many motor boats of the sort are operated by women

The canoe is for the man who combines with his love for the water a love for the woods and hills, a camp fire, a gun, the free air of the open spaces. Where the catboat and the launch leave off, the canoe begins. It will travel through a brook three feet wide and six or seven inches deep. While used chiefly on hunting or cruising trips, the canoe makes an interesting racing craft when fitted with sails. A sailing canoe is rigged as a ketch with masts in the bow and stern. The sail is of leg o' mutton shape with, however, a spar at the luff which is attached to the mast and extends above it. The steersman sits on a plank running outboard amidships. Canoe sailing is a delicate art and may be indulged in only in placid water. For general working purposes the canoe is a craft for the paddle, not for a sail.

At sizes ranging from 15 to 18 feet, the canvas-covered Indian model canoe is designed to carry an immense amount of luggage on a very light draught. It is especially adapted for entering places where even a rowboat cannot be moved, a fact which will appeal to the fisherman, the hunter, the photographer, or to the man who loves to seek the beauties of nature in hidden places.

As he carries his outfit with him, the canoeist can camp and live where he pleases. In an 18-foot boat he can pack a small

Here is a swift day cruiser which is employed by the man who does not care how much gasolene he uses

A combination houseboat and motor boat, which is a veritable floating home

pyramid tent made of waterproof material, with a mosquito net window in the rear for ventilation; an air pillow; two light-weight woollen blankets; a table with folding legs; a collapsible chair; a tin bucket containing food, plates, knives, and cooking utensils, and a large water receptacle of canvas—in all enough material to make any man comfortable.

In almost every section of the country there are waterways suitable for canoe cruising, combined with all sorts of scenery and many sorts of water conditions. A very charming canoe route lies from Hancock, N. Y., on the Delaware River, to Phillipsburg, N. J., and thence through superb country down the Morris Canal to tidewater in Newark. Lake Hopatcong, Green Pond, and Greenwood Lake, in New Jersey, offer splendid opportunities for canoeists, while the Passaic River from Paterson northward is a veritable home for canoeing, as is also the Schuylkill and other placid Pennsylvania streams; while New York, Massachusetts, and more northerly New England states contain unexampled facilities for sport of this sort. These are the famous places, but as a matter of fact he who lives near a creek or a brook of any respectable size may derive a world of healthful enjoyment from his fragile craft.

It is now about twenty years since the gasolene engine was first installed as an auxiliary to sails. In those times the tendency was to make the sail power subsidiary to the engine, and this too, in the days when the boat thus equipped was really nothing more than a motor boat fitted with a small spread of canvas. Even when the true auxiliary began to come into being, many designers had not yet learned that the correct principle was to adapt the boat particularly to sails, leaving the engines to be used in calm weather or other emergencies. All yachtsmen realize that hours of calm are likely to occur on any day; an engine fitted to a sailing craft makes the sailor independent of winds, and enables him in the one case to reach a point that he would not otherwise attain, or in the course of a sail to reach home in good time, while the boat which has nothing but sails lies log-like in the doldrums.

With the perfection of the gasolene engine which recent years have seen, motor power has been applied to every sort of craft from the diminutive catboat and the small yawl—which is the handiest type of auxiliary—to the huge 90-foot schooner; in the larger sizes, indeed, the auxiliary, with its nice adjustment of gasolene and sail power and its characteristic arrangement of details, has come to be a craft peculiar to itself.

Many runabouts are capable of great speed. The *Leopard*, which looks like a hydroplane in action

The amateur sailor should be careful that his gasolene tanks are isolated by bulkheads, with plenty of ventilation and with trap pans so arranged that leaking gasolene will go overboard. As the tank is in the bow, the gasolene can be piped along outside the boat, entering the hull again at the engine. This will prevent leakage into the boat. There have been many tragic experiences as a result of the ignition of fumes arising from leaking gasolene, usually as a result of the striking of a match. An airy engine room is also a necessity. In fact the housing of an engine, especially in a small boat, should be carefully contrived.

Of course, much depends upon the construction of the craft, but generally speaking, the engine should be aft of the living quarters under the cockpit deck. Or, if it is impossible to place it there, it should be well forward. In the open sailboat designed to be sailed single-handed, the engine should of course be placed within reach of the steersman.

The extraordinary development of the sport of motor boating has added hundreds of thousands of names to the world's yachting roster. Those who found no poetry and little pleasure in sailing, yet who possessed a love for the water, were quick to take advantage of the opportunity offered by the motor-driven craft, which to-day outnumber the windjammers a hundred to one, and are steadily increasing in popularity. The per-

A stanch, full-bodied, mobile houseboat upon which the owner and his family can comfortably spend the summer

fection of the gasolene engine, the present simplicity of operation, and its low cost have made it practical for any use, from the open skiff to the ocean-going cruiser of a hundred feet or more in length.

Many will remember the steam launch of the '80's and early '90's, with its heavy engine and boiler which were so high that in the cabin a superstructure above the deck was necessary to cover them. This, not to mention a long list of drawbacks, resulted in top-heaviness and lack of safety in a seaway. Again, the space occupied by the motive power, and the heat, dust, ashes, and coal, add to the indictment against the old type of steam launch. To-day the modern gasolene boat tells a different story. The engine is low in build and so compact that it may in many cases be placed under the cockpit floor in a space which otherwise would be of no use except for storage.

Cruising motor boat designed for large bays and other inland waters

Bridge deck off-shore motor boat, which has been designed and built to cruise or race over coastwise routes

The motor can be kept as clean as the works of a watch, and it gives out but little heat.

One hesitates, of course, to say what might not have been done with the steam engine or the naphtha or alcohol vapor motor, had it not been for the sudden and brilliant development of the gasolene engine, by Gottlieb Daimler in Germany in 1887. It is probable, however, that in that event the large and peremptory demand for small power launches would have been met by great progress in the old methods of propulsion. This, however, is merely a matter of speculation, since the fact exists that one year after it was introduced in this country, in 1889, a variety of marine motors, usually of the two-cylinder type, were being produced by American builders.

It was not long before American yachtsmen desiring a small motor boat, say from six to eight horsepower, could choose from a large assortment of makes, all of them possessing the same virtues in the way of space saving and the same failings, particularly as regards their crude ignition system. They were also extremely heavy, a one-horse power motor of that day weighing at least 150 pounds. In those days it was not considered necessary to have any special device for vaporizing the gasolene; a pipe led directly to the engine from the upper part of the fuel tank, and natural evaporation of the volatile fluid was relied upon for furnishing the necessary vapor. Automatic carbureters for marine motors received little or no attention. The ignition apparatus was in about the same state of crudity. To trace the development of the gas engine to its present perfected form would require a great deal of space and the employment of highly technical terms; suffice it to say that to-day the motor boat engine is as simple and perfect in all its details as is the automobile motor. Strength is combined with extremely light weight and utter reliability. Stock models of motors of any horsepower ranging from one to three hundred are on sale throughout the country at reasonable cost, and extra parts are everywhere available. First used only in open craft, it was quickly seen that space saved by compact motors resulted in an increase of available room which could be seized upon as a means of improving the boat itself. As a result, we note in 1895 the appearance of a launch of the 30-foot type, fitted with a low trunk cabin of wood placed over the forward half of the vessel, leaving a large, open cockpit in the after half. Thus appeared the first "hunting cabin," the type of craft with which we are so familiar to-day.

Among the many varieties of boats now manufactured are included the light-weight racing craft, designed especially for high speed; medium-weight pleasure boats intended for pleasure or light work; and cruisers and commercial craft. These are the main general types, each of which has its offshoots, so that a large variety of boats made to fit any requirement or use, or any size of purse, are at the disposal of yachtsmen. The man

Large gasolene cruiser which is qualified to hold the sea under all ordinary conditions. She has an 84-foot waterline

with sporting proclivities can have his special 40- or 50-foot racer with its high horsepower engine, while he who does not care for sport can have the slow, stanch, roomy cruiser with engine of ten horsepower. There is the 18-foot dory and its four horsepower engine capable of eight miles an hour, which will cost about $300; there is the runabout, with mahogany finish and glittering metal work, commodious cockpit, wicker chairs, and bright cushions, ranging in price from $275 to $5,000.

Used on lakes, rivers, and other sheltered waters, the runabout type is one of the most popular in the world. So we go through the "afternoon" and "day" and "glass cabin" and "raised deck" cruisers, to the stanch sea boat

A speed boat marvel—*Kitty Hawk*, a hydroplane, skipping over the water

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A fine type of motor-driven ocean cruiser which rivals the steam yacht in range and capacity

which is very popular for all-around cruising and which will cost as little as $700 in 25-foot lengths. So, too, we have the extension trunk-cabin-cruisers, which are a combination of the raised deck and trunk cabin boat; and finally, there is the bridge deck cruiser which stands at the head of the list in comfort, seaworthiness, roominess — and cost.

The racing of motor boats over distances either short or long has never attained the popularity in this country which was expected when the gasolene boat attained wide recognition. There have been many reasons assigned for this failure, but no doubt the real explanation lies in the fact that the average motor yachtsman is not essentially a sporting man. He loves the sea and wishes to enjoy it in a leisurely way, in a safe and comfortable boat, or else he employs it merely as auxiliary to his pursuits as a hunter, fisherman, or voyageur.

None the less there are many who *do* go in for racing, and the sport of driving light cedar hulls—hydroplanes and the like—has at least resulted in the high development of the powerful gasolene motor, just as ocean racing has produced the coastwise cruiser type.

Stanch cruising craft ranging in size from 40 to 100 feet now negotiate the deep sea with impunity, while the fact that they have a much lighter draught than would be possible with steam, gives them a wide range of action. They make nothing of going from New York to Florida by the ocean route and then navigating the shallow inland streams without danger of grounding.

With the motor well toward the bow it is possible to have the main saloon and living quarters amidships, with the owner's large stateroom aft under the extension of the cabin top. The staterooms of the larger boats are located forward of the main cabin, either the motor or galley just forward of these, and the crew's quarters in the bow.

The most popular ocean cruising boats vary between 35 and 90 feet in length, their speed ranging from nine to fifteen knots. But whether on the open sea, or adjoining waters, or inland, it is in cruising that the motor boat finds its greatest and most valuable expression.

Not only the ocean and great bays, but canals, rivers, and lakes in various parts of the country offer ideal opportunities for health, excitement, and general enjoyment which were not revealed to the yachting public till the gasolene boat came into being.

The first question that confronts the motor-boat novice relates to the engine. What kind of an engine shall he buy for his boat? What type? Obviously the beginner would do well to consult some one who has had a great deal of experience. However, a few general points for the guidance of those, who, not having bought a motor boat outright, are

One of the costly craft—a palatial steam yacht of brigantine rig whose owner still clings to sails as auxiliary power

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A new motor torpedo boat. She carries an 18 inch tube aft and a rapid-fire gun forward

of these and similar flaws greatly affects the interlocking work of the motor, and if neglected is bound to cause trouble more or less serious. Such things are not likely to develop in the new engine, but each year of an engine's age sees a proportionate increase in the liability to mechanical faults. The careful motor boatman will have his engine examined at the beginning of every season, either by himself, if he be capable, or if not, by some one who understands it. In this way trouble will be detected and remedied in its incipiency.

To the novice the gas engine no doubt seems to be a complicated thing, but it is really much less so than it seems, and the man who is willing to study his motor and

thinking of buying an engine to instal in a hull of some sort, will not come amiss.

In the first place, it is correct to assume that the price of a motor made by a reputable firm is a pretty accurate index of its qualifications. By comparing relative prices of engines of the same general type, a fairly accurate impression may be had as to the cost of materials, labor, and the like that have gone into its construction. In the case of a second-hand engine, very great care should be exercised lest one saddle himself with a mass of junk about ready for disintegration.

Yet on the other hand there are many reliable second-hand motors to be purchased. You will get one if you will seek the advice of some experienced yachtsman.

The prospective buyer should also take into consideration the sort of craft in which the engine is to be installed. For example, it would be manifestly absurd to put a bulky, slow-running engine in a light boat in which a certain amount of speed is required; while again the four-cycle engine would be misplaced in a boat assigned for heavy work.

Of course there never was an engine so perfect that it went on running forever without trouble, and many volumes have been written on the prevention of engine troubles. It would be well for the motor boatman to familiarize himself with all of the chief sources and causes of engine ailments since, unlike an automobilist, he cannot get out and sit down beside the boat until some good mechanical Samaritan appears. A badly working oiler, a leaking carbureter, a poorly adjusted spark plug, a bad valve—any one

Ocean going motor racer starting on Bermuda race. Note auxiliary sails and bridge protection

get acquainted with it can do so without a course of study in mechanical engineering. The best possible advice, however, for such a man to keep in mind, is to let the engine alone if it is running satisfactorily. Let it alone even if it is running *at all*, unless he has the knowledge of how to improve it.

More engine troubles are caused by the predilection of beginners to fuss with their motors, turning screws and nuts at random, and deranging the ignition system, than in any other way.

As a first step to knowing your engine, study the ignition system and then the carbureter; knowing these, you will be well equipped to meet almost anything that may happen to the motor. For within the ignition and carbureter lies, not the seat of all troubles, perhaps, but of a great majority of them.

The steam yacht, even of small size, is for the man of means alone. A small steam-propelled craft of say 100 feet, is very expensive to build and maintain, while the great leviathans such as J. P. Morgan's *Corsair* and other boats of that type—veritable floating palaces, capable of going anywhere that an ocean liner goes—cost a small fortune to operate throughout a season.

A year or two ago the owner of one of these great boats gave the writer figures showing that he had spent $72,267 for the salaries,

The last word in steam yachts. The *Nahma*, whose yearly maintenance cost is beyond the average man's dreams of avarice

food, and clothing of his crew, and for coal, oil, sundries, repairs, and docking. These figures did not include the yachtsman's personal expenses in the way of entertainment, food for his own table, and the like. Not a few steam yacht owners decline ever to check up their yachting expenses, saying they have much more fun if they don't know exactly how much it is costing them. The steam yacht fleet of the United States is a great one, but the boats are associated solely with men of vast means.

The familiarity with navigation instruments which the yachtsman should possess can come only through study under a navigator or in a school where the science is taught. The use of the sextant, log reading, and all other branches of navigation are too involved to be presented herein. But at least the barometer may be employed in a practical way, and every yachtsman would do well to include such an instrument among the appurtenances of his craft. In making a forecast, the amateur should consider not only the present state of his barometer, but natural conditions obtaining when the reading is made, such as the direction and velocity of the wind, the sort of clouds in the sky, the humidity in the air, etc. He should also compare the barometer reading with the barometric pressure for several preceding days. Simply to read a barometer and then base upon the showing a forecast of the weather is apt to be productive of disappointment and disgust. The instrument is not like a clock; its moods are to be read in relation to what has gone before. Assume that the barometer is stationary. It is essential to know how many days it has been stationary, or if it is falling, the reader should have knowledge as to whether that fall has been gradual or rapid. Of course if the fall is rapid or, indeed, if there is a rapid rise, then we should look out for able-bodied winds, if not gales, and we will do well to prepare for a change in the weather.

When the barometer rises steadily, but slowly, fair weather is indicated. When it falls surely if slowly we may count upon unsettled meteorological conditions. Rapid rising of the indicator hands of a barometer calls for clear weather with high winds, while a sudden fall suggests rain and high winds. A stationary barometer, of course, may be taken as meaning that conditions will remain as they are. No yachtsman should fail to take lessons in barometric reading from some experienced person. Apart from the personal satisfaction it brings, it is a valuable accomplishment.

In all that has been said in the foregoing concerning yachts for single-handed sailing or small boats which carry a crew of two or more, girls who happen to have read this article may take the statements set forth as much to themselves as do the boys who are ambitious to learn to handle a sheet and tiller. The guild of women skippers is a large and growing one. There are classes at Newport, on Gravesend Bay, and Long Island Sound which are devoted to women, and their races held annually produce as much good sport as any one could possibly ask for. Of course the development of the motor boat resulted in a large accession of fair skippers to the ranks of yachtsmen, but there are those who yield to none in their love of windjamming, and who are found in ever-increasing numbers among those who sail in cruising trim.

YACHTS IN THE WAR

At the beginning of the War, the Navy Department issued a call for four divisions of yachts. In the first division they called for large-sized yachts of goodly speed to be used for scout duty. In the second division, boats of from 100 to 150 feet, capable of extremely high speed and able to hold the sea in a moderate gale, were asked for. In the third division were named gasolene boats of from 60 to 100 feet length, speed not less than ten knots, able to hold the sea in a moderate gale. In the fourth division, boats of 40 to 50 feet length, seven knots an hour, to be used as harbor patrol craft, were asked for. Some of the boats that have responded to the call are shown elsewhere in this issue.

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The following books could be read with a vast amount of profit by yachtsmen: "Yachting Wrinkles," by Capt. A. J. Kenealy; "Elements of Navigation," by W. J. Henderson; "The Navigator's Pocket Book," by Capt. Norwood Patterson; "The *America's* Cup Races," by Herbert L. Stone; "How to Build a Launch from Plans," by Charles G. Davis; "Small Yacht Construction and Rigging," by Linton Hope; "On Yachts and Yacht Handling," by Thomas Fleming Day; "On Marine Motors and Motor Launches," by E. W. Roberts; "On Yacht Etiquette," by Capt. Patterson; "Southward by the Inside Route"; "Hints to Young Yacht Skippers," by T. F. Day; "The Complete Yachtsman," by B. Heckstall-Smith and Captain E. Du Boulay; "Practical Sailing and Motor Boating," by Edwin W. Kendrick; "Practical Motor Boat Handling," by C. F. Chapman.

Corsair, the palatial 304-foot steam yacht of Mr. J. P. Morgan. In the present national emergency she may follow the path of her predecessor which Mr. Morgan's father turned over to the Navy in 1898, and which is now the U. S. S. *Gloucester*

HORSES *for the* ARMY

By G. ARTHUR BELL,

Senior Animal Husbandman, U. S. Department of Agriculture

THE problem of obtaining a sufficient number of horses of the right type for the cavalry and artillery has always been a serious one, but it is becoming more and more serious as time goes on. One of the most recent evidences of the difficulty of securing an adequate supply of remounts was given last June when the
ational Guard was called out, and
 was found necessary to purchase
 large number of horses for the
ounted service of that organization.
n order to obtain a sufficient num-
er, the purchasing officers were
uthorized to accept for cavalry use
orses $14\frac{1}{2}$ hands high or more, al-
hough the minimum height has
eretofore been 15 hands. The total
trength of the National Guard in
he Federal Service at that time was
nly approximately 140,000. The far
reater difficulties involved in obtain-
g horses for an army of a million
an easily be imagained.

Of course it is possible to obtain
nough suitable horses for the army
rovided the whole country is
horoughly scoured. But the diffi-
ulty and expense of so obtaining
hem, scattered as they are over a
ery wide territory, would be tre-
endous. Only one or two, or at
ost a very few could be picked up
 any one locality, after which it
ould be necessary to go elsewhere
or a few more. This would mean that the officers would have to travel great distances in order to obtain a thousand head, and that many small, expensive shipments would have to be made before a train load, or even a few car loads, could be gotten together. The solution of the army remount problem depends on the producing, in a relatively small number of communities, of an adequate supply of animals of the right size, type, and quality.

Beechwold Chester, 6226, a 16-hand saddle stallion owned by the Department of Agriculture. He weighs 1,150 pounds

One plan that has been suggested many times is that the Government should breed its own horses. This does not, however, appear practicable, owing to the great expense that would be entailed. In order to produce sufficient horses for the needs of the army, even in times of peace, the Government would have to maintain several thousand brood mares. Most of these would be idle a good part of every year, and consequently the expense of their keep would have to be charged to the production cost of the foals. It would take three brood mares to produce annually two strong, live foals, and figuring their maintenance cost (including investment, labor, and feed) at \$75 per annum each, or \$225, it would mean that an item of \$112.50 would have to be charged against each foal the day that it was born. This would not take into consideration the service of the stallion which, roughly estimated, would be at least \$12.50, making a total expense of \$125 to be assumed by the day-old

Thoroughbred stallion Octagon, owned by the Department. Octagon was twenty-one years of age when this picture was taken, but he is evidently as fit as ever he was

Another of the Department of Agriculture's splendid thoroughbred sires is Footprint. He is 16¼ hands high and weighs 1,200 pounds

Thoroughbred stallion, Henry of Navarre. His height is 15¾ hands; weight, 1,100 pounds. Thoroughbred blood supplies two valuable traits for Army horses—speed and stamina

foal from which no return could be expected for at least three years.

The most practicable plan now in sight appears to be the encouraging of farmers to produce horses that may become suitable for army purposes, in all sections where such a type of horse is well adapted to the general farm and market conditions in the community. This type must be bred largely, if not entirely, from our light breeds, for horses with draft blood do not, as a rule, have the requisite speed, endurance, and courage.

Following the development of this remount breeding plan, the Agricultural Appropriations Act for the fiscal year 1913 made available the sum of $50,000 for experiments in the breeding of horses for military purposes. A number

A four-year-old sired by Octagon

of stallions were purchased, others were donated by breeders interested in the work, and some of the Morgan stallions produced at the Morgan Horse Farm, Middlebury, Vt., were used. A total of forty-two stallions consisting of seven Morgans, ten Saddle stallions, ten Standardbreds, and fifteen Thoroughbreds, were available, and the work was inaugurated in the states of Vermont, New Hampshire, Virginia, West Virginia, Kentucky, and Tennessee. The plan then adopted by the Department, and as being carried out at the present time, is to stand stallions in those sections where the light type of horse is found most satisfactory on account either of the condition of the country or of the market preferences. The decision as to what breed shall be selected for a certain section depends largely on the sentiment and the kind and type of mares in that section. It is obvious that it would be useless to send a Morgan stallion to a section where the sentiment was entirely for the Thoroughbred.

The owners of sound mares with a good, square trotting gait are permitted to breed them to the Government stallions without the payment of a service fee, provided the Government is given an option on the resulting foals at a price of $150 during the year such foals become three years of age. The owner of the foal, however, may cancel the option at any time before the foal is three years of age by paying the service fee of $25, if he wishes to retain the colt or has an opportunity to sell it for more than the Government pays. This is a feature that is particularly encouraging to the production of high-class horses, and even if, as is sometimes claimed, it should prevent the Government from getting, as three-year-olds, the really high-class horses so produced, still such horses will at least remain in the country, where in case of extreme emergency they can be obtained by the Government. If the colt is offered to the Government at $150 and purchase is refused owing to the fact that the colt is not of the right type for Government use, no service fee is charged. On the other hand, the Government is willing to waive its claim on any good three-year-old filly that the owner wishes to retain for breeding purposes. This is an especially good feature, since it increases breeding and the production of good horses.

The plan as outlined enables the Government to obtain a large number of horses of the right type in several more or less restricted communities, it attracts buyers from all over the country to the various centres of production, establishes a reputation for those districts, and has a far-reaching effect in demonstrating the value of community breeding to breeders of other classes of live stock.

That this plan has met with general approval on the part of the farmers is evident, judging by the increased interest which is being taken by them in the work. In 1913 there were 1,570 mares bred to the 42 stallions; in 1914 there were 43 stallions to which 2,013 mares were bred. Owing to the reduction in the appropriation for 1915 from $50,000 to $30,000, a general curtailment of the work was made necessary. The number of stallions was reduced to 37, to which 2,158 mares were bred. Another reduction to $25,000 was made in the appropriation for 1916, and the same amount is available for 1917. This has necessitated a further curtailment in the work.

Two-year-old filly sired by Henry of Navarre

The Government saddle stallion, Fair Acre King. He is somewhat lighter than Beechwold Chester, weighing only 1,000 pounds, and is 15½ hands high as against the latter's 16 hands

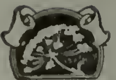
The colts produced from the first season's work are now three years of age and are being purchased by the War Department and sent to the remount depots for training. The purchasing officers are well pleased with the quality of the colts, and if funds were available for the production of horses on an adequate scale under this system there would soon be great improvement seen in the horse stock of our army.

The critics of this Governmental encouragement of horse breeding argue that there is no more necessity for the distribution of stallions than for the distribution of bulls, rams, and boars. But the production of horses must be considered in an entirely different light from the production of any other class of live stock. Most of the horses in this country are raised by the farmers, and horse breeding on the farm is a side issue to a greater extent than the breeding of any other class of live stock. The average farm does not have more than three or four mares, and the farmer cannot afford to keep a stallion for that number. On the other hand, the cattle, sheep, or hog breeder usually has enough females to justify him in keeping a male. The fact is that in a great many communities there are either no stallions or very inferior ones. Breeding to the latter does a positive harm by degrading rather than upgrading the quality of the horse stock.

The advent of the automobile and the curtailment of horse racing has resulted in many high-class breeders closing out. These breeders, scattered throughout the country, maintained large studs, and the farmers in those communities were enabled to breed to high-class stallions. These stallions being no longer available, some action must be taken to provide good stallions for those communities if there is to be an adequate supply of remounts for the army. This is of great importance at the present time in order that the horses purchased for war purposes may be replaced.

The Morgan stallion Dewey. The Morgan is a splendid type to breed from for Army purposes, though at times undersized. Dewey, however, weighs 1,050 pounds

Ganadore, of the Government stud, is a thoroughbred stallion weighing 1,100 pounds. He is 16 hands high, and an unusually well set up animal



Photograph by George R. King
A garden at snow line on Mount Rainier. Often the edge of a snow field will be bordered for half a mile with a solid flower belt of gold from six to a hundred feet wide

WILD FLOWERS *of* GLACIER PARK

By WALTER PRICHARD EATON

Photographs by FRED H. KISER

THE least impressionable person alive cannot go to the Rocky Mountains without giving enthusiastic attention to the wild flowers. This is due only in part to the individual beauty of those flowers. In the East we have many as beautiful, some more beautiful, and still more that we share with the West. But it is seldom that our flowers grow in such masses and profusion, with so many kinds and colors blended on one small square of ground, and, above all, it is seldom that our flowers have the field so much to themselves, sharing it only with a little sparse grass, the scattered groups of limber pine or firs, and the ice water brooks from the snow fields. The Rocky Mountain wild flowers often display their colors, indeed, against a backing of pure snow, or grow underneath pink and red and purple precipices, and beside lakes of iceberg green. They are a foreground of delicate beauty for a picture of stupendous impact. No other flowers have such a setting, are so intimately associated with landscape gardening in the grand style, the style of Shakespeare and of Milton.

For miles out into the prairie before we reached Glacier Park, I saw wonderful gardens in the grass—in fact, the prairie grass is mostly wild flowers. Probably the most striking plant in the Glacier Park woods and meadows is the so-called Indian basket grass, or squaw grass (*Xerophyllum tenax*). The tall, yucca-like stalk rises from two to six feet out of the clump of coarse, wiry grass, which the horses will not eat, bearing, like a torch, its great bloom-head of creamy white flowers. It grows in among the timber, it breaks out into little glades and meadows to run riot, an army with white battle plumes, it climbs to the high "parks" just below the passes, and flourishes close to the snow fields. It is delicately fragrant, extremely decorative when picked, and altogether a remarkably lovely and splendid wild flower. Naturally, it is hardy, nor does it seem to have any decided soil preference. Whether it could survive an Eastern summer, I do not know, but next spring I am planning to plant several clumps well up toward the summit of one of our Berkshire Hills, in partial shade, and see what the result will be. It ought, I should suppose, to thrive near timberline on Mount Washington—if some White Mountain enthusiast would take the trouble to try it.

Next to the squaw grass, the most conspicuous wild flower in Glacier Park is undoubtedly the dog tooth violet—*Erythronium grandiflorum*, with its smaller variety, the *parviflorum*. There is nothing unusual about this plant, of course, as it almost exactly resembles the variety *Americanum* of the East, save that it grows taller; but it is conspicuous in the Rockies for its brave ubiquity. Naturally an early spring bloomer, it doesn't get its chance in the upland meadows and on the high slopes till the snow melts, so that you may find its golden lily bells nodding as late as August. When a winter snow field melts, it recedes along the edges, showing bare ground for a day or two. Up through this ground come the lily leaves of the "violets," and with great rapidity, under the hot summer sun, the plants burst into blossom. Sometimes they do not even wait for the melting. I gathered scores of them blooming through an inch or more of snow. Often the edge of a large snow field for half a mile will be bordered with a solid belt of gold, from six to a hundred feet wide, according to the rapidity with which the melting has taken place. If the snow melts slowly, other flowers come in, and the border will mark the seasons—six feet of dog tooth violets, then six feet of chalice cup, perhaps, then several feet of lupine or tall false forget-me-not, then vetch and pale blue clematis and yellow columbine and purple pentstemon, and so on, even to goldenrod. Sometimes, on the sides of a steep gully where the snow has packed hard and melted very slowly, these belts of bloom will be only a foot or two wide, running all the changes from earliest spring to late summer in a space of fifty feet.

But though when you enter an upland meadow studded with limber pines (their own pink cones a pretty blossom), and carpeted with white snow fields bordered with gold, you are first aware of the dog tooth violets, on closer inspection you find dell after little dell where as many as thirty varieties of plants will be blooming simultaneously. You have passed many others on the wooded trail coming up. Soon, as you leave timberline and begin to climb those pink and red and purple cliffs which tower over you, you will find that what now looks like naked rock will be a sub-arctic or alpine garden, no less lovely of its kind than this incomparable meadow half way between the lowlands and the peak.

Among the woodland flowers, the arnica is omnipresent. There are several varieties, closely allied, and they literally star the woods, for their pretty, yellow, daisy-like petals, with a darker yellow centre, are borne erect a foot or two, over a forest floor that has little undergrowth. Associated with the woods, too, is the fairy twin flower, and the giant Indian hellebore (*Veratrum viride*), with its huge, lance-like leaves and its pale white and greenish flowers. This plant, of course, is common in the East, as "false hellebore," but owing to our denser undergrowth it never seems so conspicuous.

However, it is difficult to draw the line on the slopes of the Rockies between the forest and the open, so frequent are the glades,

The monkey flower is found only along brooks

Chalice cup—a large, beautiful anemone

The pink florets of wild hollyhock

The conspicuous yellow aquilegia or columbine

and so much do the flowers tend to run from one to the other. The exquisite and common admixture of blue larkspur (*Delphinium Brownii* and its variations), purple lupine, and Indian paint brush (which in the same group, sometimes actually in the same plant, ranges in color from a greenish white through scarlet to its standard tone of bright, bricky orange) is found out in the open, and beside the trail through broken timber as well. It is an even more common color combination in the volcanic soil of the Cascade Range, where acres upon acres are resplendent with blue, purple, and orange. I have brought back to the East a box of paint brush seed (*Castilleja miniata*), which I hope will have a chance to try our mountain soil. But if it thrives as well in this region as its Eastern cousin, the brilliant painted cup, our farmers may not thank me!

A striking plant which you frequently encounter, invariably close to the edge of a little brook, is the monkey flower (*Mimulus Serrisii*), which somewhat resembles a sturdy, dark wine-red petunia, though its irregular trumpet has a narrower opening and the petals curl back more. It, too, has an Eastern relative, closely resembling it, but for some reason, with us the plant never attracts what I now realize to be its fair share of attention. The little brooks beside which the Western monkey flower grows come leaping down from the snow fields or glaciers above, clear and cold as ice. Often the trail is cut along the steep side of a bank, so that they fall tinkling down to your feet, and once more leap out in a waterfall on the other side of the path. Thus, on one side of you is a drop with a splendid prospect of meadow and cañon and far peaks, and on the other side, so close that you can often pluck the flowers without leaving your saddle, a steep bank between little waterfalls, a bank which is a perpetual garden. You look to the left upon far tremendousness; you look to the right at the small, close, intimate world of wild flowers.

In this intimate world, the yellow aquilegia, or columbine, is conspicuous, and so is the false forget-me-not, which grows everywhere. It is larger and not always so true a blue as the true forget-me-not, which doesn't begin to appear until the higher altitudes. But it is a lovely flower, none-the-less, hardly deserving to be branded "false." Delicate harebells sway here, too, in this land where all the flowers crowd spring and summer and autumn into one or two brief months, and rough fleabane may be found beside tall, white *Viola canadensis*, or goldenrod beside lupine. The palely purple to blue blossom of the *Clematis columbiana* grows shyly along such a bank, on vines that run for the most part on the ground, or climb a little way into the low, stunted branches of a limber pine. Near them may be golden hairy hawkweed, and just across the path on the edge of the cliff a clump of red heather, or a gay group of pinkish purple pentstemon, one of the showiest of the wild flowers. There is pink spirea, too, and bright, golden shrubby cinquefoil, wrongly known as hardhack by our Berkshire farmers. Near it may be a striking clump of the ascending milk vetch (*Astragalus adsurgens*), with its purple blooms. Another variety (the alpine milk vetch) is smaller and paler, and grows above timberline. Both pink and white everlasting are common, too. Indeed, the bank beside you is a perpetually variegated garden, and on the other side, you look down upon meadows which are gardens, too, away to the far peaks.

Arnica, a golden flower of the woods

Pentstemon growing on a rock

Indian paint brush, a cousin of painted cup

The yucca-like stalks of Indian basket grass

There are, of course, certain flowers which you come to hold in peculiar affection, and certain spots where they grow are ever after remembered. I shall never forget, for instance, the little pine-studded meadow at the foot of Grinnell Lake. Beyond the lake the cliffs leap up to the great white mass of Grinnell Glacier, hanging on a lofty shelf of the Continental Divide. Over these cliffs waterfalls descend like silver hair, their soft thunder coming to you across the green lake. To right and left naked rock walls tower up into peaks. Yet the moist little meadow is as intimate and peaceful as a cloistered garden, and in mid-July, when we were there, was carpeted with chalice cups. The chalice cup (*Anemone occidentalis*) is, of course, in reality a spring flower. Its cream-white blossom is from one to two inches across, with a fluffy, golden-green centre. Later this fluffy seed head expands into a feathery tuft on a stalk a foot or two high, and is almost as attractive as the flower. But until you have seen a Rocky Mountain meadow carpeted with these large, beautiful, soft anemones, you can hardly guess their charm.

The mariposas of the Rocky Mountains are not to be forgotten, either. The green banded mariposa (*Calochortus macrocarpus*) throws up a straight, erect stem and bears a lily of three pale lilac, concave petals, with a green stripe down the centre. The *Calochortus alba*, however (a variety to be had of the Montana nurserymen), found at such high altitudes as Mount Morgan Pass, where its loveliness has only the sky and mountain goat for witnesses, is the more beautiful of the two. It is like Emerson's "rose of beauty on the brow of chaos."

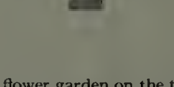
Nor is the traveler likely to forget certain bits of road- or trail-side at the foot of the range, near St. Mary Lake on the east and Lake Macdonald on the west, where Nature has planted border clumps of wild hollyhock. This delightful plant bears a stalk from four to six feet high, covered toward the end with pink blossoms about the size of a wild rose, but clustered much like the hollyhock, and resembling that blossom in appearance. It has the same decorative value when picked and brought into the house, but it adds a certain shy wildness of its own. We found this plant, very evidently a mallow of some sort, only near these two lakes, but not growing, however, in actual wet. No one to whom I appealed could identify it. Of course, somebody knows what it is—only he isn't anybody in Glacier Park. I can only hope that he will chance upon this article and enlighten my ignorance. All I know is that this malvaceous plant would prove a rare and choice addition to any garden.

When you pass above timberline in the Rockies, especially as far north as Glacier Park, you enter a sub-arctic world rather than an alpine. Timberline in the Alps is at 6,400 feet, and the summits are covered with eternal snow. Timberline, even in Glacier Park, is often more than 7,000 feet (in Colorado it is more than 11,000), and though there are numerous permanent snow fields as well as glaciers above the last twisted trees, the bulk of the great shale heaps and jagged rock towers which are the peaks of the range are free from snow for at least two months. In those two months the brave little blossoms of these arctic heights concentrate their beauty and fragrance. You are climbing Piegan Pass, for instance, which takes you close under the more-than-10,000-foot summit of Mount Siyeh. You have left timber far behind, and are crawling up beside a yawning cañon hole, amid naked, broken shale, desolate beyond words or the pencil of a Doré. Yet look at the ground close beside you! It is not naked. In every sheltered cranny, in every spot where a mite of soil has lodged, flowers are blooming! Some of them are so tiny that it would require a microscope to analyze them. Some, you note with surprise, are of the lowland varieties, dwarfed by the summit storms like a timberline tree. I found a shrubby cinquefoil at almost 9,000 feet, with a stalk as large as my thumb and tough as steel; but it grew as close

A bed of mariposa lilies on Mount Morgan Pass

Red heather (*Bryanthus empetriformis*)—a low shrub with delicate pink flowers

Above timberline—a garden of moss campion, forget-me-not, green lily, vetch, and grass



A flower garden on the trail to Iceberg Lake. Mount Wilbur and the Continental Divide in the background

ong the ground as a Mitchella vine, literally hugging the earth, nd wasn't more than a foot long. Yet it was bearing blossoms uite as large as in its natural position. Here on the wind-swept plands the true forget-me-not grows, this mountain variety being s a rule not more than six inches high, but of a marvelous cerulean lue. Here are various gentians, from true gentian blue through inky-purple to almost white. Here, too, are found the blue Greek valerians, fragrant, thick bloom-clusters on hairy stems, and still more attractive and showy plant, the mountain phacelia. This phacelia sends up bluish purple bloom-spikes, on which the owers cluster thickly in a panicle, with their golden stamens pro-ecting beyond the petal trumpet, giving them a bewhiskered ap-earance. The foliage is thick and handsome, and the plant has n odor, though not a pleasant one.

But the real gem of the arctic summits is the moss campion. This exquisite and gay little pink, its blossoms like innumerable etaled pinheads in a green cushion, braves the loftiest altitudes and caps the most stupendous precipices. It must make fodder or the mountain sheep and goats, and it certainly brings joy to the eart of the climber. Often, under the shelter of a rock, or even n the hollow on top of a rock, you will find a dwarf garden of such ainty charm that you have to kneel beside it and admire. There will be, first, a cushion of moss campion two or three feet across, a retty swell of soft green velvet covered with the pink blossoms. Then, growing around it, even out of it, will be a plant or two of sky-blue forget-me-not, perhaps some pale mauve alpine vetch, and, if the altitude is not too great, the slender stalk of the green lily (*Zygadenus elegans*), with its many small, roundish, cream-white flowers splashed with green. Indeed, it is not impossible, again if the altitude is not too great, that there will be a shooting star in the garden (*Dodecatheon pauciflorum*)—a strange, vivid little red flower spitting down its pointed yellow nose toward the earth again. Certainly on the surrounding rocks there will be colored lichens and tiny stonecrop. Such a garden is unknown on the only sub-arctic summits of the East—the Presidential Range in the White Mountains—and it is worth a trip across the continent to see.

To lift a wild flower out of its setting is sometimes a foolish thing. But yet, the more American flowers we can adapt into our gardens, and as far as possible some of their natural setting with them, the sooner we shall have a garden style of our own. Many of these Rocky Mountain wild flowers can now be secured from Western nurseries. They are all perfectly hardy so far as cold is concerned. Heat rather would be their danger. Among the best now being exported to the East are the false dandelion (possibly a dangerous experiment); the gay arnica for shady places; the white mariposa lily; the *Calypso borealis* (a Western lady's slipper); *Delphinium bicolor*, or blue-veined larkspur, a low plant for high, dry places; the gay shooting star; the *Gaillardia aristata*, or brown-eyed Susan of the prairies and lower hills, possibly too much like our common garden variety to bother with; Northern bedstraw, which bears small white clusters of bloom; and blue pentstemon, which is certainly worth experiment. A bed of it, sown to grow up through a ground cover of sweet alyssum, would be extremely lovely. The Eastern varieties, called beard-tongue, so far as I have observed are not thought enough of to put in a garden. You have to visit the Rockies before you appreciate this flower.

Northern gentian, a relative of our fringed gentian

Even the aromatic bergamot is found here

Field of the Cloth of Gold—an acre of dog tooth violets beside a snow field

A field of Indian basket grass near Gunsight Lake—a suggestion for White Mountain gardens

Of course, I have mentioned but a tiny proportion of the blossoms that greet you when you enter the magic wilderness of the Rocky Mountain chain. No doubt each visitor will chide me for omitting his favorite. But if I have made one reader desirous of seeing those gardens for himself, I am satisfied. For all our talk, we haven't yet begun to appreciate our own land. I will match the chalice cup in Grinnell meadow against the edelweiss any day, and give liberal odds at that!

Looking through the trees to the woodland beyond, from the steps shown at the right, which lead down to the cedar hedge pathway

Taken from under the pergola

GARDEN *of Mrs.* CHARLES P. FOX

Designed by the Owner

"Flowers in the crannied wall"—the dry stone retaining wall is gay with blossoms. The picture below shows a glimpse of the house through the west gate

The garden wall which joins the house at the northwest corner ties house and garden together architecturally, and protects the garden on the north and west. After turning at the south corner, it drops abruptly and ends there, steps leading out of the garden

Its surroundings add not a little to the charm of the garden. Here we are looking southeast toward an old apple orchard

A clematis-clad pergola pillar

The angle of the garden wall provides a logical place for the pergola, which is broad and low, and an attractive spot for afternoon tea

at SPRINGHOUSE *near* PHILADELPHIA

Photographs by Ph. B. Wallace

The pergola in its 1915 spring dress. Below is a bit of the garden seen through the north gate. The hooded tile decoration represents the mythical castle of Avalon

Inside the garden before the planting had attained its present luxuriance. On the terrace at the right, with its stone retaining wall, is the long pergola extending from the house to the angle of the garden wall. Note how picturesquely the latter is stepped

An unusual touch is the stone footbridge across the large pool at left of the cedar walk. The pool is not square, but extends around on either side of the bench

FROM A COUNTRY WINDOW

"ESCAPED FROM OLD GARDENS"—there's a phrase for you! Can you paint with twice the number of words, another picture with the appeal that these four re-etch in the copperplate of memory? They compress into unbelievable compactness the thrilling story of why we are now permitted to revel in the immaculate glory of a daisy field—though to the farmer and the economist the reactions are purely those of conscience and righteous wrath.

GARDEN ORPHANS FROM THE PAST

I am always reminded anew of that phrase when I turn from the highroad to explore the softened outlines of an old foundation from which the superstructure has long since disappeared. There are glorious possibilities in that lessening depression. It seldom bears even the faintest resemblance to a cellar. Autumn after autumn has contributed its compost of leaves. The winds of two score Novembers have drifted sand and soil into the angles of wall and floor. Mosses and grasses and weeds have rounded all the edges, and the frosts of many winters have heaved parts of even the sturdy stone wall into crumbling slopes. But it is not the foundation itself which draws my feet from the highroad. Near-by, on a slope to the south, there is a dense thicket of old shrubbery, weaving itself ever closer and more impenetrable in self defense. A mass of lilac suckers, entwined with abnormally long branches of forsythia, carry on the struggle for existence that was once so much more than merely that under the care of a sympathetic hand. Here among the briers stands a little clump of daffodils, huddled together in the instinctive circular formation of defense. Yonder spreads a great mat of iris roots, fairly crying out for transplanting into less populous quarters. A vast carpet of myrtle spreads into the edge of the woods. It is only upon very rare occasions that these survivors are not found near-by, and then one passes on with pity only for those who once lived within the walls. My garden has many descendants of these sturdy pioneers. How eagerly and thankfully they have responded to the encouragement of a gardener's hand! No fresh young upstart from a nursery displays half their evident desire to repay the care that is given them nor ever succeeds in twining such clinging tendrils about the gardener's heart.

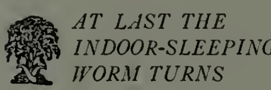
WHEN THE AUTOMOBILE first came into general use as a pleasure vehicle, we recall nodding approval at the scoffers who ridiculed the idea that motoring ever could compare as a sport with driving. If one possessed such an inexplicable warp in his nature as to relish the propulsion of a machine, let him seek employment as a locomotive engineer; the speed would be all that he could desire and, moreover, he would have the added satisfaction of feeling more secure, in starting out upon a run, that his mechanism would bring him into port. Nothing but the mere novelty of motoring could explain even in part why any sane man should prefer driving a conglomeration of wheels, gears, and a snorting cylinder or two to the pulsing contact through the reins with a marvelous product of flesh, blood, and—most of all—breeding. We are older now, and so is the automobile. Both it and ourselves have progressed—it toward mechanical perfection, ourselves toward a realization of the innate humanness of a well built motor. We have lost none of our high regard for the horse, but we have learned to know one motor more intimately than we know most of our very good friends.

THE MOTOR PARENTAL RESPONSIBILITY

The relationship between us has grown to be like nothing so much as the relationship between a mother and her child. The sudden development of a slight cough keeps the mother awake at night. The slightest departure from the normal in any of the child's actions, moods, or appetite serves to key up to an unnatural pitch the mother's powers of observation, diagnosis, and sympathetic suffering. We pressed down the motor's clutch pedal the other day and an unexpected screech, so faint as to be recorded only upon our own super-sympathetic senses, wirelessed instant alarm to our abnormally developed mother-sense for that motor. We administered soothing doses of oil, not out of a bottle with a label, but just as tenderly out of a can with a nozzle. The anticipated relief did not come. Each depression of that clutch pedal, with all the pain it brought that ailing organism, rasped our own taut and sympathetic nerves as with a file. The motor was in pain, and all of our eager help availed nothing. An operation revealed a broken ball in the clutch bearing, which was quickly made sound and comfortable again. We fairly beamed over the healthy purr of that well-beloved organism brought back to its normal functioning.

Perhaps to-morrow there will come to our keenly attuned ears another warning sound—a slight hoarseness in the carbureter, the strange tapping caused by a loose screw. We shall never, we know, be free from the anxious, brooding care that our motor has developed in us—and it so young, too. Nevertheless it is in the main a healthy little rascal at that. For weeks it hums along in all the lusty vigor of perfect health and strength, arousing our pride, driving us to vain boastings of the little trouble it has been to us, and of how infinitely superior it is to all other motor children. But after each unseemly boast we listen just a bit closer for any one of those innumerable little signs that its precious health is threatened, its food not perfectly suited to its digestive apparatus, its buttons working loose. It is turning gray the few precious hairs that still thatch us, but it is worth it.

SOMETIMES I REALLY BELIEVE that outdoor sleepers deserve their lot. If they would but go and *sleep* outdoors instead of tarrying so long by the fireside in their self-righteous propaganda directed at the rest of us, I could almost forgive them. But to take their own medicine is not enough; they must force the nostrum upon all their friends and acquaintances, reading fondly from the label meanwhile—"It restores the buoyancy of youth, dispels nerves, brings poise, makes possible a rest that benighted indoor sleepers can never know, puts flesh upon emaciated frames, prevents the formation of adipose tissue . . ." and all the rest of it. Occasionally I gird myself for an attack and ask why, in that event, our forefathers who slept in air-proof rooms were such a disgustingly healthy lot. Or, withered by a glance, I fall back upon the fact that all the birds, who have outdoor sleeping thrust upon them, do their best to approximate indoor sleeping by tucking their bills as far under their feathers as they can manage.



AT LAST THE INDOOR-SLEEPING WORM TURNS

It is of no use. They disdain to argue. They merely reiterate, "Just try it and be convinced." My imagination is good; I need no trial of the practice to establish my antipathy to that unseemly dash from a warm room across slatted porch flooring into the water-bottle-heated shelter of a nightmare of heavy comforters. A trial will not remove my repugnance to sleeping under an extemporaneous snow blanket. Rain in the face will not, I am sure, improve my complexion or my temper. Early morning light, flies, mosquitoes, and quarreling birds will not add to my present store of poise. I am content. Please go 'way and let me sleep!

The SETTERS—ENGLISH, IRISH *and* SCOTCH

IN TWO PARTS—PART TWO

By WALTER A. DYER

Part of Mr. Pohl's string of Irish setters, which shine equally on the show bench and in the field

LAST month I reviewed in these pages the three varieties of setters —English, Irish, and Gordon—their origin and the history of their development, with an outline of the physical characteristics of each kind. It now remains for me to endeavor to set forth some comparative estimate of their value and usefulness to mankind, for that is, I have been led to believe, the chief question that is puzzling many people who are interested in the setter breed.

After weighing all the evidence at my disposal, it will be my endeavor to make such a comparison fair, impartial, unbiased by enthusiasm for the achievements of the English or the beauty of the Irish.

In the first place, I think I may say, without fear of contradiction, that they are all splendid dogs. Apart from their specialty as sporting dogs, they are as intelligent and as affectionate as any dogs living. I am not sure that I would recommend a setter as a guard; I cannot think of one as a successful police dog; but when it comes to sweetness of temper, canine faithfulness in its highest form, and that look in the eyes which bespeaks eternal devotion, I doubt very much whether the setter has an equal. Add to that the rare intelligence which comes from generations of training, and you have something approaching a real dog.

Now in these essential characteristics, I believe that there is not much difference among the three varieties. It is largely a matter of individual character; I have known of dogs of all three varieties which were reputed to possess all the canine virtues.

The fact remains, however, that the Irish setter is more popular than the Gordon, while the English is more popular than either, is more numerous than both together, is almost universally held in higher esteem by sportsmen, and is the only one of the setters to cut any figure in the field trials.

Why is this? The English setter enthusiast immediately asserts that it is because his is easily the best dog. I do not think that so hasty a conclusion is warranted.

The evidence would seem to indicate that, taken as a whole, the sinewy Englishman has a shade the best of it in the matter of steadiness, nose, and endurance, but only a shade. It is chiefly a matter of training, not with one dog, but with generation after generation; the English setters have had all the expert attention.

The English setters Ch. Babblebrook Joe and Babblebrook Bob, field-trial winners and stanch upholders of English setter ascendancy. Owned by Mr. Louis McGrew

Ch. Midwood Red Jacket is one of the best Irish setters in the country. He was whelped in 1911 and has been a consistent bench-show winner since 1912, crowning his career by taking first winners at the New York Show last February. Owned by Mrs. Walter Simmons

There is nothing to prove that the Irish and Gordon could not be developed to a point of equal efficiency if given a fair chance. In fact, the time may come when unwise breeding will tend to produce English setters ever smaller, weedier, and more lacking in type, until sportsmen and breeders will be glad to turn to a stronger, hardier, more typical variety for the true setter qualities.

It is all a proof of the old adage that "nothing succeeds like success." Owing partly to the clever advertising of the Llewellyns, there was such a run on English setters in this country that the Irish and Gordon were left behind. Luck and business interest started the English setter in the lead. Those who were best able to give attention to the breeding and training of setters took up the English variety, and the others dropped farther and farther behind.

This, rather than any intrinsic weakness in the Irish and Gordon varieties, accounts for the present ascendancy of the English setter. There are comparatively few earnest and successful breeders of Irish setters, still fewer Gordon fanciers.

There is no famous field-trial strain among the Irish or Gordons; comparatively few are being worked in the field or bred for working qualities. All the more credit, therefore, is due to those few who have remained true to their faith in the Irish and the Gordon, who are still breeding them with care and judgment and breaking them to the gun. Some day the tide may turn, and they will have their reward. Already the popularity of the Irish setter is on the increase, and it is to be hoped that the Gordon will share in his good fortune.

Just a word in passing regarding the English setter's most imminent rival, the pointer. Here again we enter the realm of inconclusive debate. The pointer is generally spoken of as stronger and larger, more stately in appearance, rangier and steadier, with showier action than the setter, and fully as fast.

Mr. F. W. Motlow's English setter Meadowview Revel, a bench-show winner as well as a hunting dog of quality. Mr. Motlow maintains that of all field dogs, the English setter is the greatest

Mr. John J. Connolly's Gordon setter, Sporting Duchess, reserve winners at the 1916 New York Show. With his heavier build and striking black and tan coloring, the Gordon is to some minds the handsomest of all the setters

One of the best of the Mallwyd type of English setter is Ch. Claude of Camlau, who took first winners, dogs, at the last New York Show. He is owned by Mr. B. H. Throop

The setter, on the other hand, has perhaps the better nose, is wiry and enduring, is more sagacious and affectionate than the pointer, and is generally considered a better gun dog. Long hair is doubtless as often a disadvantage as an advantage.

For some years the pointer has been forging ahead as the field-trial favorite. He has shown himself fast, a wide ranger, steady at the trials, traveling in splendid form, and displaying good bird sense. The setter men have been forced to the belief that the pointer will soon drive their favorites into second place if they do not produce better dogs. May this not be the psychological moment for the Irish and Gordon enthusiasts to get into the game? It is quite conceivable that the day may come when it will be an Irish or a Gordon, and not an English setter, that will snatch the laurels from the pointer's brow.

In arriving at these conclusions, such as they are, I have avoided quoting from any special plea. But I always find the claims and assertions of fanciers, breeders, and dog owners, with their wholesome enthusiasm, most interesting. For after all, there must be something the matter with the man who does not honestly believe that his favorite breed is superior to all others. To quote, then, from some of my correspondents among the setter men.

The first letter is from Mr. Louis McGrew, of Pittsfield, Pa., breeder of the Mohawk II strain of English setters, chiefly grouse and field-trial dogs. He writes:

Of the various kinds of setters that have been introduced into America in the last half century, the Llewellyn setter, one strain of the English setter, is much the most popular and most sought after. However, the straight-bred Llewellyn has lost much of his original quality except in the case of a very few individuals. This is due mainly to the fact that this strain has been exploited for commercial purposes largely by inexperienced breeders, and also, no doubt, to some extent, to injudicious inbreeding. . . . The best individual setters in America to-day are Llewellyns with from $\frac{1}{64}$ to $2\frac{1}{2}$ per cent. of outcross, but it is ridiculous to class these setters as anything else than Llewellyns.

For a number of years—in fact, until within a year or two—setter breeders were Whitestone crazy. Those who did not have setters sired by Count Whitestone, the popular Llewellyn stud dog, were quite out of fashion. Count Whitestone's daughters continued to produce as their sire did, but his sons did not. Moreover, the family, while it had some great individuals, possessed some undesirable family traits, so that setter breeders began to look around for something different.

The most popular setters now before the public are the sons of Mohawk II and their get. The winners of the American Field Futurity, Independent, and Georgia Derbies for 1916, and the only setters defeating the pointers, were all of the Mohawk family. Mohawk II was a champion in the field and one of the highest class modern setters, a handsome individual and in every way a magnificent animal of the world's greatest Llewellyn breeding. He was bred and developed by Mr. J. M. Avent, who has bred, trained, and brought to public attention more great English setters that have been pillars of the setter family in America than all the other American setter breeders combined.

The setter of to-day is just as good as he ever was and he is better than the best pointers—tougher, birdier, and more suitable for all purposes—but as a rule he needs more of Jim Avent's good old pointing blood to put him in the front rank. The breeders who are double-crossing this blood through Mohawk II and his get are having no trouble to uphold their end at the field trials with the best pointers of the day, and will eventually surpass them in every quality that goes to make up a high-class bird dog, even though the pointer has in the last half dozen years deservedly come into great prominence at field trials and as a shooting dog.

The Irish, Gordon, and a few imported Laverack setters are still used as field dogs, but to a very small extent, as they do not come anywhere near the class of the Llewellyn and the outcrossed Llewellyn, and are seldom seen nowadays at field trials. The present field-trial breed of English setter is a handsome animal, in fact much more so, in many cases, than the large, cumbersome Laveracks that are so often seen at bench shows.

Of the Irish setter, Mr. John W. Tucker, of Mineral Point, Wis., says:

He is the handsomest of all setters. Two of his prominent traits are intelligence and courage—courage to face hard work and adversity bravely, with everlasting endurance. He is able to withstand the extremes of heat and cold and the fatigue of an all-day tramp. He is a good companion, dignified and trustworthy, an excellent guard for children, a grand house dog, truly a gentleman's dog.

From a lengthy description of the Irish setter by Mr. Otto Pohl, of Fremont, Neb., breeder and owner of some splendid dogs, I quote the following:

I have always believed in working dogs. I would not own an Irish setter which could not go out and take his regular turn in the field. I do all my shooting over Irish setters. More than thirty years ago I owned my first one, and after his death I started in the game to try to own some of the best in the country. . . . In 1909 I bought Ch. Drug Law and Ch. Pat-a-Belle. They were puppies when I bought them, but I developed and trained them, for in those days I did not think of bench shows. I wanted field dogs, and these two proved to be all of that. They handled perfectly, and I have had many a day of royal sport shooting prairie chickens and quail over their points. Later on I was induced to show them on the bench, and they made their first appearance at Omaha in the spring of 1911, where they won everything to which they were eligible. Since that time their career on the bench has been one unbroken string of victories, and they were made champions in short order. Notwithstanding that fact, they are perfectly broken field dogs.

I have always maintained that since the Irish setter is primarily a practical field dog, he can be brought back to that same high standard which was once his in the field trials. That is why I had my young dog McKerry developed in the summer of 1914 for field-trial purposes. This dog, though running in a stake of twenty-eight starters in the chicken trials of the All-America Club at Aberdeen, in September of 1914, went into the second series, and this was a stake in which such well-known dogs as John Proctor, Lewis C. Morris, and many others ran unplaced. . . .

If faith in the breed and the right blood lines will do it, with the assistance of a few of my friends I am going to produce field-trial winning Irish setters, and they will be good-looking dogs, too.

Mr. Charles Esselstyn, editor of the *Hudson Republican*, Hudson, N. Y., who, like Mr. Pohl, is an amateur breeder and exhibitor, writes as follows:

The Irish setter is the slowest of all setters to mature, the hardest to break to field work, yet the best pal of any of them. More headstrong than the English, he's a wider, faster ranger, and a more impetuous worker. The English is the mechanical hunter of the lot. He rarely forgets what he has learned and is more easily taught than the Irish or Gordon, but he seldom thinks for himself. The man who wants to know just how his dog is going to work, just exactly what he is going to do under given circumstances to-morrow or a year from to-morrow, wants an English setter; but the sportsman who likes to see his dog think for himself, who is not unwilling to see a bit of ingenuity in the field, who is not so bound by cut-and-dried rules that he is upset by being surprised, finds a day's sport behind the red dog all the more exciting for the knowledge that he never knows when his pal out in the front is going to turn a short corner and spring a "new one."

The red dog has been accused of occasionally forgetting his training. It's not that he forgets, but that in thinking for himself he will now and then upset

some of the traditions by trying his own way because he believes it to be better.

Not so fast as the Irish, not so sure as the English, but steady as a clock comes the Gordon, a good pal, a steady, reliable home body, a good laster in the field, but too slow for fast work and not a rapid enough thinker.

At home the Irish is the better watch dog, more a one-man dog than the English, more demonstrative in his display of affection, and more in evidence than his English or Gordon cousins, yet as a house dog with all the instincts of a well bred gentleman, as a companion for a walk at heel, in the streets, or a long tramp over the country roads and cross-lots, no breed of dog can compare with any of the setters, who are all aristocrats and who never forget it. Be he Irish or English or Gordon, he is the loyal pal, the watchful guardian, but as for myself give me the red coat, the liquid hazel brown eyes, and the ingratiating head that is laid quietly on your knee as you pick up your paper and light your pipe—the red dog from Ireland.

Of the Gordon setter Dr. Charles P. Knapp of Wyoming, Pa., writes:

Why do I prefer Gordons?

1. They are healthy and hardy, and all-season workers.

2. Every dog in a litter is a born hunter.

3. They are easily broken, stay broke, and are not headstrong.

4. They are never gun-shy.

5. They are natural retrievers.

6. The females are good, sure matrons. I have had nine puppies in a litter, and every one turned out to be a first-class bird dog. What is the percentage of English setters on that score?

I have bred, owned, and used Gordons for thirty-five years. I would like to add a word of praise for Harry Malcolm of Baltimore, who did so much for the Gordon in the United States. I do not like the present Standard for the Gordon, as it is based too much on the English setter type. The Gordon is different, and because he is different he is better.

The foregoing are typical opinions of breeders, fanciers, and sportsmen who confess to a prejudice in favor of their particular breeds. To my mind the significant thing is that no one of the three varieties lacks ardent adherents. And from these special pleas the discriminating reader will be able to arrive somewhere near the ultimate facts of the case.

Judge Robert C. Cornell, a thoroughgoing sportsman and an advocate of the English setter, whose name is familiar to every follower of the field-trial game, sums the matter up as follows:

You ask me to express my views upon a number of questions involving the merits of the different varieties of setters. You ask, first, why the English is the favorite at present. I answer, because he is the best setter for field work, as shown conclusively at the field trials, where he shares first honors with the pointer. Besides that, he has plenty of brains and is a splendid companion.

Second: "Is the Irish to become merely a show dog?" He is chiefly that at present and has been for twenty years, seldom appearing in competition at the field trials.

Third: "What will become of the Gordon?" The Gordon is a negligible quantity at present.

Fourth: "Ought we to have larger or smaller dogs?" Size in a shooting dog is of no great consequence, but it is harder to get a tip-top big dog than it is to get a really good small dog, either pointer or setter.

Personally, I prefer the pointer for all-around work, but I have as many English setters as pointers, and I admire and appreciate both varieties.

Finally, I have a letter from Mr. Walter McRoberts, of Peoria, Ill., who advocates Irish setters, in which he discusses and compares the three varieties. Though naturally prejudiced in favor of the red dog, Mr. McRoberts's experience and standing entitle him to a hearing. He has owned Irish setters for more than twenty years, and has been breeding them for nine years. In this time he has produced an extraordinary number of champions, including the international champion, Richwood's Roy, now owned by Mrs. E. A. Sturdee of St. John, New Brunswick, who won with him premier honors in the New York show of 1914. His bitch Hurrah, who died in 1912, was once prominent in the field trials as well as on the bench. He writes:

The Irish setter, is a dog of great intelligence, endurance, and affection. He is very fond of water, and I have sold a number of puppies whose owners have written me that they developed into great duck dogs. More frequently they are used to hunt quail, prairie chicken, or woodcock. They are not hard-headed as a breed, as some people claim, any more than are English setters or pointers. Certain individuals are hard-headed, but the same thing is true of any other breed of hunting dogs. In training a dog to hunt, the best results are usually obtained by the owner doing the training, if he has the time and the right disposition. If not, he should have the dog trained by some man whom he knows personally and has confidence in.

Monty's Mex, an Irish setter owned by Mr. John W. Tucker, who says that in addition to being the handsomest of the setter family, the Irishman's most prominent traits are intelligence and courage

The Irish setter makes an ideal companion, in my opinion, he is the greatest pal and the handsomest shooting dog on earth. The breed is more popular now than at any time since the century began, and the supply of male puppies does not begin to equal the demand.

An Irish champion from Illinois—Holly of Culbertson—who bears out the Irish setter's claims to beauty made by its advocates. Holly is owned by Mr. Walter McRoberts, and is the best of pals and hunting dogs

The English setter is a little smaller than the Irish, less rugged in appearance, and built on finer lines. At present, there are two distinct types, known as the bench-show, or Mailwyd type, and the field-trial type. They diverge so greatly in size and appearance as to bear little resemblance to each other except in color. The Mailwyd type, though sometimes too heavy, conforms more to the English setter Standard, and is in my opinion the correct type. On the other hand, the field-trial setters are growing smaller, lighter boned, and more nervous, little or no attention seemingly being paid to type. Many adult dogs weigh under thirty-five pounds, and some under thirty. Size, conformation, and everything are sacrificed to attain field-trial excellence, which is vastly different from the excellence of a good, practical shooting dog. The English setter is a wonderful dog, but something must be done to reconcile the growing divergence in type, or the breed is likely to suffer irreparable injury. Some attempts have already been made to combine the two types to a certain extent, but I know of but two kennels that have had any success in this line.

Mr. C. H. Tyler's English setter, Willow Brook Dandelion, made his début in the hunting field at the early age of six months. He is a good field dog, an A1 hunting dog, and a bench-show winner

The Gordon setter is a handsome, noble-looking dog, but is now almost extinct in the United States, though still numerous in England where he is popular as a shooting dog. A clear jet black in color, with tan markings, he is the heaviest of the three varieties, and is not so fast nor so wide ranging as the English or Irish setter. The Gordon setter, like the mastiff and the Newfoundland, is now in a temporary state of eclipse in this country, from which he will sometime emerge, for the breed is too old and distinctive, and has too many good qualities to be suffered to die.

By way of summary, it is apparent that there are fundamentally sound reasons for the English setter's preëminence. Whatever the causes may be, history and experience have given him his place as the most effective variety for field work. There are equally sound reasons for believing that the Irish and Gordons would, if given a chance, prove themselves worthy of a better reputation, but the burden of proof still rests with the Gordon and Irish breeders. The door is still open and the dog world will welcome the return of these varieties to an equal footing with the English.

At present, however, the pointer is the English setter's real rival, and English setter breeders will have all they can do to maintain their position.

It may not be out of place to state, in conclusion, that it is my purpose, a little later, to round out this discussion of the comparative merits of the bird dogs with an article on the pointers.

GENERAL ORDERS *for the* ARMY *of* MAINTENANCE

By F. F. ROCKWELL

THE advent of midsummer usually marks the critical time of the year, so far as agricultural operations are concerned, in any season. This season that is especially true. By strenuous efforts at the eleventh hour, we have managed to get our crop acreages increased to a considerable degree. The task of taking care of these extra acres, of carrying on the routine work of harvesting grain and forage crops, with special care that there shall be no waste, and of planting an extra amount of such late crops as can go in now to mature before winter in spite of the serious handicap of labor shortage, constitute a problem of no mean dimensions.

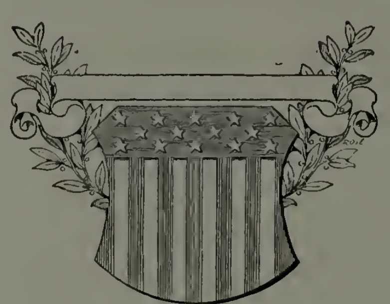
What can the estate owner and the large farm operator do, under these conditions, to help carry the load?

The direct, concrete problem to be faced is a double-barreled one. First, to produce just as much as possible; second, to use just as little labor as possible in doing it. Even though most of the crops grown, or all of them, may not be for sale, every large place that can be made self-supporting—not in the bookkeeping sense of the word, but as producing the food consumed on it—will be a most decided help to the national situation. It may be impossible to achieve this condition in a single season, but that should certainly be the goal. It may mean the sacrificing, at least for the present, of some pet project; or the diverting of labor from the care of extra fancy stock, or planned extensions along that line, to the fields and the production of food for the stock already on hand; but it is a duty no less urgent than that which has been put up to the small farmer as the first reason why he should grow more corn and potatoes.

As to the employment of labor, the situation this year is just the reverse of that existing in normal times. Ordinarily the generous use of labor on large places has been a good thing for the country in its indirect effects. This year, the fewer the hands the estate can get along with, without cutting down on the production end, the better the results will be for the country, economically speaking. Indeed, this year it may be a sign of patriotism, rather than of slack methods, to have weeds growing occasionally in the gutters of your drives, and the lawns trimmed only half as frequently as they have usually been! The lavish use of labor for work that is solely or mostly ornamental will indicate this year that you are a poor patriot—a renegade in the Army of Maintenance. Such labor as you feel justified in using on your place this year should be utilized to the fullest extent possible for production. Every hour of man labor and of horse labor, every pound of hay and quart of feed, expended for appearance alone or for the furthering of purely personal projects, is just so much to be subtracted from our total national output of foodstuffs, for which a world that faces the reincarnation of the grim shadow of Famine waits piteously.

With the realization, then, of the seriousness of the situation and of the critical time in the year's work which is at hand, what is there of a definite, concrete nature that can be done, in addition to the ordinary routine of affairs?

In the first place, there is the possibility of greatly increasing the efficiency of the community as a whole by practical coöperation on the part of estate owners and the owners of large farms. Coöperation is the order of the day; it is the keynote of increased efficiency in industry, and can



play its share in agriculture, particularly in the work that is to be done in the next two or three months, a great part of which can be accomplished much more economically if undertaken by full crews, with a complete equipment of machinery.

CROPS	JUN.	JUL.	AUG.	SEP.	OCT.
CORN					
CULTIVATE					
MANURE					
CUT					
SOW COVER CROP					
HUSK					
HAUL GRAIN					
HAUL STALKS					
FILL SILO					
CLOVER & TIMOTHY					
MANURE					
PLOW					
ROLL					
HARVEST					
DISK HARROW					
SPRING OR SPIKE TOOTH HARROW					
LIME					
SEED					
ALFALFA					
MANURE					
PLOW					
DISK HARROW & ROLL					
LIME					
SPRING OR SPIKE TOOTH HARROW					
FERTILIZER, INOCULATE & SEED					
HARVEST					
OATS					
CUT					
SHOCK					
HAUL TO BARN					
THRESH					
WHEAT					
PLOW					
ROLL					
DISK HARROW					
CUT & SHOCK SPR. or SPIKE TOOTH HARROW					
HAUL TO BARN—SEED					
THRESH					
POTATOES					
CULTIVATE—MARKET					
SPRAY					
DIG					
PICK UP & BAG					
HAUL & STORE					
SOW COVER CROP					

Period of performance of farm operations from June to October, inclusive, for the latitude of southern Pennsylvania. For New York it would be about two weeks later. The solid line represents the period when these operations are usually performed, and the dotted line gives the range within which they may be done

Operation	Crew		Acres covered in 10-hour day	Days per acre	
				10-hour day	
	Men	Horses		Man	Horse
Manuring, 12 loads, 14.4 tons	1	2	1.44	.7	1.40
Manuring 14 loads, 16.8 tons	2	2	1.68	1.19	1.19
Manuring, 14 loads, 16.8 tons	3	2	1.68	1.79	1.19
Plowing, 14-inch walking plow	1	2	1.80	.55	1.10
Plowing, two-gang plow, 24 inch	1	4	3.60	.28	1.11
Rolling, 9-foot to 12-foot width	1	2	15.00	.07	.14
Disk harrowing (single)	1	2	9.10	.11	.22
Disk lapping half (single)	1	2	4.50	.22	.44
Disk harrowing (double)	1	4	9.50	.11	.44
Spring-tooth harrowing	1	2	10.00	.10	.20
Spike-tooth harrowing	1	2	12.00	.08	.16
Spike-tooth harrowing	1	3	13.50	.07	.22
Distributing lime (machine)	1	2	10.50	.09	.18
Hauling lime to spreader	1	2	12 loads	.09	.18
Drilling fertilizer	1	2	8.00	.12	.24

Table showing the crews and machinery required per acre in the plowing and preparation of the soil for planting

A medium for coördinating this work in each locality can be created simply and quickly by the voluntary establishment of a small committee or "war council," for the purpose of planning certain kinds of work, such as summer and fall harvesting and fall planting, for a number of the largest places in the community. To illustrate: let us say that there are half a dozen large estates within working distance of each other; the chances are that this year all of these will be under-manned; and some of them, without doubt, are without a complete line of agricultural machinery. One place will have a tractor, which is by no means kept busy all of the time; perhaps two will have self-binders, two, corn harvesters; one, a threshing machine; two others, hayloaders; and so on through the list of large and expensive machines, which are used only a few days during the season, even on farms of several hundred acres. All of these machines, to get their work done most effectively, must have the complement of a full working crew. If the work is done by only a few hands, the machinery cannot be kept going at its full capacity. In ordinary times this may not make so much difference, but this year it is of vital importance.

Now, the organization of a small committee of three or five owners and managers, free from red tape, can plan the big jobs to be done during the next three months for these several farms with much greater efficiency than it can be done if each goes ahead by himself. A general outline of the work to be taken care of by such a committee follows.

The work to be considered lies along three lines: crops approaching maturity to be harvested; growing crops to be cared for; and crops to be planted for fall and for next year. The character of the work to be done and the time when it will require attention is presented graphically in the accompanying chart. This is adapted from the data collected by the Department of Agriculture, and covers operations on several leading crops for the Northeastern states, as is, also, the information contained in the tables showing efficient crews and their duties for the different operations mentioned on these crops.

A simple survey of the several farms coöperating should be made as soon as possible, to determine where each kind of work should be attended to first. There will usually be a difference of at least a few days in the development that has been made, so that oats, wheat, corn, or alfalfa, as the case may be, will be ready to be harvested on one place a little before the normal season, and, on another, a little later. The same holds for the other operations to be done.

While these things are discussed from the point of view of a group of farms, even two or three farms may assist each other materially by adopting a similar plan. In fact, all the general principles apply equally to a single large farm.

To take up in a little more detail the lines of work mentioned, let us begin with the planting. That, of course, can not all be done before the other things are tackled—all three lines must be carried along together. The planting should be attended to first where possible, especially the work of preparing the soil for planting, which may be done to advantage considerably in advance of the actual time for planting. Directly any piece of ground is available upon which planting is to be done later, it should be plowed and harrowed as soon as the work can be possibly got

it. If this is kept in mind in advance, it is often possible, especially if the tractor will be available at odd times, to get this work done without having it interfere with the operations on growing crops, or with harvesting, the time for doing which is more or less fixed. There are two distinct advantages in getting the soil prepared for future plantings as soon as it is available. Where a crop has just been removed, the ground, which has been more or less shaded, will still be fairly moist and will break up readily. If left for two or three weeks during dry weather, in the full sun, it is apt to bake so hard that it will considerably increase the work of plowing, and, when plowed, will be so hard and lumpy that it may easily take two or three times as much harrowing to get it into shape as it would have done earlier, and even then cannot be put in as good condition.

In addition to this, the moisture which will have been lost through evaporation in the meantime is a most important matter in effecting the start which can be made by the crop which is to be planted. Sufficient harrowing should be done, directly after plowing, to establish a dust mulch a couple of inches thick on the surface. This will hold the moisture until there is time later on to get the ground into condition to plant immediately.

If there is a tractor available in the community, work of this kind should be mapped out for it, so that it can be kept busy on some one of the farms every day that it is not needed for other work.

Crops to be planted during the next few weeks include turnips and early varieties of rutabagas; carrots for stock feeding, cowpeas and soybeans, either for hay or for plowing under for green manure; Hungarian millet, which is a fine catch crop for hay on any land which will be available for planting between June 15th and July 15th, especially if it is fairly moist, corn and similar crops for soiling, alfalfa, wheat, and rye, and fall seeding for hay for next year. All these crops are widely grown and it is not necessary to go into details about their culture.

But there are two of them which deserve a little emphasis. We have been leaving our wheat growing to the new lands of the Northwest and Canada. Many acres of the East, on which wheat growing had been given up because they had become run out by continuous cropping, are now in condition to give good yields of wheat again, and under present conditions the wheat acreage of the Northeastern States should be considerably increased. If you have not been growing any wheat lately, get all the information you can on this crop and try at least a few acres this fall.

In all probability, the world's wheat crop for this year will be again far below normal. *Now* is the time to do your share toward increasing this essential crop for next year. Soybeans, as a rapid growing warm weather crop for plowing under, and furnishing an abundance of both humus and nitrogen from the air to the soil, are not grown nearly as generally as they should be. Wherever you can work in a crop of soybeans for plowing under in the fall, be sure to do so.

There are two other crops to which particular attention may be called; the first of these is rape. Sow enough rape to pasture all the hogs you have during this fall, and thus be able to cut down on the grain and other feed usually required for them. If there is no plowed ground available for it, in all probability some pasture or orchard land which has not been broken for some time can be found which could be used for this purpose with great profit. Every acre of rape grown this year, by cutting down the amount of other feed ordinarily required for fattening hogs, will be a direct contribution of the very utmost importance to our total amount of food output.

The second item is winter cover crops for plowing under in spring for green manure, to be sown in field and in silage corn during this month. A proper time is just after the last cultivation—and it should be *immediately* after the last cultivation. A few days' delay may see a wind and rain storm which may beat the tall corn down and make it impossible to get through and to distribute the seed.

If the corn is not too big, a one row seeder may be used for this planting. If the work were carefully planned, a single machine could do the work on several farms if used constantly for a week or ten days. A combination of rye, winter vetch, and crimson clover is better for this purpose than any one of these things alone. Sown now, they will sprout in the shade and form a thick nap after the corn is removed and before the snow flies.

A crop of this kind to turn under in the spring will make the best possible preparation for corn, of which we will need an extra big acreage next year, or for potatoes, or for spring wheat.

The crops which will require care and cultivation during this month and next are potatoes, corn, hay, mangels, and the like. Most of this is routine work which can be taken care of on the individual farm, although coöperation in the use of two-row cultivators and other improved machinery may help out greatly. The spraying of potatoes, particularly, is a job which may be done cooperatively with great economy. It is highly important that every potato field should be kept sprayed, not only to increase the yield but to insure better keeping qualities in the crop.

A modern sprayer with one horse and one man can cover twelve to fifteen acres of potatoes in a day; so there is no excuse for any field to be neglected in this respect if there is a war council on the job.

A top dressing of hay fields after the first cutting is another very important point in increasing this year's production of available forage crops. Every extra ton of hay means just so much corn and wheat products saved for feeding. Cultivation should be kept up in the mangel-wurzel fields to conserve all the moisture possible, as the ultimate quantity of tonnage finally produced will depend to a large extent upon this factor.

The crops to be harvested during the next few weeks will include hay, alfalfa, oats and peas, oats for grain, wheat, rye, and a little later, field corn and silage corn.

In all these things, machinery must play a far more important part this year than it ever has before. The committee or the individual farm owner should see to it that all the equipment is ready and in the best shape. There will be unusual delays in getting repair parts this year. As far as possible, discount any possible set-back of this kind by ordering small parts in advance; they can then be held in readiness for use as they may be needed on any of the several farms coöperating.

Operation	Crew		Acres covered in 10 hour day	Days per acre 10 hour day	
	Men	Horses		Men	Horses
Potatoes					
Cultivating	1	1	4.00	.25	.25
Cultivating, riding	1	2	6.10	.16	.32
Spraying (liquid), 4 rows	1	1	15.00	.06	.06
Digging with elevator	1	4	3.50	.31	1.26
Digging with potato plow	1	2	3.00	.33	.66
Picking up and bagging	1	0	.50	2.00	...
Hauling to cellar	2	2	3.70	.54	.51
Corn					
Cultivating	1	2	7.70	.13	.26
Cutting, 60-80 bushel yield	1	0	1.00	1.00	...
Husking, 60-80 bushel yield	1	0	.53	1.80	...
Hauling grain, 60-80 bushel yield	2	2	3.20	.62	.62
Hauling stalks, 60-80 bushel yield	3	2	6.50	.45	.30
Filling silo.					
Cutting by hand and loading	6	0	4.00	3.50	2.00
Hauling to cutter	4	8			
Feeding the cutter	1	0			
Storing in silo	2	0			
Running engine and helping feeder	1	0			
Hay					
Seeding with wheat drill	1	2	10.60	.09	.18
Clover seeding (wheelbarrow)	1	0	19.00	.05	...
Mowing, 5-foot cut	1	2	9.50	.10	.20
Tedding, 6 to 8 feet wide	1	2	14.50	.07	.14
Raking, dump rake 8 to 10 feet wide	1	2	17.00	.06	.12
Raking, side-delivery rake	1	2	16.00	.06	.12
Piling in field	1	0	5.40	.18	...
Loading, hauling, and storing					
8 loads, 1½ tons yield	3	2	5.50	.54	.36
12 loads, 1½ tons yield	4	4	8.50	.47	.47
Alfalfa					
Inoculating with soil	1	2	12.00	.08	.16
Drilling seed alone (sowing two ways)	1	2	14.30	.07	.14
Seeding (wheelbarrow machine)	1	0	9.50	.10	....
Mowing, 5-foot cut machine	1	2	10.00	.10	.20
Mowing, 8-foot cut machine	1	2	15.00	.07	.14
Tedding	1	2	14.50	.07	.14
Raking, dump rake	1	2	17.00	.06	.12
Raking, side delivery	1	2	10.00	.06	.12
Cocking	1	0	6.00	.17	...
Capping	1	1	20.00	.05	.05
Loading, hauling, and storing, first cutting					
10 loads, 1½-2 tons yield	3	2	5.50	.54	.36
15 loads, 1½-2 tons yield	4	4	8.50	.48	.48
Oats					
Cutting, binder 6-foot cut	1	2	9.00	.11	.22
Do	1	3	10.80	.09	.27
Shocking	1	0	6.00	.17	....
Hauling to barn	2	2	6.00	.34	.34
Do	3	2	6.50	.46	.30
Wheat					
Seeding, 6 to 8 foot drill	1	2	9.50	.11	.22
Cutting, binder 6-foot cut	1	3	10.00	.10	.30
Shocking	1	0	5.40	.18	....
Hauling to barn	2	2	5.30	.36	.36
Hauling to barn	3	2	5.75	.51	.34

Showing the men, horses, and machinery that are essential for the proper cultivation of the six leading farm crops

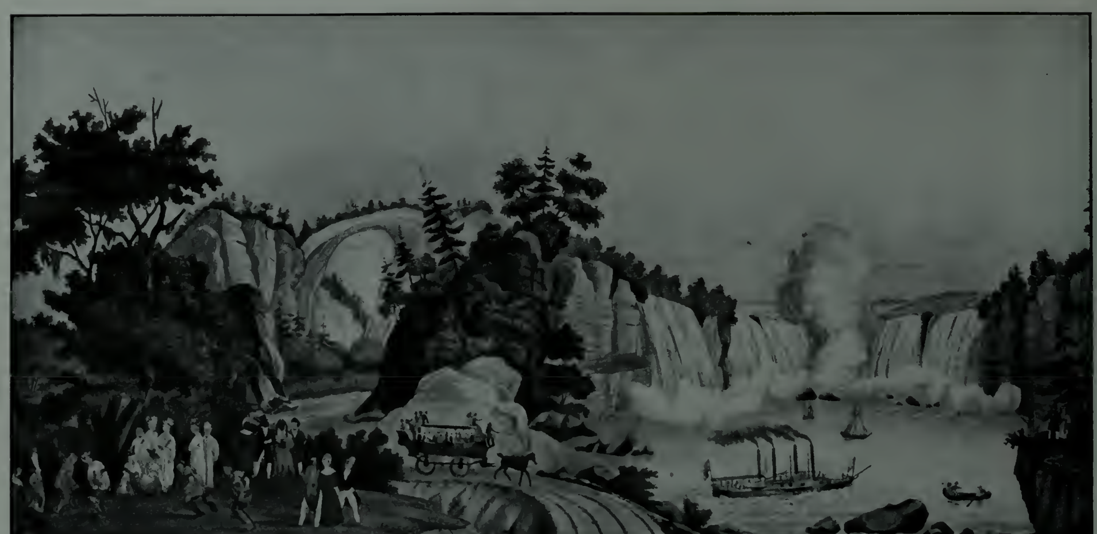
A fact which may not be generally known—at any rate which frequently is not taken advantage of—is that hay can be cut while it is wet, even while it is raining, without any injury to the crop. This will often give from half a day to a day's start and makes it possible to "*make* hay while the sun shines" and to have it ready to get it in between showers.

Another thing which should be carefully planned, on the individual place or where a number of farms are coöperating, is to have work for rainy weather, so that the men when interfered with in field work by sudden showers will have something to go to at once. The means for transporting them immediately to rainy-day work, from one farm to another if necessary, should always be at hand.

Very often the farm truck goes into town once or even twice a day for supplies or repairs, when one trip for the five or six farms coöperating would do just as well, and leave available the means for rapid transportation of labor from one job to another. On a large estate this is no small leak in the amount of available productive time spent.

Still another little item well worth considering is that of providing the men on the place, who may not have gardens of their own, with land enough on which to grow a supply of root crops and other vegetables for fall and winter.

Most of them will be glad to take advantage of the opportunity to help provide themselves with some extra foodstuff for what is undoubtedly going to be one of the hardest winters in many decades, by employing their own spare time. The safest way to conduct a joint-interest garden of this kind, is not to attempt to have it done coöperatively after the planting stage. Beyond that, each can look out for his own. No communistic gardening, with a share-and-share-alike programme, is likely to prove satisfactory, unless the coöperation is wholly voluntary on the part of those participating in it.



From the Scenic America design, dealing with a Frenchman's impressions of America, which must have been truly kaleidoscopic; the Winnebaygo Indians on the left are hobnobbing amicably with sightseers at Natural Bridge, Virginia, while a crowded stage coach load of other tourists, drawn without effort by one small nag, find Niagara Falls just around a bend in the road

OLD PICTORIAL WALL PAPERS

By HELEN DEAN BOGAN

IN 1880, Clarence Cook, the architectural authority of a generation ago, is reported to have said: "One can hardly estimate the courage it would take to own that one liked an old-fashioned wall paper." But to-day, in this age of the deification of the antique, our interest in old pictorial wall papers is real, and our admiration of them enthusiastic. This interest, however, is of two kinds. Most of us, having neither the means to buy modern reproductions of these papers, nor houses suitable for their installation, can have in them only the interest of an antiquarian or historian. There are, on the other hand, a favored few whose pocketbooks warrant the purchase of the reproductions, and whose new Colonial houses furnish precisely the background that the papers demand.

All of us exclaim over the quaintness of the old papers. The verve and piquancy of the emotions which they portray are unimpeachable. And most of us, standing with a 20-cent roll of modern paper in our hands, with which our good taste can make our rooms attractive, are enough interested in history to be glad to know something about the process which has made this possible, a process whose most interesting phase, by far, is the use of the pictorial wall papers under discussion. We love to browse about in old records, and remind ourselves how, in 1145, when the capital of Fez was in danger of invasion, its patriots covered part of the interior walls of their mosque with paper, coated with plaster, to preserve the fine carvings. From this obscure beginning we trace the use of decorated paper hangings for the walls of rooms to China, that source of so much that we consider indispensable in modern life. From China, in the middle of the sixteenth century, the cult takes a long stride—to Holland. In 1630 Le Francois, of Rouen, got up a clever imitation of silk tapestries in what he termed "flock" paper. This was simply the spreading of pulverized wool of various colors over the surface of paper which had been covered with a sticky substance. From the middle of the eighteenth century the making of colored paper was begun in earnest. Factories were established, toward the end of the century the more convenient roll form took the place of the clumsy squares and blocks, and the new industry gathered momentum as it grew.

A paint made of water and clay, whitewash, or hand painting had been the early wall covering in America. In 1735 wall paper was imported. These early wall papers exhibit the widest range of subject and the liveliest imagination in their treatment. We have the adventures of Don Quixote, of Telemachus, of Ulysses, of Captain Cook, of Biblical heroes. There is a marked penchant for forest and tropical scenes, to which such subjects as the cultivation of tea, fox chases, and jungle scenes, lend themselves. The Bay of Naples, with Vesuvius smoking like an iron foundry, is a prime favorite. In one paper this is enlivened by three old-fashioned ladies, who are placidly drinking tea at its base, sublimely superior to the lava which is in momentary danger of seasoning their potion. All of these things are interesting and quaint, but most of us have in them only the interest that we have in a display in a museum.

With the man who actually wishes to purchase pictorial paper for some room or rooms in his new home we have a decidedly different problem, and a problem whose dimensions are very much increased by the War. First he must select from among the various papers the subject that he prefers, and next he must determine whether reproductions of the paper are obtainable at the present time. For these papers are printed from a large number of wooden blocks. For the production of the Scenic America paper illustrated here, for instance, more than 2,000 wooden blocks

Detail of Niagara Falls, from Scenic America paper in an old house at Portsmouth, N. H.

The drill at West Point, with the Palisades beyond, presents a very pleasing picture

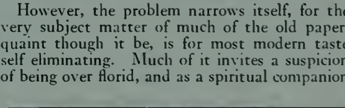
st Point and Boston Harbor, from Scenic America, hand-printed from the original wood blocks. In the Boston Harbor scene, the eastward floating pennants of the sailing boats and the westward trailing smoke from the steamboats upset the theory that the wind cannot blow two ways at once

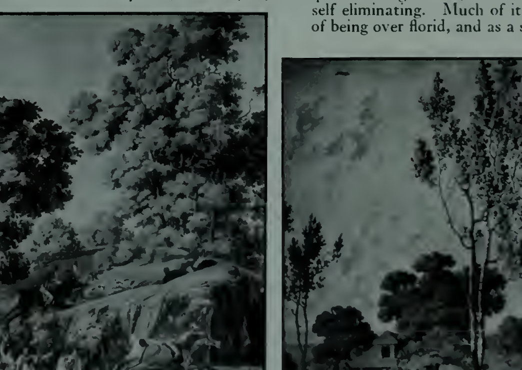
The Frenchman's impression of Riverside Drive, with New York Bay in the distance

Paper depicting an Oriental scene, on the walls of The Lindens, General Gage's headquarters, at Danvers, Mass.

e necessary. And a leading interior decor- r gives as his opinion that in cases where original blocks have been destroyed, the cost modern reproducing would be absolutely hibitive.

However, the problem narrows itself, for the very subject matter of much of the old paper, quaint though it be, is for most modern taste self eliminating. Much of it invites a suspicion of being over florid, and as a spiritual companion





Three views from a pictorial wall paper representing the chase, on the walls of the Andrew Safford house at Salem, Mass. Leaving the castle, at left; passing the houses of the tenantry, at right

Two panels from the delightful Lady of the Lake design, which is no longer obtainahle as the blocks have disappeared

some of it must be rather depressing. In the tropical scenes the vegetation exhibits sometimes too violent an exuberance. It shouts aloud its superiority to the bay tree of fame, and some of the largest trees in their excess of growth seem somehow, like the Arab and the camel, to be crowding the rightful occupant out of the room. Then some of it evinces an exceeding tendency toward the melodramatic. Vesuvius erupts with undue energy, the Boston massacre is hardly a hilarious theme for constant association, while the cannibal's feast, out of Captain Cook's adventures, is distinctly *not* the proper daily stimulus for one who has an inveterate distaste for breakfast eggs. Some of the repeated patterns would be even worse. In the cathedral porch and shrine design, for example, the notion that all those stairs must be climbed might easily lead to a nervous breakdown.

Then the choice of much of the old paper which would be in every way desirable is eliminated because the paper can no longer be obtained. This is the case with the Lady of the Lake pattern photographed here, which was put out by a firm that has been discontinued for years. It is a great pity, for the paper is delightful, and one cannot help hoping that the blocks will some day be unearthed. Reproductions of the Cupid and Psyche story are obtainable, in twelve panels. They are in beautifully blended tones of gray, and would prove very acceptable for any one who cares for a Rubens effect in draperies and well rounded limbs. A Chinese paper in colors may also be had for those who have a preference for the Oriental. It would, I suppose, be very good in a dining room with Chinese Chippendale furniture, Canton china, and so on. Old foliage papers, without any story content, attractive country and garden scenes, and a Louis XIII fête are also in the market.

The War has rendered problematic the procuring of reproductions of other old wall papers. It is curious how so placid a pursuit as the making of wall papers concerns itself with the fortunes of war. Revillon, the owner of the first wall paper factory, in 1788 was employing 300 hands. When he refused to lead an open rebellion, his enemies floated libelous statements to the effect that he intended to cut his men's wages in half. And for this the innocent man was mobbed and his factory destroyed. This factory, however, is untouched by the present War, and is still making reproductions from the original blocks. There is a factory in Alsace, on the other hand, whose premises were an ancient Commanderie of the Teutonic Order of the Knights of Jerusalem, which has been turned into a war hospital, and the owner of the building himself does not know whether the blocks have been destroyed or not.

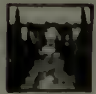
The Adventures of Telemachus pictured on the walls of the Knapp house, Newburyport, Mass.

And if the War is accountable for the destruction of that most fascinating of all old wall papers, Scenic America, another black mark will be laid to its charge for the destruction of a real art treasure. The paper deals with a Frenchman's impressions of America, and is wonderfully charming and effective. There are several sets of this paper on different walls in America, but the set from which these photographs were taken is on the walls of an upper chamber of an old house in Portsmouth, N. H.

Many gracious arts have become lost to us in the past, but these old wall papers are quaint and decorative, and the best of them, when used in the right place, so really beautiful, that we should be sorry indeed to have them follow suit. It will be an excellent thing if public opinion interests itself in them sufficiently so that what original blocks remain in existence shall be preserved with meticulous care.

Turkish scene (at left) and panel from Eldorado, the latter put out by a factory in Alsace which is being used at present as a war hospital. It is to be hoped that the blocks have not been destroyed

The small irregular lily pool in Mrs. Harold I. Pratt's garden at Glen Cove, Long Island. The rose garden, in the background, follows the slope of the hill down to the pool and forms a wonderfully effective setting for it



The WOMAN *and her* WATER GARDEN

By
Isabelle H. Hardie

Photographed by
Jessie Tarbox Beals and
The Johnston-Hewitt Studio

In Mrs. Burrell Hoffman's garden at Southampton, Long Island, the water garden is a symphony in pink and white. On the surface of the water float pink and white lilies, while around the margin are massed pink and white petunias, yellow and pink snapdragons, and scarlet phlox. In the background Dorothy Perkins roses carry out the color note

At Rosemary Farm, Mrs. Roland R. Conklin's home at Huntington, Long Island, the pool and waterfall at the end of the wild garden constitute an unusually good example of picturesque treatment of rocks and water. Yellow and white waterlilies float here and there, but the planting is not dense enough to kill that chief charm of the water garden—its reflections. The island at the left provides the natural stage in an outdoor theatre, the terraced bowl at the right affording seating space for many spectators

The less you pull plants about, in gathering the crop, the longer they will continue bearing. This applies particularly to beans and peas

JULY *in your own* WAR GARDEN

By ADOLPH KRUHM

HE way in which country estate owners throughout America responded to the President's appeal has been one of the most inspiring examples of patriotism. On Long Island alone, 100,000 acres which, for years have been pastures and meadows, were put under the plow. Land that formerly supported naught but bugs, grubs, and grasshoppers is now bearing useful crops destined to help in the feeding of the nations. The danger now is that we may rest on our laurels and let the garden drift. It cannot be emphasized too strongly that the campaign for food production is not a mere preliminary skirmish. It is a real campaign, and we have got to keep everlastingly on the job to carry it through.

Work in the July garden may be divided as follows: caring for the growing crops; providing succession crops; and starting the new midsummer garden. While these various activities are closely interrelated, to facilitate execution, we will take them up separately.

CARING FOR THE GROWING CROPS

July sees the vegetable garden in all its glory. Because of the late start in the spring, many of the earlier vegetables are just reaching maturity. All appreciate frequent and thorough cultivation, also occasional irrigation, though in connection with the latter it should be borne in mind that a good soaking once a week is better than a superficial sprinkling every day.

Beans should be hilled well, for two reasons: hilling will keep the pods off the ground, and clean, and it will make their gathering easier and less harmful to the plant. The less you pull the plant about, in gathering the crop, the longer will it persist in bearing. When you gather beans, separate the pod from the bush by breaking the stem with your fingernails. Every time you jerk a plant, its bearing power becomes impaired.

Beets should be gathered while young, if the best of quality is desired. If they were properly thinned some weeks ago, the early rows should now contain many roots of the desirable two-inch size. If thinning has been neglected so far, do it now. All sorts do better if plants stand four inches apart in rows.

Cabbage. From plants set out in May you should have early heads this month. Should Jersey Wakefield, Copenhagen Market, Allhead Early, or any of the extra early kinds show signs of bursting, push them over to one side. It will break some of the feeding roots and stop development.

Celery. June-set plants of early sorts should be watered freely during this month, or an exceptional number of hollow stalks are apt to result. Should blight appear, spray with bordeaux mixture. Hill every other week, but do not hill while soil or plants are wet or moist with dew.

Corn. Extra early sorts like Peep o' Day, Mayflower, Pocahontas, or Golden Bantam should be hoed thoroughly and for the last time during the first week of this month, when pumpkin or squash seeds may be planted in the hills. Do not hoe too close to base of stalks at this time —it is apt to disturb many fine feeding roots to the detriment of development of ears.

Endive. Plants that measure a foot or more across are now ready to be bleached. After the sun has thoroughly dried off the dew, gather all the leaves together and tie into a cone-shaped bunch. After a rain, open the plant to give the sun a chance to dry it, or the edges of the leaves will rot. One week of blanching generally prepares the plant for the table.

Lettuce. The aim this month is to keep the heads of early sorts from bursting, by thorough and frequent hoeing. Well-developed heads should have from twelve to eighteen inches of space in the row. Hoe *between the heads* as well as between the rows—it will delay bursting more than anything else that you can do.

Onions. July is a most critical time for this crop. *Keep down the weeds*. Of course the seedlings should have been thinned to stand four inches apart in the row, some time ago. Once a week hoe between the rows with a wheel hoe, even if no weeds are visible. Before every cultivation, apply either wood ashes or a complete fertilizer at the rate of a handful to every ten feet of row, sprinkling it lightly on both sides of the row.

Peas. Should the sparrows prove troublesome in eating blossoms or young pods, run strings with strips of papers over tops of brush or the trellis which supports the vines. In gathering the first pods toward the middle of month, do not jerk the vines. What is said of beans with reference to jerking holds good with peas as well.

Potatoes. One pound of Paris green mixed with fifty pounds of land plaster and applied in the morning, while the dew is on the foliage, will successfully combat the potato bugs which are scheduled to appear in quantities this month. Sprinkle with a convenient sifter, which may be secured at any hardware store. Should your potato patch be small, slug poison will do the work well and economically. One pound suffices to sprinkle thoroughly 100 feet of row.

Tomatoes. July marks the turning point in the life of the tomato plant. Heretofore, it has been permitted to develop for development's sake. Now, its energies should be turned into the right direction for fruit production. During the first week in July secure as many stout, five-foot stakes as you have plants. Reduce plants to three of the strongest branches; within a few

Tarvia auto-truck sprayer — *Distributing "Tarvia-X" on wearing-course*

How to Identify a Tarvia Road

THOUSANDS of miles of macadam roadways have been made durable and dustless with Tarvia. In fact, so common are these roads that many people, automobilists particularly, call all smooth, bituminous highways "*Tarvia Roads.*"

In consequence, we often receive complaints about roads which are not Tarvia roads at all.

Now, there are certain differences which any layman can observe.

1. *If it ripples, it is not a Tarvia Road.* Tarvia forms so strong a bond with the foundation that a road built with it has little tendency to work into waves or ripples. It is unique among bituminous materials in this respect.

2. *If it has a bad smell, it is not a Tarvia Road.* Tarvia has a good, clean, "tarry" smell while it is hot at the time it is applied. After a few days, like a tar-and-gravel roof, it has no perceptible odor.

3. *If it tracks or spatters, it is not a Tarvia Road* (unless the workmen are grossly careless). Tarvia is not oily or greasy. It percolates downward into the macadam and hardens quickly. If the road-builders apply more Tarvia than the road will absorb, they are supposed to sprinkle on sand or fine stone to absorb the excess, leaving the surface clean, dry and firm within a few days.

4. *If the road works into ruts, it either is not a Tarvia Road, or, if a Tarvia Road, it was improperly built.* Some road oils which lay the dust temporarily by the water-sprinkling principle actually have a lubricating effect upon the road, weaken the natural bond and ruts quickly result.

5. *If the frost bothers it, it is not a Tarvia Road.* Tarvia, like the tar from which it is derived, is about the most waterproof thing on earth. If it is properly used it keeps the dampness out of the road just as tar does out of the foundation of buildings.

A few facts about Tarvia

Tarvia is a coal-tar preparation of great viscosity. It furnishes the additional bonding-power which a road needs to fit it for modern traffic.

Tarvia brings good roads within the reach of many communities which otherwise could not afford them. While it sometimes, though not always, adds to the original cost of a road, it saves large sums in the end by reducing the expenses of maintenance and prolonging the life of the road-surface.

An ordinary macadam road that would go to pieces in two years under a given amount of traffic will last indefinitely if bonded and treated with Tarvia.

Tarvia makes just the difference between a road that is too weak for its job and a road that is strong enough. Scores of towns and many counties as well as many park systems and private estates have adopted the policy of using Tarvia consistently on all their roads for the sake of reducing expenses. At the same time, of course, they get far better roads.

A Tarvia road is dustless, mudless and automobile-proof. When the frost comes out of the road in the spring, the Tarvia road is as good as ever because the frost doesn't get in.

Illustrated Booklet Free

To any one who is interested in the modern, inexpensive way of building and maintaining good roads, we shall be glad to send a Tarvia booklet without charge. The booklet shows good roads all over the country which are being built and maintained at lower cost than any other type of permanent roadway.

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Chauncey Avenue New Rochelle, N. Y. Constructed with "Tarvia-X," 1915. The dustless mudless and automobile-proof surface is very popular with the residents.

A HERMIT'S SUMMER

By WILL D. I. ARNOLD

Photographs by P. E. GRIESEMER

A BACHELOR of forty is obviously eccentric—if he were not the wouldn't be a bachelor. I admit it; but I am a bachelor, and forty, and eccentricity follows as a matter of course. Still, when so many people are replenishing the earth, why shouldn't I give the earth a chance to replenish me? And I needed replenishment, too; I was utterly and unspeakably tired of the ceaseless grind of eminently respectable but not particularly lucrative clerical work.

So five years ago, indifferent to the joking of my fellow clerks, I bought for an infinitesimal sum ten acres of land on a high knoll; stumpy, it is true, but overlooking miles of lovely mountainous country. On a part of my vast estate a house, the architecture of which was evidently inspired by a cigar box, stood amid the stumps, like a hen surrounded by a thriving brood. But the place was mine; it was five miles from town, it was adorably quiet, and there some day I might ride my hobbies.

Through cruel mutilation of my salary, I had two acres shorn of its stumps, plowed and harrowed, and, with the aid of one man, planted an orchard.

Have you ever succumbed to the lure of a nursery catalogue? I spent hours in the delightful task of separating from among hundreds of seemingly perfect fruits those trees of mine (I saw them always, low, wide-spreading, in long rows, and pink with blossoms). There were whole pages of apples, each more wonderful and delicious than the last; pears "buttery and melting"; peaches that blossomed late and fruited early, thus avoiding frosts; Russian apricots with a disregard for zero weather; cherries that made me wonder why I had ever cared for other fruits; not to mention endless varieties of strawberries, gooseberries, and currants, that only needed to be properly planted to yield unnumbered bushels.

One April day—cloudy, cool, and unspringlike, I remember—accompanied by a man who was to stake out my orchard, and two immense, coffin-shaped boxes containing my cherished trees, I drove to the farm—how I rolled the very word under my tongue—to begin planting. Upon opening the boxes the trees seemed, to my inexperienced eyes, disappointing, small and shrublike, and not in the least resembling even the beginning of my orchard. However, they were carefully planted; the Wealthy, Oldenberg, and Yellow Transparent apples; the Abundance and Red June plums; the Russian apricots; the Anjou pears; the quinces and cherries; and we drove away, I looking back often at the tiny, heartlessly pruned trees left alone in the cold, spring twilight, great gaps of plowed field showing between them, and wondered if some robust cow would devour them before morning. Every one of those trees grew.

Five years later, much to the astonishment and politely concealed contempt of my friends, I gave up my position and came to my farm. Doubtless every reason was assigned for my going, but I had neither embezzled nor been dismissed; I simply wanted, before I was quite worn-out and zestless, to taste, even if the taste quickly palled, an existence that I had so often imagined.

I came here with a bank account as small, proportionately, as my little house—the interior of which, by-the-way, I had never seen, and into which I moved the furniture from my rooms in town. Luckily I can cook; I laid in a large supply of groceries, and arrived, late one April evening, at my uncompromisingly unhomelike house. It isn't so now; the walls are no longer covered with magenta-hued paper; the house itself is newly painted; and the furniture, books, and knick-knacks accumulated during years of bachelorhood make my small, square rooms decidedly attractive. I shan't forget, however, the rainy April night, the general far-awayness of the spot, and the bare, not too-clean, house into which my earthly belongings were carried. The empty van drove away—the driver's "Good-night" somehow seemed disheartening—and I and my lately acquired dog, a dachshund, whose medieval appearance only heightened the unrealness of the situation, stood alone amid the disorder on the bird-cage-like front porch. I went into the house and sat down. A cast of the Belvedere Apollo regarded me from a box of bric-à-brac, on his perfect lips a faint sneer of disgust at his surroundings; on the walls were pasted lithographs, evidently from a Sunday school room, one picturing the apostles standing on the shore of a very green and bilious-looking sea; my dog came up to me, wearing an inquiring expression as though asking if it were not time to move on; and I began to think that perhaps the whole idea might be only a symptom of incipient madness.

"As I stood at the barn door this evening. . . . Beauty seemed to stare rebukingly at me"

I bought a cow. How little the simple statement suggests the searchings, the questionings, and the wariness necessary to such a purchase. I had never milked, and when my candidates narrowed down to a Jersey cow ten years old, staid, respectable, and calm, and a handsome heifer with the fire of youth in her big, brown eyes, I prudently thought of overturned milk pails and unseemly gambols, and decided upon the cow. She is a jewel beyond price; and no club, no hired rooms can ever impart the homely sensation I feel when I see her standing in the barn, contentedly chewing her cud, and exhaling a scent which is an admixture of wet grass, new milk, and all wholesome things. The Jersey is the most important of my stock, and next, perhaps, come the turkeys—White Hollands. Theodore, the gobbler, is as ornamental as any peacock as he walks haughtily through the orchard, his snowy plumage clear cut against the clover. They are things of beauty, but no turkey will consent to be a joy for even a reasonable time. I've learned a lot about turkeys. That there are any for sale at Thanksgiving time is a miracle. In April the hens begin to lay, choosing for their nests thoroughly suitable spots from an artistic standpoint, but subject, alas, to attacks from weasels, minks, and skunks; and when the young ones hatch, if by chance they should, a hundred ailments lie in wait for them. They begin life handicapped by ennui; are subject even to sunstroke; and, as every one knows, wet is fatal to them. One poultry journal suggests holding titbits before their eyes "to teach them to eat," although naïvely admitting that "it involves considerable labor." They are fearless little creatures, and the survivors of my attempts at rearing fly upon my arms and shoulders each time they are fed. The hens lead their broods through the fields, with their heads constantly up and turned to one side, watching for a possible hawk; at the sight of a bird in the sky they make a queer, whining sound, at which every youngster flattens himself in the grass. One of my turkeys, after sitting calmly through four long weeks, suddenly developed latent madness, and killed every poult as soon as it emerged from the shell; she then tried eagerly to entice away the young ones belonging to another hen who is a model of maternal virtue.

I bought, too, a flock of white guineas, which, with their red wattles and pasty-white faces, look like circus clowns, and whose voices and behavior are as peculiar as their appearance. They steal their nests and lay, often as many as thirty eggs, not more than half of which they can cover. Their nests are extremely hard to discover, and I have often watched the hen when going to lay, casually saunter in exactly the opposite direction as though intent only upon searching for food, and then, when she no longer felt under observation, disappear. Their eggs are delicious—when they can be found—and none but an epicure can distinguish between a squab guinea and a grouse. Guineas are no expense and no care, and, aside from their extravagance as to eggs, are model mothers.

After the excitement of turkeys and guineas, my white Wyandotte hens seem commonplace enough, but they furnish me with sufficient eggs at small cost; and I have for my daily breakfast, not the storage variety, but great pinkish-brown eggs of delightful flavor.

A brood of white Indian Runner ducks is a self-reliant family, although there have been two deaths among them so distressingly sudden as to suggest suicide.

Four white homing pigeons adorn the place, incidentally pro-

"The turkeys gathered confidingly about my feet"

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All safety parts are oversize. Over 440 parts are of toughened steel. And we use a wealth of costly steel alloy.

The Mitchell extras—over average cars—will cost us this year about $4,000,000.

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Mott's 138-page book "MODERN PLUMBING" describes various styles of Mott kitchen and pantry sinks at a wide range in price; also shows 22 model bathrooms with floor plans and gives hints on tiling and decoration. Sent for 4 cents postage.

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viding a brace of succulent squabs now and then, at the cost of a handful of grain daily. My brother, apprehensive lest my menagerie be incomplete, sent me a pair of young Belgian hares, which are always feverishly engaged in eating, with that queer twitching of the nostrils peculiar to all rabbits. A child of four of my acquaintance, after interestedly viewing my live stock, said: "Why haven't you a zebra?"

A friend of mine once declared, on hearing my oft-repeated threat to live on my farm, that when I did so, she would present me with suitable occupants for my pig-sty. She gamely kept her word, sending me from her model country place a pair of pedigreed Berkshires, black as the ace of spades, with noses emphatically retroussé and appetites wholly insatiable.

Many of my evenings are spent in informing myself, with the aid of agricultural papers and Government bulletins—most excellent helps, by-the-way—on the management of all my flocks and herds. It was in one of them I learned that pigs "should not be allowed to root, it makes them nervous," and should be "ringed" at an early age. Acting upon this advice I purchased some porcine nose-jewelry, with a tool for its insertion, and began my simple task. I have ridden half-tamed Western bronchos, and, compared with "ringing" a pig, it's easy. I contrived to slip a rope around the neck of one, gave it a twist about a post, and drew up to me the small porker, whose squeals reëchoed all over the place. At the pain of forcing the ring through her nose she suddenly exerted such surprising and disproportionate strength that she pulled loose the rope, crushing my fingers against the post, and at the same time planting her pointed hoofs squarely in my stomach. I had never known articles of feminine adornment to be received in this way. I was disgusted. The next day she had the ring out. My pigs may become nervous, but they won't wear rings.

Tillie, the dachshund, doesn't really belong with the animals. She is a friend, the most understanding and sympathetic of friends, close to my side the whole day long. Her droll, intelligent little face, her queer, twisted fore legs—exactly like those of a turtle—make her look as though she had walked off an old tapestry. Tillie is that most desirable of animals—a real dog. To be sure she does at rare intervals, out of pure exuberance of spirits, nip a young chick or duck, but she is all apologies immediately, and remembers her misdeed for days. She sits beside me in the long summer evenings, perfectly happy only to be touched or spoken to now and then.

Farm customs were unknown to me; the etiquette of the country new. I found that direct answers to questions were bad form. "How many acres have you in oats?" requires the reply: "Well, I don't hardly know; some says that field is about eight acres, but it mayn't be more'n six." And the present season is always the worst within recollection. "How is your corn?" brings the response: "When I was a boy I can remember the corn more'n knee-high on the Fourth-of-July, but this year it ain't no good." No farmer worthy the name ever appears to wish to sell anything. He may "spare it," but only by way of accommodation. A good old lady who lives near-by, in discussing the utter unreliability of a man in the neighborhood, said: "I wouldn't trust him with a cake of soap. He wanted to buy ten hens from me, but, of course, I couldn't spare that many, and I let him have eight. Never a cent did I get for them." If a neighbor wishes to borrow some article from you, the proper procedure is for him to call in the evening, spend an hour or two in conversation, and on saying good-night, remark casually: "I was just thinkin', are you usin' your cultivator to-morrow?" And you never ask questions regarding the ladies of the family; to-be-sure they are sometimes mentioned, but in a hurried, furtive way, and they usually remain in the distant background during a call. I have been told that it was the ardent wish of every woman in the neighborhood to see me wend my way to town, of a Saturday morning, with a basket of produce on my arm—a wish not gratified, however, as my customers call at the farm. I was surprised to find, too, that a life-long familiarity with nature rarely enables these farmers to name any but the commonest of field flowers and plants. The habits of wild animals and birds are mostly unknown to them, although they keenly appreciate the beauties of the garden and orchard, and domestic animals.

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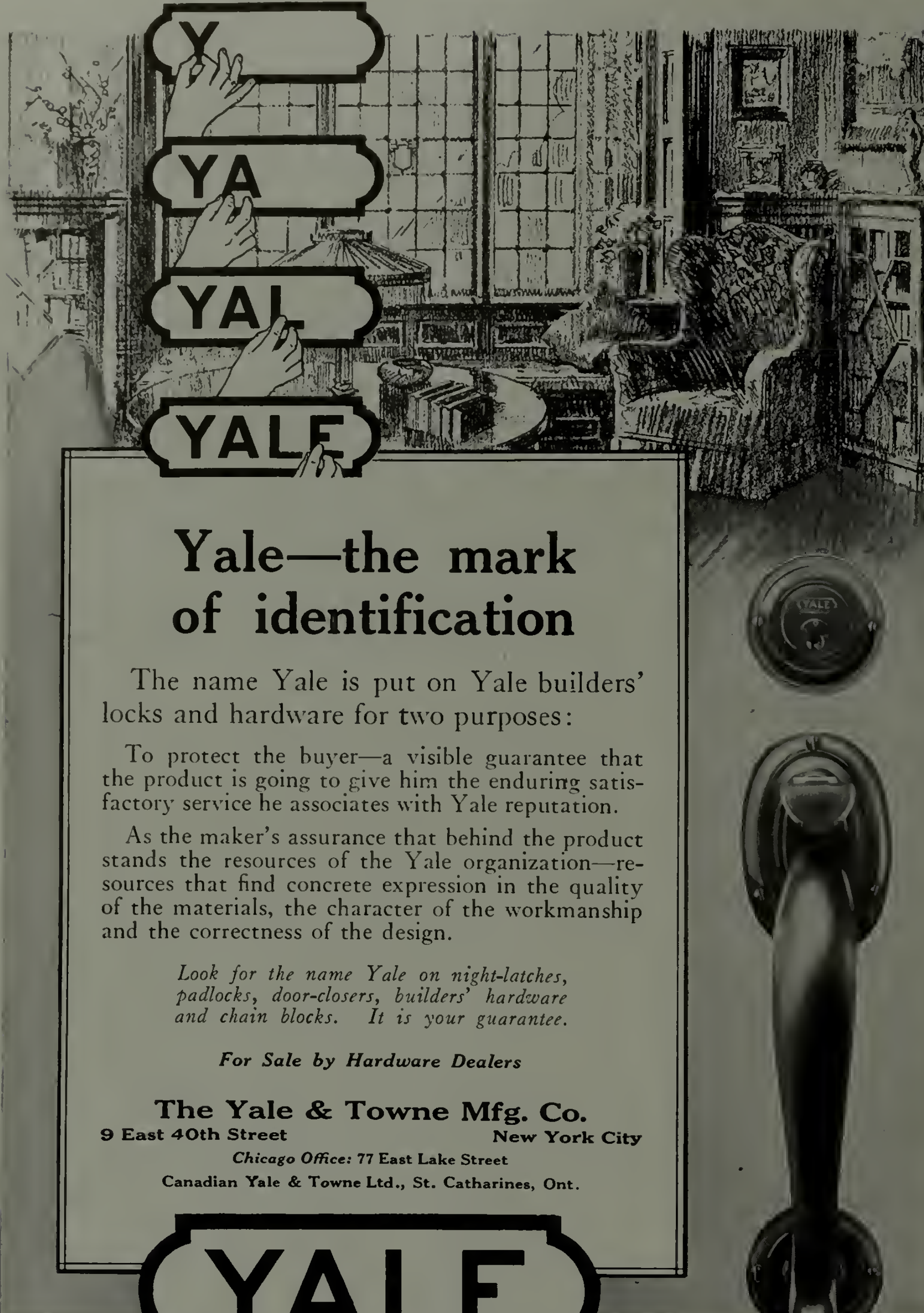

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The New COUNTRY LIFE
GARDEN CITY NEW YORK

I have always loved a garden, as who does not? And here I have a whole acre; an acre exacting a lot of hard work, but yielding, in addition to vegetables and flowers, constant enjoyment. I began it in April with radishes and onions, all varieties selected, like my trees, from among countless examples of vegetable perfection. Irish Cobbler potatoes—what an endless number of plantable pieces may be cut from a bushel of these; peas, not the smooth, tasteless yellow spheres one gets at a hotel, but wrinkled, sweet ones; Golden Bantam corn, such as one cannot buy; string beans, requiring, it is true, almost daily cultivation, but many bridge hands may be played in imagination while pushing a hand-cultivator up and down the long rows, and in the end

"The bounteous housewife, Nature, on each bush
Lays her full mess before you. Want? Why want?"

The blossoming orchard made an idler of me for a week. I couldn't get away from it. Nearly every young tree in bloom—the apples a bit chary with their clusters, striped like peppermint candy; the plums covered to the tips of their branches, and resembling fountains throwing

"Not fifty feet from my front door, stands a hickory tree which the . . . birds regard as a kind of observatory"

popped corn; and the cherries like white lace parasols. The quinces came in bloom a few days later, every little bush filled with pink, rose-like flowers. And one night, without warning, the thermometer began to fall, and with it my spirits; 48 at sundown. In the morning a film of ice in the half-emptied water-bucket by the pump, the roof of the barn gray with frost, and every blossom shriveled and black. In town frosts meant nothing to me.

Between times, during my vegetable planting, I laid out a small flower garden, and no flowers were admitted that might not have grown in the garden of one's grandmother. Before a background of plumy asparagus I had nicotiana, with starry white flowers and faint perfume diffused only at night; next, snapdragons, the "improved antirrhinum" of the catalogue, glowing red, sulphur-yellow, white, variegated, and the loveliest soft pink; mignonette, lady-slippers, rows of them, all shades of scarlet, rose, and purple. There were calendulas, an appropriate flower for a bachelor's garden; the "marygold" of Shakespeare, yellow, orange and palest straw-color

. . . "That goes to bed wi' the sun
And with him rises weeping; these are flowers
Of middle summer, and, I think they are given
To men of middle age."

Then dianthus—the vivid vermilion variety known as Lucifer—and last, row upon row of sweet peas. From these I cut immense bunches of fragrant flowers the whole summer through; not short-stemmed, closely packed clusters, but great masses with their graceful vines and tendrils. Japanese morning-glories were to have shaded the kitchen windows, but, with true Oriental indolence, they grew too slowly for our short summers, and should have been put to shame by the hop-vine at the back porch, which grew, by actual measurement, more than

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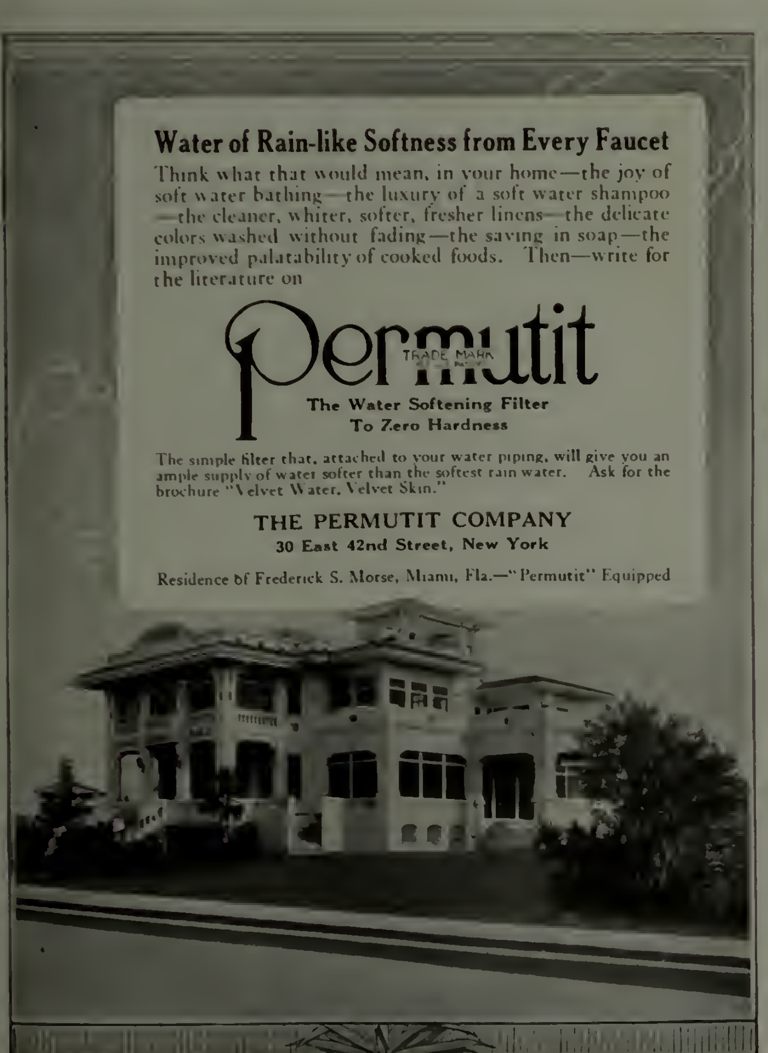

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The above panel shows a detail of the lower picture. You can secure just as artistic and harmonious effects in your own home. Write for Redwood literature and full information regarding this new decorative treatment.

three inches a day, throwing out short branches of blossoms with an odor like home-made bread. Bulbs made the front yard gay last May—tulips (which I planted last fall under the witchery of the autumn bulb catalogue) and narcissus, immaculate and perfect like all spring flowers before the appearance of insects; annunciation lilies in June—flowers from a fairy tale, and with an odor reminiscent of some long-forgotten joy; and poet's narcissus, slender and graceful, like groups of Burne-Jones's women.

May was rainy—cold, driving rains from the east that made the garden's growth stand still. The new shingles stopping leaks on the old barn roof shone red in the wetness; the turkeys, chickens, and pigeons were bedraggled bunches of feathers; and even the bluebird who built her nest in a bird house in the garden had a darker tint to her sapphire coat. Little streams of water rushed down the path toward the barn, and the ducks, splashing about among little islands of grass, happy and busy straining water through their bills for unseen morsels of food, were the only contented creatures in sight. I wondered why I didn't find things altogether disagreeable.

When I first came here I thought that when loneliness overtook me, there were always books; and I am surprised to find how shamefully little I have read. Work, to me pleasant and interesting, waits for me; and I have not even yet built that bird bath with the old stones in the pasture for its supporting column; the thatched dove-cote has never materialized; and time flies. Work, but such work! Beyond the breathless hurry of banks; without the forced subserviency of clerkdom, and with rarely a distasteful requirement. Yes, I am thin and brown, but such health I have never known. To remain awake after nine o'clock at night is torture; to rouse myself in the mornings, for daily self-congratulation, a pleasure; and yet, every now and then, some sympathetic friend calls me on the telephone and inquires how I can stand it "alone out there in such atrocious weather."

I have made hay. The clover in the orchard was almost knee-high, and I never looked at it in its emerald lushness without speculating on its possibilities as a salad—is there any plant more succulent, more suggestive of food? I cut it all with a scythe, for me a herculean task. It rained. The first fair day I raked it; perspiration flowing from beneath my hat and trickled tickling down my nose. It rained. Again I spread the hay in the sun, raked it at last into piles, and with the aid of a man and team, put it into the barn. I stood upon the wagon brandishing a pitchfork, and as the hay was tossed up, spread it about and trampled it down, according to instructions, meanwhile driving the team, whose hard mouths required a strong pull to guide them, from place to place over the uneven ground. The wagon rocked alarmingly, and I felt like a circus charioteer, falling over once in the hay, greatly to the amusement of my grinning assistant. We hauled in two loads, I hanging with a vise-like grip on the lines and awaiting being jolted from my giddy height. At the barn I was directed to spread the hay in the mow. I pitched—madly, furiously—while the demon on the wagon seemed bent on burying me. Surely all that hay never grew in my field! My clothes, hair, and skin were saturated with moisture; seeds, stems, and dust clung to my hot body and stung like flies, but finally, out of chaos, a big voice cried, "That's about two ton." It was done. The same evening I pointed out the shaven orchard to some passing acquaintances, and remarked airily that I had cut my hay. I have experienced satisfaction.

At the side of the public road, not fifty feet from my door, stands a hickory tree, the top of which is dead. Birds regard it as a kind of observatory, and the bare branches are rarely without a feathered occupant. Bluebirds, towhee buntings, goldfinches, king birds, robins, chipping sparrows, indigo buntings, and even, occasionally, a vicious blue hawk, come and go. I have counted more than twenty nests in the orchard below, and they flatter me immensely—those trees are growing up! In a clump of weeds an indigo bunting nested, in an apple tree a vireo, the plums were the favorite nesting places of the robins, and in August, after one would fancy that nesting was over, a goldfinch reared her brood in a faultlessly constructed cradle of thistledown. All through the summer days there was always a bird song close by, and, at times, even on moon-lighted nights.

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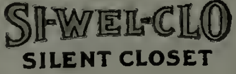

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The nation has a big job on its hands. It's only a little part, perhaps, but a genuine part of that job to keep up the cheerfulness of camp life, to keep tight the bonds between camp and home. Pictures from home to the camp and from camp to the home can do their part.

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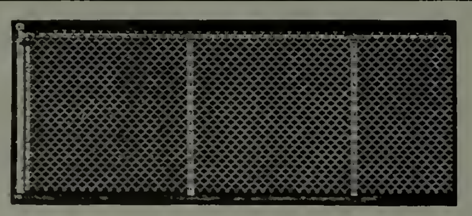
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Lizette was a black hen of "Well, kind of mixed breed," as we say hereabouts. She was purchased when in an incubating mood, to hatch my duck eggs. The ducklings were quite grown, and Lizette's usefulness seemed past; besides she had offended me by a perhaps natural affection for the back porch, and so the other day she became the first sacrifice to the inner man. I am not deft at this sort of thing, and I will omit the gruesome details of her execution; but her preparation for Sunday's dinner consumed the whole of a Saturday afternoon. She was fat beyond belief—could never have survived an operation for appendicitis—and evidenced a long and useful life by her infinite toughness. She spent Sunday morning boiling, Sunday afternoon frying, Sunday night in the fireless cooker, but emerged on Monday, toothsome and tender, just when I had begun to hate her. That afternoon the telephone informed me that three friends would motor out in the evening for a game of bridge. Here was opportunity. I milked the cow, cared for the milk, prepared the various suppers for my animals, got my own, counted the turkeys—lest some malady had removed another during the day—and hurriedly evolved from Lizette's much-cooked remains a number of delectable chicken sandwiches, with which to regale my guests. When our game was finished, I placed a lunch cloth upon the table, and with great dignity departed cellarward for the viands. I had left the cellar door open in my hurry. Tillie stood on the threshold with a guilty gleam in her eye, and the plate was empty. We had bread and milk.

It is September now—was there ever a summer so pitifully short? The fall is in the misty mornings, and the warm afternoons with their clear, hard sunlight making the shocks of oats in the near-by fields throw sharp-cut, purple shadows. For days I have felt as the squirrels must when they lay by their winter stores of nuts—the primeval impulse to prepare for winter, not extinct even in men. My lamp is lighted during my solitary dinner, and I really think that if I am to prove myself fairly rational, I must dispose of my animals and go back to town. But as I stood at the barn door this evening, pondering the question, Beauty, the placid Jersey, seemed to stare rebukingly at me. The chickens were making little contented, sleepy noises in their throats, and the turkeys gathered confidingly about my feet; crickets were chirping everywhere, and out over the hills hangs the harvest moon, red through a film of blue-gray twilight haze. There is in the very air a suggestion of cosy, lamplit winter evenings. Thoughts of snow-covered fields and long, frosty nights flitted through my mind; but the cellar is filled with potatoes, and in the barn is all that wholesome, scented hay. I wonder——

INLAND FOOD FISH

THE Government, through our President, has demanded that every citizen shall do his best to increase the food resources of the country, and among our foods there can be no question that fish is one of the most palatable, one of the most satisfying, and one of the most nourishing. This is true not only of cod, mackerel, and the salt water fishes generally, but of the fish which are found in inland rivers, lakes, and ponds. Yet in America this fact has seldom gained the attention which its importance deserves. Occasionally a farmer builds a trout pond and stocks it with the delicious fish of the epicure. But trout raising is a highly specialized, an exceedingly technical, and a very uncertain undertaking, while there are many varieties of the coarser fishes which when introduced into a water will take care of themselves and increase prodigiously.

In most parts of North America, the countrysides are dotted with ponds, few of which, with little expense beyond the cost of introduction, would not yield throughout the summer months far more fish than one family, or indeed several families, could possibly use.

On the part of some writers on piscatorial subjects it has been a kind of fad to decry the introduction into this country of the "German" carp. By-the-way, it is unfair to label the carp with the name of any country in particular. He is as good an Englishman as he is a German or a Frenchman. Since the time of Henry VIII,

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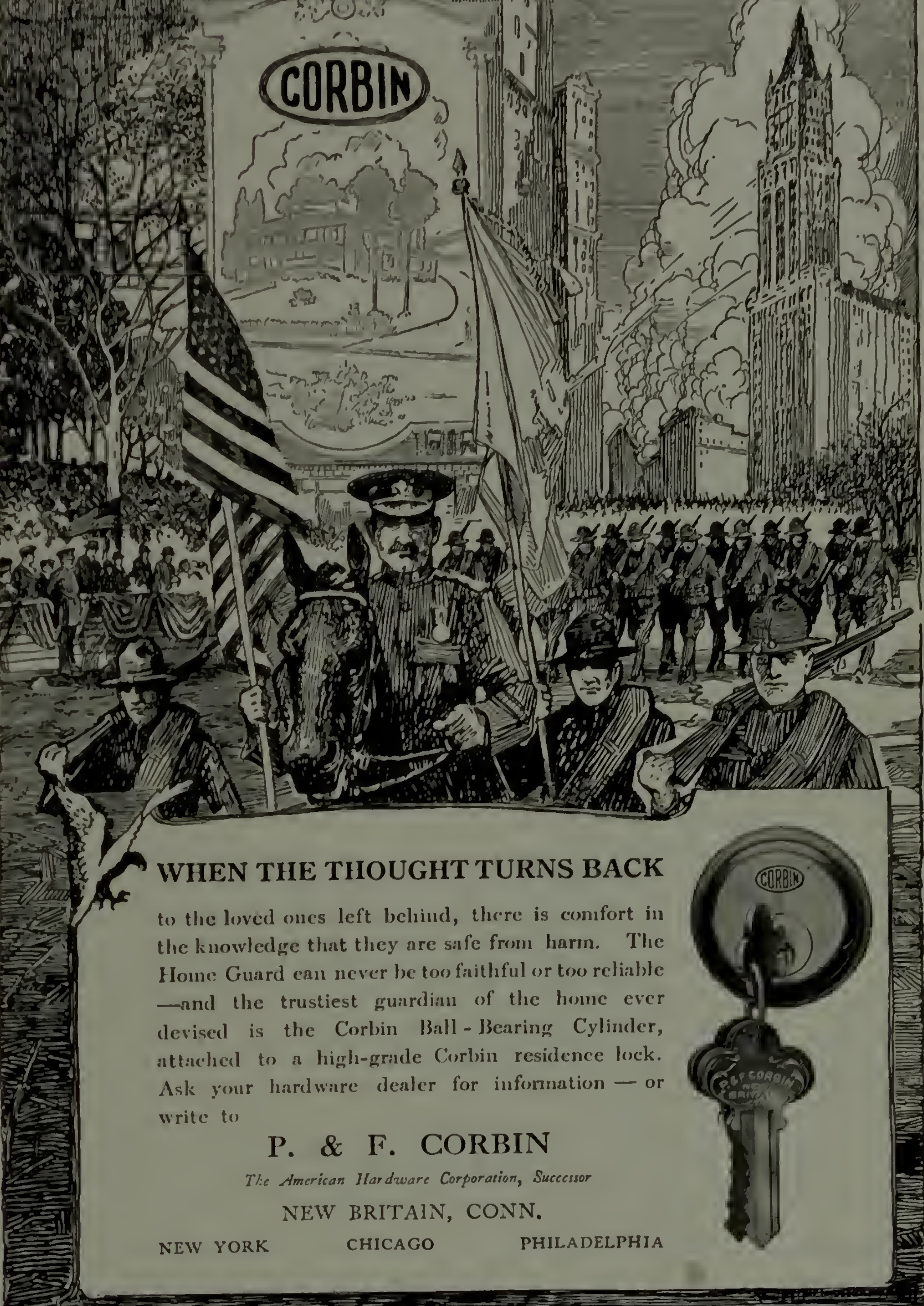

WHEN THE THOUGHT TURNS BACK to the loved ones left behind, there is comfort in the knowledge that they are safe from harm. The Home Guard can never be too faithful or too reliable—and the trustiest guardian of the home ever devised is the Corbin Ball-Bearing Cylinder, attached to a high-grade Corbin residence lock. Ask your hardware dealer for information — or write to

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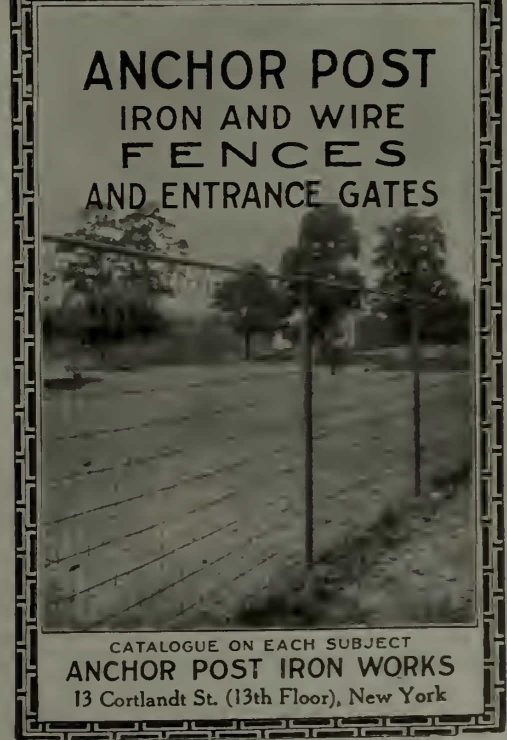

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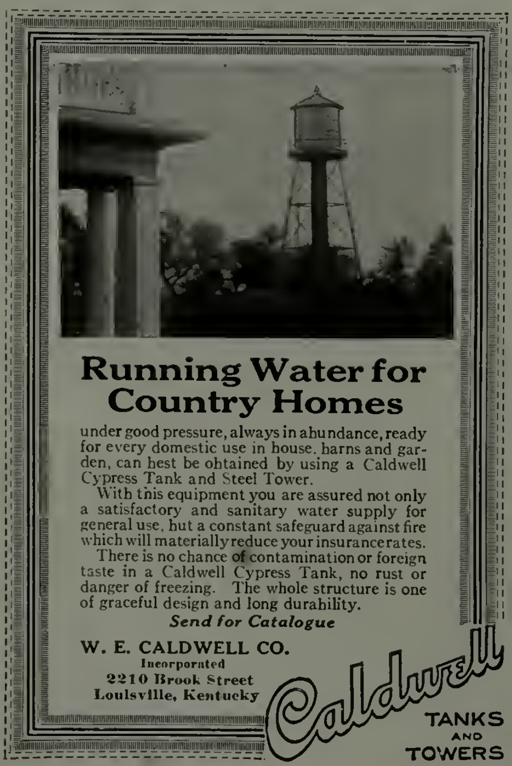

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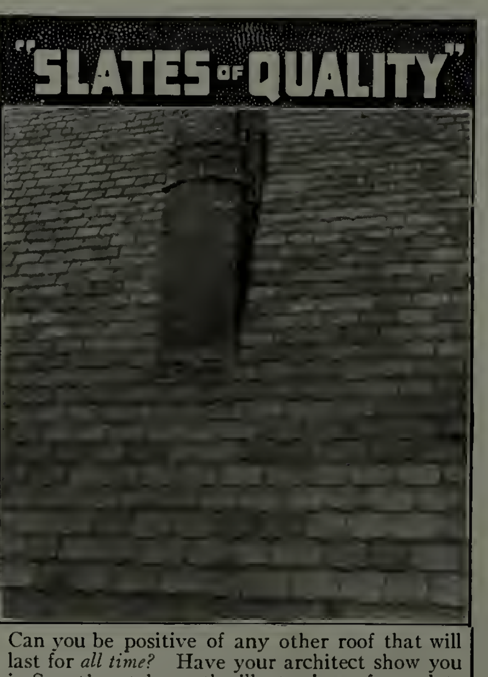

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and before, English lovers of fish have eaten of his flesh. He is a cosmopolitan, and to say that he is a poor sporting fish can be defended, but to say that the carp is a wretched food fish is absurd. New York markets are not noted for buying and selling unpalatable fish, and unpalatable fish does not sell in the New York markets for 20 cents a pound. At my market that is the price of carp, as I click these words into my typewriter. A properly boiled carp is very good indeed, in fact, it is more palatable than boiled fresh codfish as ordinarily served.

Nobody has to be an expert to raise magnificent carp that will weigh ten pounds and upward, a single specimen of which would make a hearty meal for a dozen hungry persons. Nor are carp at all particular concerning the water which they inhabit. Give the bronze watery burgher a good muddy bottom, plenty of lush grasses at the margin, and the ordinary variety of pond plant life, and he cares for nothing further.

Think of it! Suppose that the farmer were called upon in raising turkeys only to drop a half dozen young turkeys in a ten-acre meadow. Suppose that beginning with the first year after he had dropped his turkeys, whenever he wanted a turkey, all that he had to do was to go out to his meadow and catch one. That is the amazing way with our sturdy immigrant, the carp. Place in any bit of muddy water where there is a depth of five feet or more, a half dozen carp, and from that time on you own a carp pond.

The upper reservoir in Central Park is a wonderful example of a small lake which has, so far as I know, never been stocked and is yet crowded with fishy life. While the reservoir itself has not been stocked, the waters which feed it have been. Of a slumberous August afternoon you can behold schools of mighty carp, some of them stocky fish of fifteen pounds and upward in weight. There are other kinds of fish in the upper reservoir—white and yellow perch, pickerel, and sunfish, with an occasional black bass.

In ponds with rocky bottoms, even if the water is comparatively warm, rock bass do well and become exceedingly plentiful. A rock bass is a fine food fish, much better than a black bass, the flesh of which it somewhat resembles.

Then we have the yellow perch, a fish that can be easily introduced into most small ponds and into nearly all streams, if the water be not too cold. The yellow perch loves sandy bottoms, but over mud will do well, if the water itself be not too muddy. Yellow perch are an excellent sporting fish as well as a delicate food fish, and in water which is suitable the barred goldensides are prolific to an extent which is almost incredible.

If a farmer wished to breed a new variety of sheep, for example, he might have to put himself to considerable outlay as well as much laborious toil and oversight. Not so with introducing into a pond carp or yellow perch or rock bass. *The same acreage in water will produce far and away more food than the richest land of a farm.*

It is not necessary or even expedient that the owner of a small pond or ponds should forbid fishing. He can be a philanthropist, while at the same time he keeps an eye out for number one. Such is the natural increase of the fish here mentioned that, with proper care, there will be fish in greater abundance than under ordinary conditions can be caught out. As to the carp, he is a wary and a learned freeholder of the mere. When he attains a maturity of five pounds and upward, he is well able to take care of himself. But those who know how can catch him, and the owner of the pond will naturally learn the way to exact tribute from the tribe which owe their existence to his hospitality. This is not difficult. A rainy day, when work cannot be done in the fields, a small hook of fine wire, a trace of transparent gut, bait of cheese mingled with bread crumbs, and some patience, and Farmer Jones proudly brings into the kitchen a couple of fish that he could not purchase in a city market for less than double the day's wages of one of his farm hands. LADD PLUMLEY.

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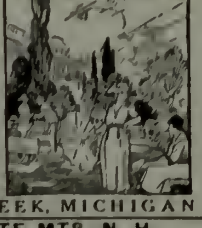

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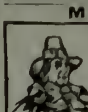

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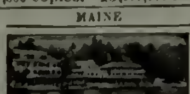
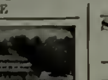

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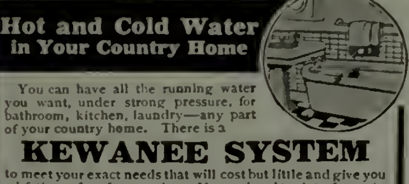

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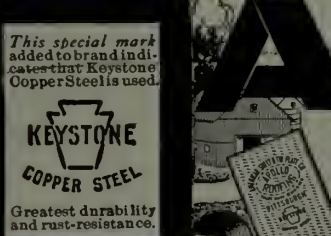

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TABLE DELICACIES

War Time Menus

ANN REMSEN

MEATLESS days as decreed by the arbiters of food conservation abroad will create little panic in the fashionable world to-day. Men and women who value their figures and desire to be alert and active have been more than frugal. The war-time diet has no terrors for them; in point of fact, they have studied food values and can talk learnedly upon deep subjects, such as calories and other scientific phenomena connected with dietetics.

Following is a list of meatless menus:

Clam Cocktail
Fish
Boiled Mushrooms
Celery and Apple Salad
Stewed Fruit in Season

Another meatless menu which appeals is:

Soup
Broiled Shad with Roe
Peas Large Hominy
Lettuce and Egg Salad
Fruit

and still another simple menu consists of:

Puree of Asparagus
Smelts with Mayonnaise Sauce
Fresh String Beans
Ice Cream Cake
Coffee

Maillard's Breakfast COCOA

Have *you* tasted Maillard's? If not why not try it *to-day*. Its deliciously refreshing flavor, its palatability, its nutritious qualities and its economy are only to be fully appreciated after an actual trial.

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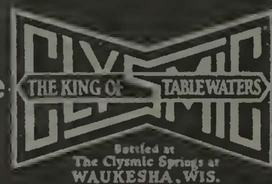

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FURTHER information about the products mentioned in this article will be sent upon request, address Miss Ann Remsen, care of The New Country Life, 11 W. 32nd St., N. Y.

THE ENERGY VALUE OF AN EGG

1 average egg	60 calories
1 average white of an egg	13 calories
1 average yolk of an egg	48 calories

BAKED EGGS

Plain baked eggs make a pretty dish for a meatless menu. Take a deep earthen plate, butter it and break in the eggs, adding salt, pepper, bits of butter, and bake in a moderate oven until the white is set. Garnish with curled parsley and serve with buttered toast, before cooking, ½ tablespoon of cream may be poured over each egg, and in serving a little grated cheese may be sifted over the top.

GOLDENROD EGGS

1 hard cooked egg	60 calories
2 slices of toast	140 calories
Sauce	170 calories

Prepare the sauce, add the white of the egg chopped fine, pour over the toast and rub the yolk through a strainer over the top; serve at once. Sauce: melt butter, add flour and gradually the scalded milk, cook well and season with salt and pepper.

For those to whom meatless days seem under punishment and yet wish to retain the svelte line of figure so desirable to-day, I have compiled the following menus.

Soft Shelled Crabs
Broiled Lambs' Kidneys with Chicken Giblets
Asparagus
Endive Salad
Fruit

Filet of Weak Fish
Squab
Puree of Spinach
Russeau Salad
Fruit

Russeau Salad is made by chopping any kind of cold cooked meat (chicken is best) with equal parts of cold fish; to this add green beans, boiled carrots, a touch of onion. Use the diet dressing which is made by mixing together 2 tablespoonfuls of vinegar, a pinch of salt and paprika, one teaspoonful of mustard (dry), one teaspoonful of chives chopped fine, one teaspoonful of tomato catsup, or if preferred, Worcestershire sauce; when mixed thoroughly, pour on salad.

A FEW SIMPLE SALADS

ORIENTAL SALAD

Cook one cup of rice in salted water until tender, then drain and season with one teaspoonful of salt, a scant teaspoonful of paprika and one-half teaspoonful of scraped onion; pack in a border mold, and when cold turn into a dish and fill the centre with a macedoine of vegetables—beans, cauliflower, beets, etc., cut into fancy shapes. Moisten with a French dressing and garnish with parsley.

CRAB SALAD

One-half pint of crab meat, two heads of celery, two hard boiled eggs minced very fine, one tomato peeled and cut in slices. Make a border of shaved lettuce and place the crab meat, celery and hard boiled eggs in the centre. Garnish with capers and season with French dressing.

Shrimp salad may be made the same as above by substituting shrimp for crab meat.

SALMON SALAD

One can salmon, fifteen crackers rolled fine, five good-sized pickles chopped fine, five hard boiled eggs, whites chopped fine, yolks rubbed fine in a tablespoonful butter, salt, pepper and vinegar enough to mix.

ASPARAGUS SALAD

Take the tips from one pound of cold cooked asparagus. Cut one cucumber into thin slices; let stand one hour in cold water. Then add to it half a teaspoonful of salt. Mix lightly with the tips, cover with mayonnaise dressing and serve on lettuce.

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"Splendidly Human" is the way one critic characterized Grace S. Richmond's new novel, "The Brown Study." This story, with its dramatic contrasts is proving one of Mrs. Richmond's most popular books. Take it with you on your vacation.

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The World in Khaki

A SPORTSWOMAN'S outfit must contain one khaki suit this season, whether it be of the soft fine silk khaki or the cotton variety, and its cut and finish must be along military lines. A practical suit for all emergencies comes in an army khaki. This model has a shell skirt, which permits its use in riding, or again it may be turned into a serviceable cape for protection against sudden showers.

The coat is also of the regulation army cut and has the four large pockets and belt of the mannish type. With this is worn knickerbockers of the same material; high laced boots of tan, or boots with soft leather puttees of mannish make, go with it. The soft Stetson hat, which completes this military girl's outfit, is the only individual thing that she allows herself, and that she insists upon putting on at the most becoming angle. This costume may be worn in the camp or in any of the various outdoor occupations to which the charities of the moment may call her.

Another suit for any emergency, whether for riding into the heart of the North woods, or for an automobile run to answer a call for canteen work, consists of a coat which comes nearly to the knee and has the large knapsack pockets and a belt. Knickerbockers, or the shell skirt, may be worn as one prefers. This coat is made of forestry cloth or the regulation army khaki, with skirt and breeches of the same material. A soft hat in the forestry cloth or khaki is made to match the suit, and is worn turned up in the front and down in the back like the approved sou'wester. It is most becoming worn thus, as the hard, straight lines of the military hat are softened.

For the less military woman, a fetching coat of Innsbrook, a knitted material, is seen in the two-toned effects in rose and blue, and gold and black. The skirt is in white English repp, with gathers at the back, and buttoned down the front. It has a wide, white crushed belt. The charming hat of hand-woven basket straw comes in gold, white, blue, or rose, and has a ribbon band and smart bow to match the straw.

The sleeveless sweater coat in silk Jersey cloth is one of the smartest innovations this season. The hat is worn with the elastic band under the chin by the young sportswoman

A suit which is appealing to the younger woman this season is in a full plaited coat model, girdled by a silk sash effect. The skirt has panel plaits and is worn with a wide soft leather belt. These suits come in silk jersey in navy blue, beige, green, and white. An Hinoki straw hat, in the large picture model, and trimmed with woolen flowers in the color of the suit, completes this effective costume.

Archie Roosevelt, second son of Col. Theodore Roosevelt, in training at Plattsburg camp. His hat is worn with the characteristic tilt of the regular soldier

SEPARATE SKIRTS

A skirt in cotton bengaline appeals to the sportswoman. It has a full gathered effect, with large pearl buttons down the front, and slashed pockets, and is worn with the broad crush belt which seems so popular this season. These belts come in all the various colors to match the sports suits, such as green, white, rose, black, tan, and beige in soft leather. Belts in the same width may be made of the material of the skirt. Separate skirts are also seen in English repp which have a dazzling array of colors in their stripes and plaids. These are worn with plain coats, either in linen or white serge, or the soft polo coats, as a throw-over for the chilly summer evenings.

Plain white tub skirts in linen with a white shirt waist are absolutely necessary for women who have entered into the canteen work in the various organizations. It is a fitting background for the nurse's apron and cap and arm-band which distinguish them from the trained nurses. The National League for Women's Service, with Mrs. Harry McVickar as Captain, has a most efficient unit for this work. The younger women have already been in service. Mrs. Angier Duke, Miss Maude Kahn, and young Mrs. Anthony Drexel look very slim and *chic* in their military outfits for canteen work.

NOT to be in khaki at this time denotes that a man is over the fighting age, and *that* no sportsman will admit without a struggle.

The khaki sports clothes are not unlike the army uniforms in their military cut and finish, except that the coat of the sports suit is a Norfolk jacket model. If a man wears the army uniform, let him insist that it be as correct as possible—correct in cut and style, as well as in regulation. The old fascination for brass buttons still lingers. To be sure the buttons are no longer brass and all men in khaki seemingly look alike, yet the well set up and correctly turned out young army man is sure of himself, and by far the better fighter in consequence. He does not look like a living apology, as one young rookie put it.

Wool khaki will be found most serviceable in the field. The light weight cloth is used most by men in the know in the things military. An army man said, "A loose, light weight wool khaki blouse is most comfortable, for we can put a soft, finely woven sleeveless sweater under the blouse for warmth, but if the cloth itself is too heavy for warm weather, we are tied hand and foot."

These knitted sweaters come in soft wool in khaki color; they are short and sleeveless and are not cumbersome worn under the

Mrs. Arthur Scott Burden's train frock worn on the "Canning Special" is the sensible tub gown which is now so popular. The coat is soft velour cloth with a smart cape collar. A straw sports hat has a soft figured silk scarf knotted above the brim.

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coat. They may be had in all sizes. It is on foot to adopt the open collar of the British soldier for the American uniform. This would add immensely to the comfort of the soldier in summer, as the high, stiff collar of the present style is a miserable affair. Unless tightly fastened under the chin, it destroys the natty appearance of the whole uniform. The turned over collar, and khaki-colored shirt with soft collar and black smartly knotted silk tie give a trim finish as well as extreme comfort. One of the young soldiers going over to France was insistent that the men in his command be fitly turned out; he said, "I am sending four pair of critical eyes with each man when his uniform is tried out and on."

THE MAN BEHIND THE HOE

The man behind the hoe does not necessarily mean the man who uses that useful implement of agriculture. The brain of the gentleman-farmer, and the manual labor of his assistants, are the dual factors for success so necessary in this crisis of food conservation. The country gentleman, whether he supplies the brains or the brawn, wears his sports togs for this function. He is more at home in them, no matter what his occupation, save dining.

The sportsman's togs for the gentleman farmer consist of khaki breeches, or linen ones in brown or white, of the same general cut as those that he wears in golf; with golf stockings and heavy high laced boots so that he may be comfortable either walking over the plowed field, or riding around the farm. The shirt may be in khaki-colored or white linen, with the soft open collar. With this he wears a large straw hat which is designated by the name of the "farm gentleman." He is as fit in this apparel as the army man is in his uniform.

ACCESSORIES FOR FIELD OR FARM

A folding aluminum lantern, or candle, is most useful for night work or inspection, as is also a military marching compass—the latter more useful for the field than for the farm. An electric repair lamp is also an asset to the comfort of both, if they should be kept out on post at night. A small folding basin, weighing ten ounces, and a folding bucket of like weight, should be part of the comfort list for an army hike.

CONSTRUCTION, CARE *and* OPERATION *of the* BRAKES

By ALEXANDER JOHNSTON

IN THE days when the motor vehicle was a highway fledgling of a peculiarly callow uncouthness, and even later when it had attained the stage of uncertain youth, the only one of its functions which particularly interested the engineers was its ability to progress in a forward direction. The fundamental purpose of any highway vehicle is to get over the ground, a process naturally dependent in great measure on the efficiency of its power plant, whether that part of the equipage happens to have four legs and an appetite for hay, or four-cylinders and a longing for gasolene. The unquestioned weakness of the early automobile engines forced the engineers to neglect all other parts of the car for the development of this most vitally essential portion of the mechanism. So it happens that to-day the power plant is one of the most efficient units in the car, simply because a great deal of time and labor have been devoted to its development.

Just about the last part of the mechanism of the early cars concerning which the designers had to worry, was the attachment intended to check the vehicle's progress. Stopping was largely automatic, or we might say habitual. The engineers felt in duty bound to instal braking systems on the cars, but their functions were rather ornamental than utilitarian. Whatever their shortcomings in design and construction, those early brakes were quite powerful enough to arrest the progress of the cars, even during their most inspired flights of spasmodic action. From this fact, that it was a number of years after the birth of the motor vehicle before the engineers were compelled to devote much attention to the braking system, this part of the mechanism has always lagged behind the development of the power plant. Our braking systems are scarcely up to the work inflicted on them by the powerful engines and heavy cars of to-day. Obviously, then, it behooves the car owner and driver to make the most of the brake equipment that is given him.

Unfortunately there are few parts of the mechanism of which the average motorist is more abysmally ignorant than the braking system. This is natural enough, because this part of the car's mechanical equipment has a comparatively unobtrusive function. Its condition has no effect, in the main, on the forward progress of the car, and failure of the braking mechanism may never be noticed until some emergency arrives. Few car owners can tell what types of brakes are used on their cars; fewer still know anything about the attention that should be given this part of the mechanism, and scarcely any have devoted consideration to the question of how the brakes should be used.

Brakes are classified and named according to the position they occupy on the chassis. They may be fitted to the rear wheels, to the front wheels, on the transmission or on the jackshaft —this latter in vehicles which have chains for final drive, a type of construction now almost entirely confined to motor trucks. Sometimes two of these types of brakes are used in combination. The ordinary procedure is to fit two sets of brakes on the rear wheels, but in some cases one set may be on the rear wheels, while another is placed on the transmission. In some foreign cars brake sets are located on both front and rear wheels.

In operation, brakes are of two types, internal expanding and external contracting. A few years ago the practice was to have one set of brakes internal expanding and the other external contracting. To-day the trend is toward two sets of internal expanding brakes.

The brake controls in general use are a pedal and a lever. These parts are connected by means of rods with what are called brake bands. These latter are metal bands with an asbestos composition having a fabric foundation, fastened around the outer circumference. These brake bands fit inside metal cases, known as brake drums. When the pedal or lever is depressed or pushed over, the rods pull in such a way as to expand the bands against the drums, and the friction generated tends to check the progress of the car, by slowing up the drums which are attached to the wheels.

Up to the present time, front wheel brakes have not made any notable progress in America. They have been used for a number of years on European racing cars, and the last French Grand Prix gave us a nearly perfect front wheel brake system, which was fitted to one of the cars. We have had a chance to observe the efficiency of front wheel brakes on several foreign racing cars which have raced here from time to time. The reason for our lack of enthusiasm for this type of braking system probably lies in the greater expense of installation and the failure so far to achieve a satisfactory design, It is understood on seemingly reliable authority that some of the French builders are to include front wheel brakes on their regular models as soon as they begin manufacturing after the War. Perhaps their example may be sufficient to start our engineers on a renewal of the search for a really satisfactory front wheel brake.

Within the past year there has been some evidence of a revival of popularity of the transmission or shaft brake. This brake acts on the propeller shaft directly behind the transmission. Transmission braking systems are of both the internal expanding and the external contracting types. It is obvious that in this location the brake cannot be of very large diameter, so the necessary friction surface is obtained by using a small diameter drum with a very wide braking surface. The transmission brake is very powerful, more so than our present rear wheel systems. It is easily adjusted, being readily accessible by simply raising the floor boards. It gives a speed control that is more even than that exerted by wheel brakes, and reduces the danger of skidding. But it has certain disadvantages which must be overcome before it attains general popularity. In transmission brakes of the external contracting type, which is the commoner, it is hard to get a housing that will keep out dirt and grit. With the internal expanding type the trouble is to get the band out for relining or replacement. There seems to be no good reason why the minor disadvantages of the transmission brake in its different types should not be eliminated, and with this done the manifest virtues of the location ought to go far toward establishing it in general favor.

It scarcely needs pointing out that the braking system requires some little attention from time to time to keep it in efficient order. The brakes are not in constant use, but when they are called upon for service it is of an extremely strenuous order. The brake bands with use are likely to become greasy and slippery, and they should receive a periodic treatment in the shape of a little kerosene which may be squirted on from an oil can. After the kerosene has had a chance to dry, a little fuller's earth should be rubbed into the surface. This restores temporarily the holding power of the band, and if repeated at regular intervals will keep the business end of the brake in good working order.

Every braking system is equipped with certain adjustments, there usually being one at the drums and another near the pedal control. In making adjustments, a yoke and clevis pin are generally the only parts that have to be removed. The actual adjustment operates much in the manner of a turnbuckle. Disconnect the yoke, give it a few turns to shorten it a little, and the adjustment is made.

In making brake adjustments the utmost care must be taken to see that the brakes on each side are coördinately adjusted. If one side binds while the other is loose, there is going to be skidding beyond peradventure of a doubt. Just consider how an uneven reduction of speed on the two wheels must inevitably throw one of them around the other, which acts as a pivot. We must, therefore, use the utmost care in making any brake adjustments.

The brake connections, from control to part, are so located that they collect dirt with remarkable promiscuousness. The only thing that can be done for them is to clean them as often as possible and give them oil at frequent intervals, for they are subject to friction, as any part must be that has to move to perform its function. All joints should be treated to frequent applications of oil, and the pedal which controls the service brake must be kept lubricated so that it responds without difficulty to the driver's motions. An oil hole is usually drilled in the shaft upon which the pedal operates, and this should be kept open and supplied with lubricant.

It often happens that the brake rods underneath the car become bent, and the car owner should keep his eye on the parts so that when this happens the trouble may be rectified at once. When the rod is bent a springy action is set up, which prevents efficient braking. It is obvious that if one brake band is tight and the other loose, the tight one will take hold before the other one, setting up the uneven action that produces skidding.

The commonest brake ailment is failure of the lining of asbestos composition, which surrounds the outer rim of the band and which is thrown into contact with the drum, to produce the friction that stops the car. This service is decidedly strenuous, and in the fulness of time, after they have given longer usage than one would think possible, brake linings wear out. They should be replaced as soon as they give signs of wear, or they may fail the driver at a critical moment.

Relining the brakes, as it is called, is not the difficult task that an amateur might think it. The lining is fastened to the perimeter of the band by means of rivets. In relining, the old rivets are first knocked off with a cold chisel, and a new lining strip of correct length is fitted to the band. The supply store can usually give the car owner exactly the size of lining needed for any make and model of car. Holes are next countersunk in the fabric lining to correspond with the holes in the metal band. New rivets are inserted, care being taken to flatten the heads so that they will not cut the drums when the brakes are

SILVERTOWN
CORD TIRES

BEHOLD the *cord* that has made *cord tires* mean *durability*, *easy-riding comfort*, *mileage*, and *gasoline saving economy* to knowing automobile owners. Behold CABLE CORD, the unique cord made especially for the patent-protected two-ply Silvertown Cord Tires, and found ONLY in them.

Note the SIZE of CABLE CORD, its SUPPLE STRENGTH, and the TWO layers of it CROSS WRAPPED into a sinewy tire body.

Wrought of many threads the size of the "cords" of WEB TIRES, strong enough to swing the weight of a man, CABLE CORD gives Silvertown a flexible strength which, yielding to the blows of a rough road, comes back without jolt or jar.

Fused with rubber as a cobbler's waxed end is waxed—a perfect weld of cord and rubber 40 PER CENT. RUBBER—CABLE CORD keeps Silvertown Tires immune to tire fever (internal friction), the destroyer of many-ply tires.

Therefore, Silvertown Cord Tires, the only *two-ply*, *cable-cord* tires, outlast many-ply tires with their multiplied tire fever.

Know them by their Red-Double-Diamond trade mark and graceful extra size, the tires you can not afford to deny yourself.

THE B. F. GOODRICH COMPANY, *Akron, Ohio*

Goodrich also makes the famous fabric tires—Black Safety Tread

"*Silvertowns make all cars high-grade*"

There never was a better time to show your patriotism than now—and no better way than flying "OLD GLORY" in a proper manner.

Walworth Steel Flag Poles

are not only durable and lightning proof but are graceful—A worthy addition to any estate, club, park or building. Furthermore the patented

Ball Bearing Revolving Top

allows the flag to swing with the breeze and prevents it from fouling the pole. It flies free at all times. Costs no more than wood—inexpensive to maintain. Booklet with details of sizes, prices and full instructions for erecting, gladly sent on request.

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Mystery was in the first mate's uncanny dread of his late commander, who lay fathom-deep, buried at sea. The ship was becalmed, the crew stricken with fever. There was no quinine. But the young Captain brought his first command through. Ask your dealer for Conrad's new novel, "The Shadow Line."

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"After All Kipling is Kipling, and there's only one. Who has brought us such fresh news of the ways of men? I felt that again as I read the fourteen short stories in the new Kipling volume, 'A Diversity of Creatures.'" (From a Kipling Lover).

Green Cloth and Red Limp Leather

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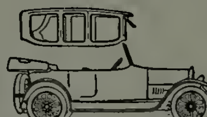
"WHY THE AVERAGE MOTORIST'S DOLLAR IS SHRINKING"

A book on automobile maintenance cost that every practical minded motorist should read. Send us your name on a post card for a copy.

FRANKLIN AUTOMOBILE COMPANY, Syracuse, New York



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Kissel's original idea that changed the motoring habits of a nation. Open in summer—closed in winter.

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More power—smoother power—a saving of gasoline—and a new joy in driving. Packard TWIN-6

The Readers' Service gives information about Gardening

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. Opened Sept. 20. For catalogue and book of views address as above.

applied. As a general thing, brake linings need replacement once every season. At any rate, the careful car owner will assume that such is the case. If the owner does not care to do the work of relining, the local garageman will attend to it at no great expense. It is a good plan to purchase one's own lining, even if one is not going to put it on, as a simple order to reline the brakes sometimes results in the employment of a very inferior grade of material. It is safest in buying brake lining to purchase some of the well-known trademarked brands; the cost is small anyway, and failure here may result in serious accident.

By no means all motor car owner-drivers understand the art of using the brakes, even after they have been put in perfect order. Far too many operators apply the brakes as if they were trying to kick a hole in the floor boards. This tends not only to burn out the brake linings prematurely, but also to promote skidding, if conditions are at all favorable to that unpleasant operation. The proper way to apply the brakes is intermittently, on—off—on—off—on—off for a few seconds. This gradually slows the wheels down without sliding them, the latter a most injurious operation for the tires.

We may be permitted, before we close, to examine briefly the possible future of brake design as we may now prognosticate it. We have mentioned already the possible advent of front wheel brakes on pleasure motor vehicles, and we have referred to the seeming trend toward transmission braking systems. There has recently been placed on the market an electric brake embodying many interesting features. This brake is operated by current drawn from the storage battery and a small electric motor. Its action is controlled by movements of a small lever located under the steering wheel. It is so designed that even when the lever is moved to its fullest extent, the application of the brakes is gradual. It must not be gathered from this that the electric brake is slower than ordinary types in stopping the vehicle, as extensive tests prove that it is considerably quicker.

Another new type of brake has been introduced within the past year or two, in the shape of a vacuum brake. This device embodies engine suction in a steel cylinder, in which there is a piston. A control is installed on the dash connecting with a pipe line, one end of which terminates in the inlet manifold and the other in the brake cylinder, the piston and rod of which move the ordinary brake rods. When the control is moved over the cylinder suction is able to reach the brake cylinder and pull the piston, thereby moving the brake rods. The principal advantage of this system is the remarkable responsiveness of the brakes to the driver's movement, the slightest touch on the control being enough to produce action in the brakes.

DOGS AS DISEASE CARRIERS

THE true friend of the dog will recognize that his existence may become a menace under certain conditions, and will endeavor to save him from acquiring an evil reputation. It has been shown in a recent bulletin of the U. S. Department of Agriculture (No. 260) that the foot-and-mouth disease, rabies, hyatid, ringworm, favus, tapeworm, roundworm, tongueworm and other parasites and diseases are sometimes spread among human beings and live stock by dogs, especially in farming sections.

As many of the germs and parasites breed in the viscera of sheep, hogs, and other animals, the first precaution should be to guard against the dog's feeding on carrion or raw viscera. If not cooked for food, viscera and carcases should be burned, buried with lime, or so disposed of as not to be accessible to dogs. Proper feeding of a dog is essential, anyway, and the owner who will not take the trouble to use care and judgment in the feeding of his dog has no right to keep one.

Of the external parasites which dogs may carry to animals, fleas and the various kinds of ticks are both troublesome and dangerous. The owner should keep his dog clean, not merely for the health, comfort, and happiness of the dog, but to prevent it from becoming a carrier of disagreeable and dangerous vermin. These are not pleasant things to talk about, but they should be known by dog owners who have the interests of their favorites at heart.

W. A. D.

A Greenhouse will help you to do your bit

By depending on your own garden this summer for many of the vegetables you eat, you will help conserve the nation's food supply. But next winter you can help even more by supplying your table from an indoor garden—a greenhouse where flowers and vegetables will thrive the year round. We suggest you write us immediately so we can submit sketches and estimates and start your greenhouse in time to have it ready in the fall. Moninger greenhouses are built to give *lasting* service and pleasure—the result of fifty years' experience in building greenhouses, large and small.

Our booklet containing helpful hints on greenhouse gardening will be sent free, upon request

JOHN C. MONINGER COMPANY
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Here is a place where the weeds have taken complete possession and routed out every element of good appearance. Of course, few homes permit weeds to get as far as that—some of them weed by hand a great many times during the year. One application of Atlas will clean up and keep clean for the whole year. This shows what happens shortly after weeding by hand. The weeds have been only temporarily checked and soon grow again. Just one application of Atlas and all those weeds would disappear permanently—for the whole year.

KILL THE WEEDS

Now is the time. Weeds mar the appearance of drive-ways, paths, walks, gutters, tennis courts—everywhere.

Hand-weeding is costly and must be done over and over again. Besides, labor should be put to more productive work.

The answer is Atlas Chemical Weed-Killer. It comes in highly concentrated liquid form. You mix it with 20 parts water and apply in sprinkling can. Atlas enters the plant at the surface and soaks down to the deepest root. Weeds die in a few days and the ground round about is sterilized for all season.

One gallon of Atlas Weed-Killer keeps 600 sq. ft. clean for the whole year.

SAMPLE OFFER—We will furnish you a trial 2 qt. can of Atlas Weed-Killer on receipt of $1.00 and this coupon, prepaid [if you mention your dealer's name.

Something new—LAWN SILICATE

Kills weeds in lawns without injury to the grass. A chemical in powder form. Invaluable for every home, estate or club that has a lawn or turf tennis court. Write.

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Enclosed is $1.00 for a 2 qt. can of Atlas Weed-Killer.
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> *"Love your garden and work in it and let it give you what it surely will of sweetness, health and content."*
>
> —Louise Beebe Wilder in "My Garden"
>
> A book every garden lover should know

The Pocket Garden Library

Edited by LEONARD BARRON, *Editor of the Garden Magazine*

The first pocket color guides to popular garden favorites—hardy annuals, herbaceous perennials, shrubs, evergreens and greenhouse plants. A help to the home gardener and nature lover; a key to open up a new world for those who have not yet learned the joy of knowing the secrets of growing things.

You need no longer plan your garden blindly, or guess at the names of the plants and flowers you see. Here is the information in four convenient and beautiful little volumes—one for each season of the year. More than eight hundred popular garden flowers are shown in their natural colors in a series of illustrations made for these books by the best plant portrait painters in America, and each flower is described, and directions are given as to how, when and where to plant.

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Flexible linen, each, net, $1.25. Flexible leather, each, net, $1.50. 4 volumes, flexible linen, $4.50 boxed. In leather, net, $5.50.

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Each volume covers the most interesting American varieties of the subject discussed. 192 illustrations, 144 in color. Each, net, $1.60. 4 volumes, net, $6.00.

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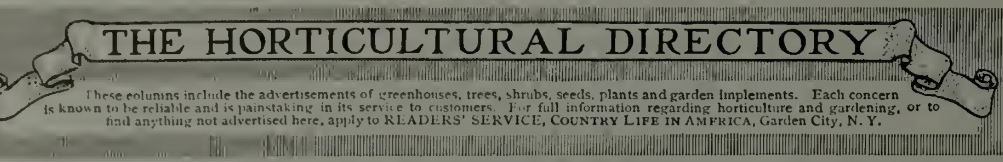
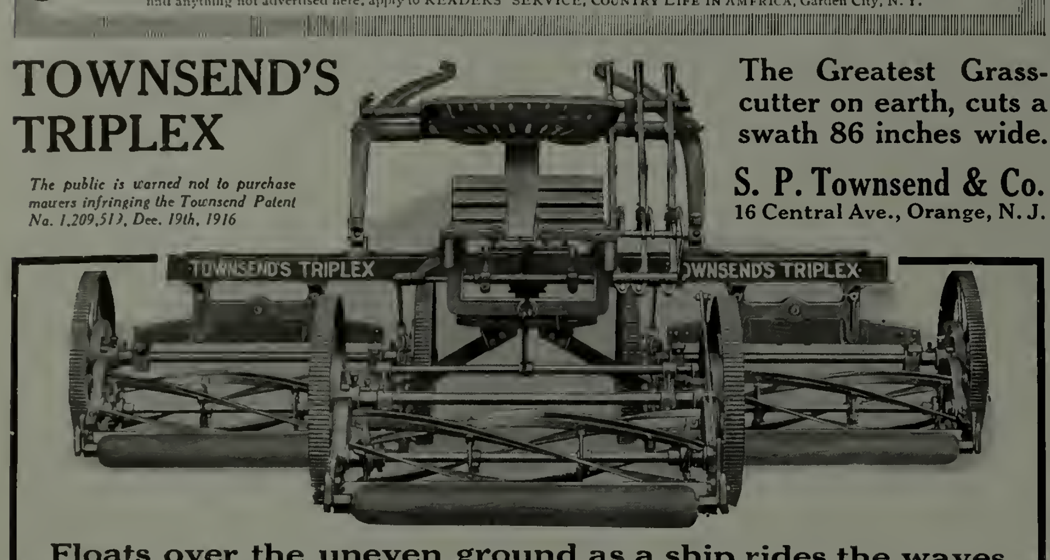
DOUBLEDAY, PAGE & COMPANY, Garden City, N. Y.



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.



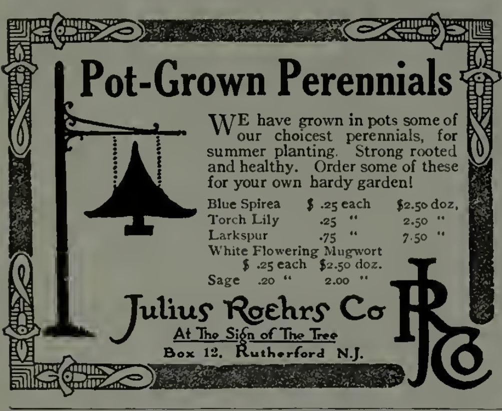
Farr Says You Should Order Dutch Bulbs Early This Year

Hyacinths, Tulips, Daffodils, and other bulbs that come from Europe, are likely to be scarce this fall. Probably you can get them, but you must order early. Send to-day for

Farr's 1917 Bulb Catalogue

make your selections, and place your order for bulbs at once. I allow a discount of 10 per cent. on orders received before July 1.

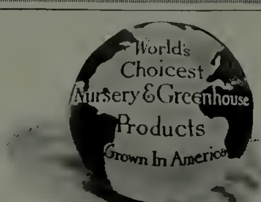
Bertrand H. Farr
Wyomissing Nurseries Co.
103 Garfield Ave. Wyomissing, Pa.



TREES AND PLANTS

The isolated, barren look of your garage will be overcome at small expense by a few MOON trees and plants. Our Catalogue A-2 will help you.

The Wm. H. Moon Company, Morrisville, Pa.
Phila. Office, 21 S. 12th St. White Plains, N. Y.



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Pot-Grown Vines, Climbers and Plants for Summer Planting

ENGLISH IVY IN POTS. POT-GROWN STRAWBERRIES.
BUSH AND CLIMBING ROSES IN POTS.
The character and variety of our stock is unsurpassed
Write for descriptive folder **Rutherford, New Jersey**

Would you like a group of Big Evergreens to beautify your lawn—NOW?

THEN send for our catalogue, which gives you *expert advice*. From its photographs, diagrams and price lists you can easily order a group of these cheerful evergreens that will *exactly* meet your needs.

The healthy, dense foliage of Hicks Evergreens shuts off the sight, noise and dust of the street and effectively screens unsightly views.

We have evergreens for large and small hedges, foundation plantings, specimen trees or re-foresting an estate. Hicks Evergreens have vigorous root systems which are protected by shipping in a large ball of earth —canvas wrapped and roped to wood platform.

Hardy Flowers — Roses
Grown in pots. Ready to ship. Send for list.

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THE DANGER SIGNALS OF NURSERY STOCK PESTS

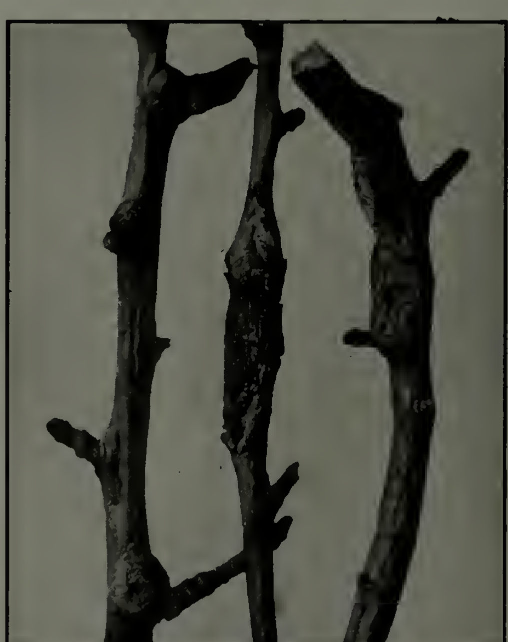
IN ALMOST every state in the Union modern laws provide for regular examination of nursery stock. Your own state will not permit shipments to enter it without a certificate of inspection.

As a rule the certificates represent honest work and the maximum of human efficiency under the circumstances. Nevertheless, it is impossible for any state inspection service to guarantee that your stock is actually entirely free from dangerous pests or disease. The time for examination is too short, the ground to be covered too great, and the plants as they stand in the nursery row

Crown gall causes a tumor-like swelling at the base of the trunk. In this specimen there are traces also of hairy root

cannot be examined with complete thoroughness. Pests will creep in—sometimes dangerous ones.

Fortunately it is comparatively simple to give the stock an examination of our own after it reaches us and before it is set out. Having the plants out of the ground we can look them over thoroughly at our leisure. There are no technical difficulties in the way. The danger signals



Enlarged places like these on the twigs show that the woolly aphis has been at work. Look for it on the roots of nursery stock

of serious pests and diseases are easily mastered.

The sole paraphernalia needed is a common hand lens, magnifying to three or four diameters, obtainable in any optical shop or jewelry store for 50 cents or $1.

The stock should be examined one plant at a time, from bottom to top, root, trunk, and branch. Bring your lens to bear on anything suspicious or unusual. Your eye will soon learn to differentiate any unnatural conditions.

In examining the roots look for enlargements or abnormal growth of any kind. By this means you may readily detect three of the four ills that are likely to affect this part of the plant.

Are you fooling yourself about your trees?

ARE you making the dangerous mistake about tree surgery that was made by the owner of the tree shown herewith? (Small photograph No. 1 below.) Read the following facts —they may prove a revelation.

The owner of the tree shown here thought that Tree Surgery was merely a matter of patching cavities with cement—something which almost any clever fellow could do.

The result to his trees was costly and disappointing. Davey Tree Surgeons found that this tree (Photo. 1), which the owner thought had been saved, was in a really critical condition, disease and decay continuing unchecked behind the fillings. The entire work had to be torn out and done again—*done right*. Photographs Nos. 1, 2, 3 and 4—a typical tree—tell the story. (See descriptive matter under photographs.)

Tree Surgery a Specialized Science

Tree owners sometimes confuse Tree Surgery with Forestry. These two professions are as widely separated as dentistry and medicine. The Forester is trained to deal with trees in the mass, culturing them primarily for lumber supply. As Bernard E. Fernow, Dean of Faculty of Forestry, University of Toronto, puts it: "The forester grows trees *not* to be preserved, but to be harvested."

The Tree Surgeon, on the contrary, is interested in the individual tree; to prolong its life is his sole aim. He knows little or nothing about forestry and is entirely unequipped in training and experience to cope with its problems.

Forestry is a worthy profession doing a great economic work. But to entrust the saving of your priceless specimen trees to a Forester is certain to result in disaster.

For real Tree Surgery, there is only one *safe* place to go—to Davey Tree Surgeons

Davey Tree Surgery is Safe

Safe—because it is time-proved; its record of successful performance for thousands of estate owners spanning a generation.

Safe—because no Davey Tree Surgeon is allowed any responsibility until he has conclusively demonstrated his fitness. He must have served his full course of thorough, practical training and scientific study in the Davey Institute of Tree Surgery—a school, the only one of its kind in the world, which we conduct for the specific purpose of drilling our men according to Davey methods and Davey ideals.

Safe—because Davey Tree Surgery has been endorsed as *best* by the United States Government, after exhaustive official investigation.

Safe—because Davey Tree Surgeons are *picked* men, thoroughly trained, conscientious, intelligent, courteous, in love with their work.

Safe—because the Davey Company is a successful and responsible house, amply able to make good in every instance and not needing, for the sake of temporary existence, to sacrifice in the slightest degree its high standards.

Four typical letters from hundreds by satisfied Davey users.

Archibald H. Bull, Pres., A. H. Bull Steamship Co., New York City
"I am very much pleased and satisfied with your work."

A. P. Lovejoy, Janesville, Wis.
"Your work is efficient and scientific, your men capable and business like."

Mrs. Susan Wheeler, Bryn Mawr, Pa.:
"The work you have done for me has been entirely satisfactory. I fully believe that it has added to the life of my trees, for which I am very thankful."

F. E. Alleaux, F. E. Alleaux & Co., Inc., Boston, Mass.
"I am pleased to say that your work is perfectly satisfactory in every way."

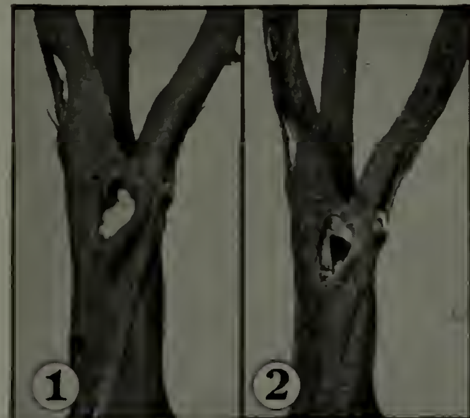
Write to-day for Free Examination of Your Trees

—and booklet, "When Your Trees Need the Tree Surgeon." What is the real condition of your trees? Are insidious diseases and hidden decay slowly undermining their strength? Will the next severe storm claim one or more as its victims? Only the experienced Tree Surgeon can tell you fully and definitely. Without cost or obligation to you, a Davey Tree Surgeon will visit your place, and render an honest verdict regarding their condition and needs. Write to-day.

The Davey Tree Expert Co., *Inc.*
107 Elm Street, Kent, Ohio
(*Operating the Davey Institute of Tree Surgery, Kent, Ohio*)

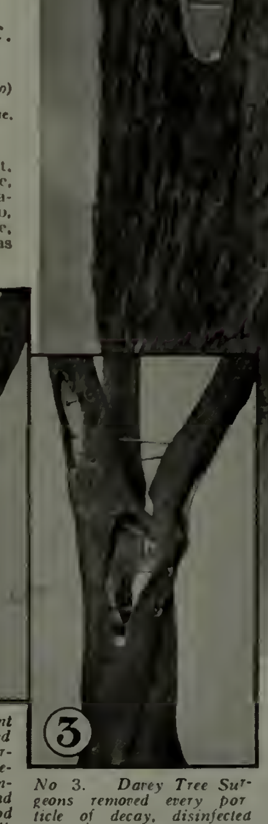
Branch offices, with telephone connection: 225 Fifth Avenue, New York. 2017 Land Title Bldg., Philadelphia; 450 McCormick Bldg., Chicago

Permanent representatives located at Boston, Newport, Lenox, Hartford, Stamford, Albany, Poughkeepsie, White Plains, Jamaica, L. I., Morristown, N. J., Philadelphia, Harrisburg, Baltimore, Washington, Buffalo, Pittsburgh, Cleveland, Detroit, Cincinnati, Louisville, Chicago, Milwaukee, Minneapolis, St. Louis, Kansas City. Canadian Address: 81 St. Peter Street, Quebec.

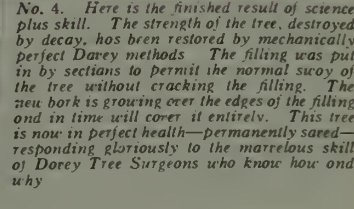


No. 1. This tree had started to decay. The owner saw this, but did not realize that it required scientific treatment. So he allowed an untrained man to "patch the holes" with cement. This "patching" was worse than useless—it was positively harmful.

No. 2. The cement patches were removed by Davey Tree Surgeons, and there was revealed an appalling condition of disease and decay. The tree had become a mere shell, liable to crash to pieces in any severe storm.



No. 3. Davey Tree Surgeons removed every particle of decay, disinfected the entire cavity to destroy the existing disease, thoroughly waterproofed the inside, cut watersheds to exclude moisture and carefully braced the shell mechanically.

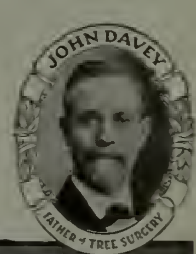


No. 4. Here is the finished result of science plus skill. The strength of the tree, destroyed by decay, has been restored by mechanically perfect Davey methods. The filling was put in by sections to permit the normal sway of the tree without cracking the filling. The new bark is growing over the edges of the filling and in time will cover it entirely. This tree is now in perfect health—permanently saved—responding gloriously to the marvelous skill of Davey Tree Surgeons who know how and why.

Davey Tree Surgeons

FOR *SAFE* TREE SURGERY

Every real Davey Tree Surgeon is in the employ of the Davey Tree Expert Company and the public is cautioned against those falsely representing themselves



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Before Building a Greenhouse Consider These Facts

IF, AFTER reading this "brief" of our attitude toward customers, you feel that Hitchings is the kind of firm you would like to have build your greenhouse, then send for a catalogue, or a representative, as you may incline.

Because of varying and exacting plant life requirements, the locating, planning and constructing of a greenhouse involves the solution of many vitally interrelated problems. The man in any of our offices, who answers your letters, or calls at your request, has a definite, dependable knowledge of all three of the above phases. A knowledge acquired by years of actual study and practical practice in the subject. If, for example, you should call up now and ask to have a representative come to see you at once, and all our senior experts were filling appointments, we would not send a *junior*, hoping he "might do." So strong are our convictions of the skilled prebuilding service you should have, that we prefer to endanger the possibility of losing the job. You can depend on the men we send "knowing their business." Not alone while the building is progressing do we endeavor to render a full measured service, but after its completion and the bill is paid, you will find an unexpected continued interest.

Throughout the entire transaction "pleasant dealing" will be noticeably present. When finished, you will have a house scientifically correct for plant life; one enduringly constructed; attractive in design and planned for economy in working and heating. A sense of satisfaction will be yours. That these claims are not over-accented, reference to our customers, whose *names* you are welcome to, will establish. Shall we send a catalogue or a representative?

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General Offices and Factory—Elizabeth, N. J.

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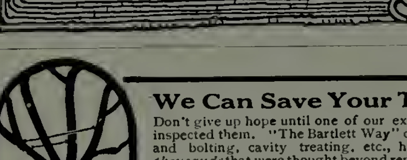

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Don't give up hope until one of our experts has inspected them. "The Bartlett Way" of bracing and bolting, cavity treating, etc., has saved *thousands* that were thought beyond repair. Tell us your tree troubles. Representatives everywhere. Send for "Tree Talk."

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"The Standard of the World"

PROTECTS lawns and flowers, increases property values, compels cleanliness. Keeps children safe from automobile speed maniacs and protects careful drivers from careless children.
Write to-day for valuable book of modern architectural designs of plain and ornamental iron fence and gates for town houses, country estates, cottages.

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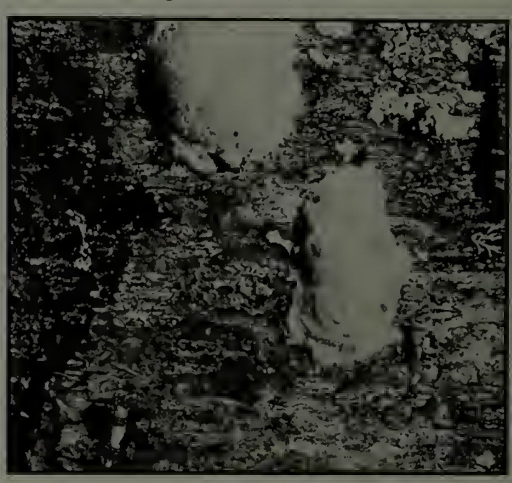
11 West 32nd Street, New York City

The War must last until we have forced disarmament upon our enemies," writes a prominent German. "When they can no longer bear arms they cannot make any new disturbances." Read "Gems(?) of German Thought," if you would understand the peril of the German war programme.

Published by
Doubleday, Page & Company
Garden City, New York

On apples, peculiar warty outgrowths, sometimes only half as large as a pea but often several times that size, betray the work of the woolly aphis. It is a small, sucking plant-louse, partly covered with a fluffy, white secretion. Some of its colonies locate in summer on the branches, especially near chance scars or wherever the bark is tender. Others infest the roots. Where such enlargements are in evidence the indication is pretty certain that the tree will remain infested if you plant it. True, it will likely survive, but its growth will be slow.

Egg masses of the tent caterpillar. They are often found on twigs but are easily removed



Egg masses of the gypsy moth, the most dangerous insect to be found on nursery stock. It attacks evergreens as well as deciduous shrubs and trees

Photograph by New Hampshire Experiment Station

A typical winter nest of the browntail moth. These nests are found at the tips of twigs, and contain hundreds of tiny caterpillars which come out in spring and devour the foliage

Two other diseased conditions of the roots are due to a bacterial infection—probably to the same species of bacterium. One is crown gall, and the other hairy root. Either may be found on a wide range of plants. In crown gall there is a tumor-like enlargement of the main root near the ground line. In hairy root the abnormal growth takes the form of an odd cluster of many small roots arising from one spot on the root. Where either of these conditions is observed the affected stock ought to be rejected.

On peach roots look for the black peach aphis—tiny, black insects clinging to the roots in crevices

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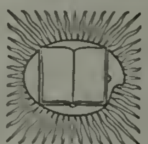

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or wherever they can gain a foothold. If you find them, dip the roots in tobacco water, or in soap suds.

On the trunk or branch your eye will search for evidences of scale, or for the easily recognized egg-mass of the gypsy moth. Both of these are serious, the latter far and away the most dangerous pest of all.

Of the scales there are many kinds. The best known, usually the most feared, and often the most difficult of detection, is the San José. You will need to look sharp to be sure that it does not slip by. It is a tiny insect, attached to the bark, and covered with a low, grayish or black, circular wax scale; hardly a fourth as big as the head of a

A hard pest to eradicate—the oyster shell scale. As shown enlarged at the left, the characteristic shape is plainly seen. Close watch should be kept for this insect

pin. Examine it closely through a hand lens, and you will see that in the centre of each scale is a slight depression, and in the middle of this a raised spot, like a nipple. Where many of the scales are clustered together they give to the bark a characteristic ashy or scurfy appearance, easily recognized when once you have seen it.

If the stock has been properly fumigated with hydrocyanic acid gas, and is otherwise in vigorous condition, no concern need be had. The treatment will kill this species of scale.

The woolly aphis is familiar to most people as cottony masses on the branches. The root forms are the more injurious

Not so, however, with another and much larger sort, the oyster shell scale. Of the two, a grower may justly fear the latter fully as much as its better known relative. Its name is characteristic of its appearance, each scale closely resembling under the lens a miniature oyster shell. Where this is present the wise plan is to discard the stock unless you care to make up a linseed oil emulsion and give the trees a thorough treatment. The emulsion is made precisely the same as kerosene emulsion, and is applied at 10 per cent. strength before the buds open.

Other members of the tribe of scales have diverse characteristics, varying from the flat, pear-shaped, whitish scurfy scale, affecting principally the apple, to the hemispherical and conspicuous terrapin scale, partial to peaches. For all it is a safe rule to avoid planting. Your stock needs a more auspicious start.

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is Kipling's picture of the other seven-eighths, so far as it concerns the great drama in the North Sea. Unforgettable scenes these, of men and boats and things not in the dispatches. In three parts: "The Fringes of the Fleet," "Tales of 'The Trade'" and "Destroyers at Jutland." Five new Kipling poems included. (Net, $1.25.)

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THE COUNTRY BREAKFAST ROOM

ONE of the many joys that summering in the country offers to the jaded city dweller is afforded in the dainty freshness of the breakfast room. Here at last one is freed from the formality customary in even the simplest of town houses, for though a few trays may be sent up, at least some of the family and guests gather at the breakfast board to glimpse the papers and plan their day. Hence the setting should be as cheerful and lively as possible. Painted furniture meets the demands of the situation better than anything else, and fortunately this decoration may now be had in every form and at any price.

Pale gray, cool greens, soft pinks, and blue with black on blue compose the colors of this excellent pattern

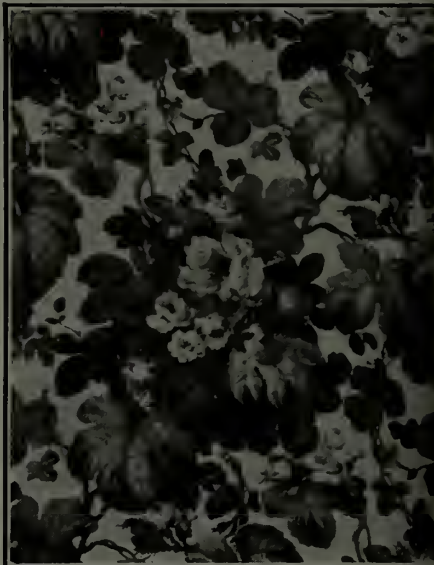
Note the remarkable drawing in this design, where the leaves wave and flowers nod as though actually wind-blown

For example, the several pieces shown here are of a set of seven, four chairs, table, sideboard and small serving table with folding leaves, that comes at $145. It is charming in its simplicity of line and soft cream color with dainty floral decorations. There is something about spool carvings that is cheerful and substantial. In this case the charm is enhanced by cool cane seats. This set, on a blue rug, in a room with warm gray walls, with crisp muslin curtains overhung with flowered cretonne, would make any house more interesting.

Though only four chairs are included in this set, six may easily gather at this table, which is painted creamy gray

Or if one desired, the color warmth could be had by using a flowered paper on the wall with white dotted swiss or figured scrim curtains, without further drapery. In either case the plainest linen or crash doilies would be used, and sparingly. Imagine how fascinating plain blue rimmed porcelain would be on such a table, whose centre held a bowl of gay colored Spanish or Breton pottery filled with fruit.

Either of the materials shown here would be satisfactory, especially the two at the right. The striped one is really most unusual, the dark band being a lovely blue on which dainty, natural tinted flowering plants are printed, while the baskets in richer tones on a creamy ground relieve and emphasize the whole pattern. This heavy printed cotton, 36 inches wide, is a great bargain at $1.25 per yard.


Gorgeous best describes this splendid pattern on heavy linen which, 50 inches wide, sells at $3.40 per yard

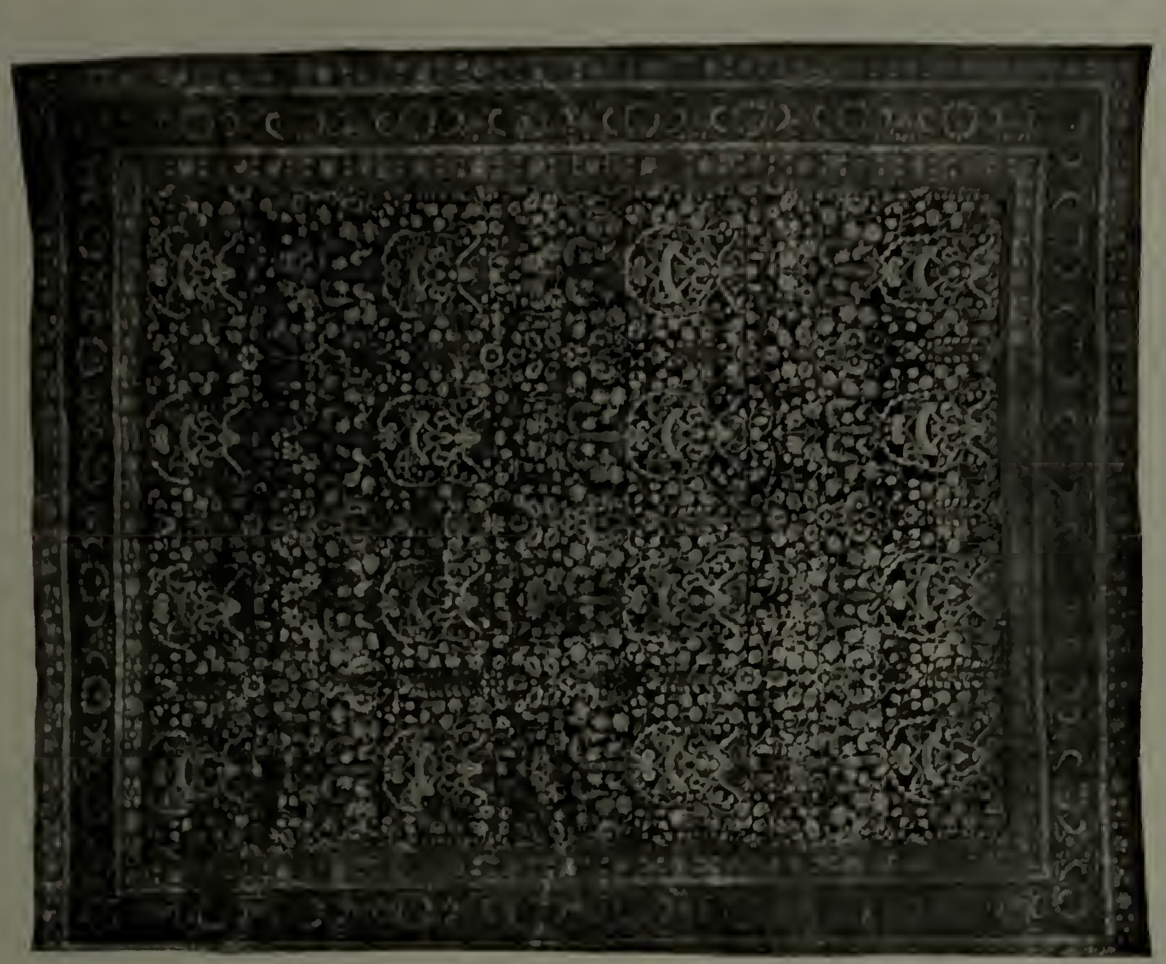
The hand-blocked linen at the left is remarkable for its curious cool greens and blues and soft pinks on a wash blue field. This is 30 inches wide and sells for $3.

All these designs are good because they are so simple, and that note cannot be struck too clearly in the country house breakfast room.

Dainty clusters of flowers and like decorations beautify, while generous proportions make this chair most desirable

Note the three curving lines which accentuate the grace of this simple piece. It is commodious and well built as well

It is the curved stretchers in these pieces that stamp the pattern with individuality and give excellent balance



The above is an illustration of a Persian Rug of Sarouk weave, having a deep, rich blue ground, with soft tan, dull red and green shades in the design. Size 14.2 x 12.1. Price $1375.00

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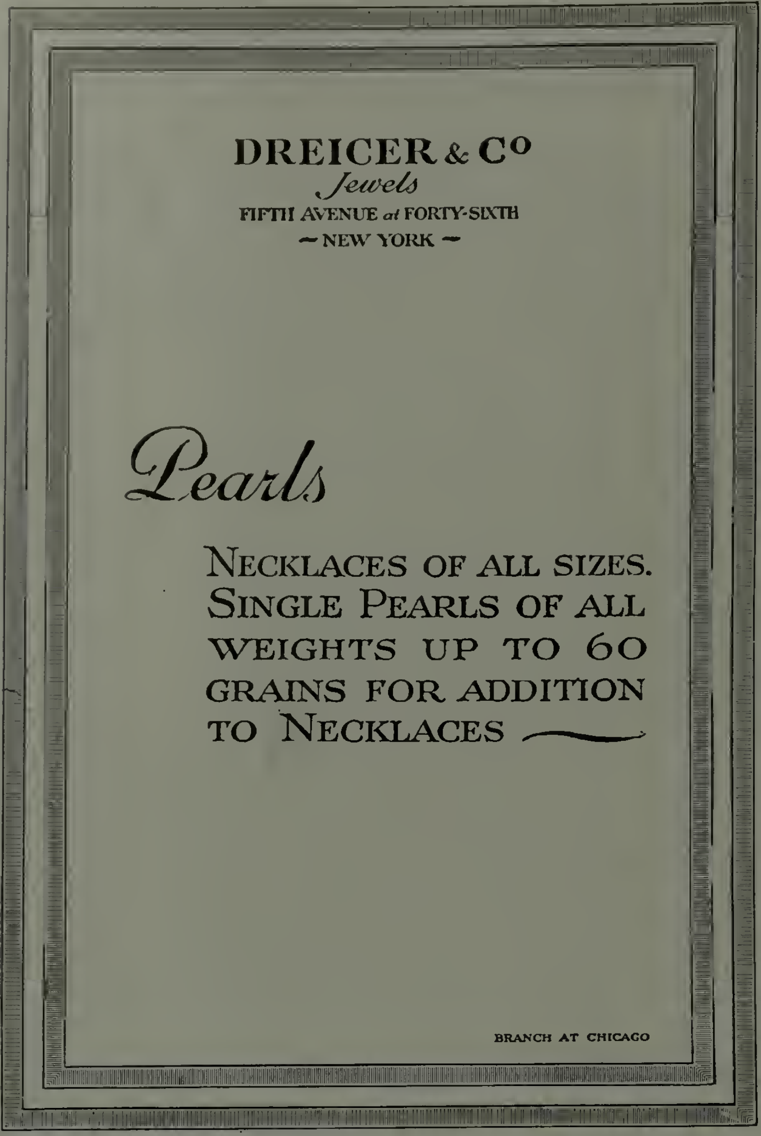

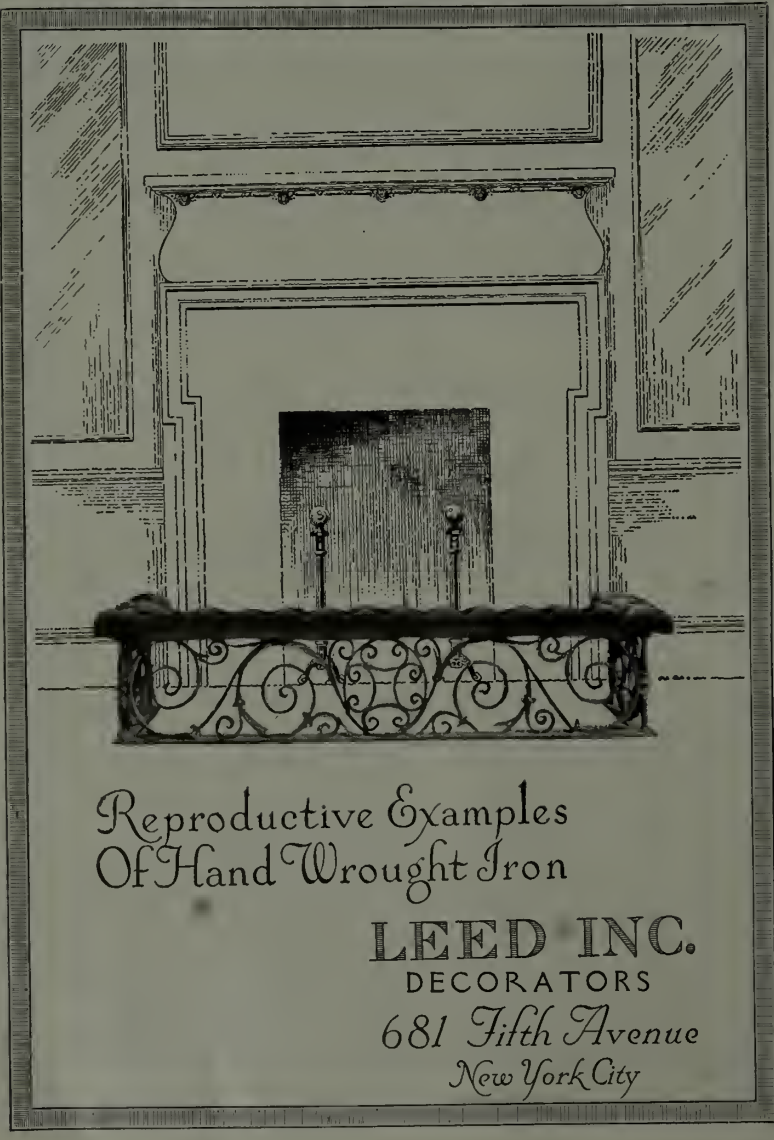

Ornamental Metal Work for Country Places

IT IS highly gratifying to lovers of fine metal work to observe the remarkable advance in this art during the past few years. And we have reason to be proud not only of the work itself but of the originality of designs, many of which are exceptionally good.

The rapid improvement in this branch of art is undoubtedly due to the inspiration found in our magnificent office buildings which are decorated with superb metal work. A half dozen erected in New York alone have bronze trimmings that compare favorably with those in many a famous Italian palace. The competition for this work as well as the inspiration of its designs are bound to have a leavening influence on the public, which is, in fact, already noticeable, so that some day we may have the courage to protest successfully against the atrocities in art that have made us a laughing stock.

Whatever this condition may be, there are few exceptions to-day to the general high-tone of decorative metal work used in homes and on estates, and these exceptions are negligible. Furthermore, much of the finer work, be it for the inside or outside of the home, is made to order, and in many instances the work is copyrighted.

Such are the cases of the gate lantern and bronze urn shown here. These pieces are so fine as to warrant more than passing mention. As will be seen, the contour of the urn is perfect, though four dancing maidens, all in different attitudes, are impressed on it without in any manner destroying its balance. The decorative bands on the rim and base are finely executed, keeping well within the picture. Its mellow golden color, is another favorable point making it a piece to glorify any setting. Sculptured by Mabel Conkling, its dimensions are 26 x 16 inches.

The lantern is one of four designed to be mounted atop a huge eight-foot rough granite gate post, octagonal in shape and laid block fashion. This, too, is of statuary bronze though of a heavier tone than the urn's, and the workmanship is of first quality, every line clearly cut. Most notable however, is its design, which is as original as it is simple, a fact patent in the coronet of leaves on the upper rim that is supported by the gargoyle heads in the coved molding, as well as in the curious bird that surmounts the dome, which itself is hinged to permit easy access within. No duplicates will be made of this, though other equally good designs are to be had from the house which made it.

Fine as the modern bronzes are we have yet to exert ourselves considerably to equal the wrought iron work of the old Italian gate pictured here. Every traveler in Italy has suffered the pangs of envy for those splendid examples of Renaissance iron work to be seen throughout the country, which have been so highly prized by their owners that until now, nothing could tempt them to sell.

It is needless to expatiate on the beauty of this gate further than to call attention to its delightful balance of design and the delicate manner in which the leaves are curled. As a gate for an ivy-covered brick or stone wall it cannot be surpassed, since it contains in itself the very spirit of the garden. From the same place and of the same design there is a fire screen of the dimensions to fill the ordinary fireplace, that would also make a charming gate were it not a pity to rob the house of such a decoration.

J. C. M.

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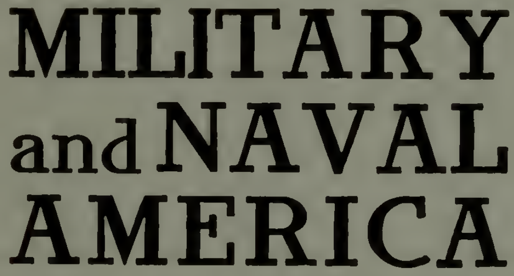
AS A READER of The New Country Life you are cordially invited to make full and frequent use of the decorating service rendered by this Department of which Mr. James Collier Marshall, Decorator, is the director.

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.



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Some Painted Trays

IT IS interesting that the old painted trays, so sought after in the past few years, should have been copied by modern painters almost slavishly up to a certain point, when—*pouf*—there was a complete rightabout, and the decorations became original and the work natural and free. And it must be admitted by even the

most fervid devotee of antiques that in most instances the new painted trays are works of art.

For instance, the parrot tray seen here. The drawing is perfect, the handling of color is even better, the bright-colored feathers being subdued by the foliage and the high lights on the grapes, while a black rim frames the whole. This tray costs only $3.

Copper forms the basis of some of the new painted trays, as in the case of the oblong one here, which is decorated beautifully with a spray of cherries with bee and butterfly attendants. Note also the scrolling at the ends which, painted a deeper green than the leaves, balances the whole. This costs $4.75.

Bamboo trays are now being decorated in the most original and delightful manner, for it is usually the aim of an artist to let the natural beauty of this material be a part of the decoration.

So, frequently, the painted design blends and fairly melts into natural color. This one is an exception, its ground being black. It comes at $4.

The spirit of the times breathes in the tray at the bottom where a splendid American eagle is seen to advantage on a ground of red and white. This, too, is cheap at $2. And some day these trays will sell at ten times their cost.

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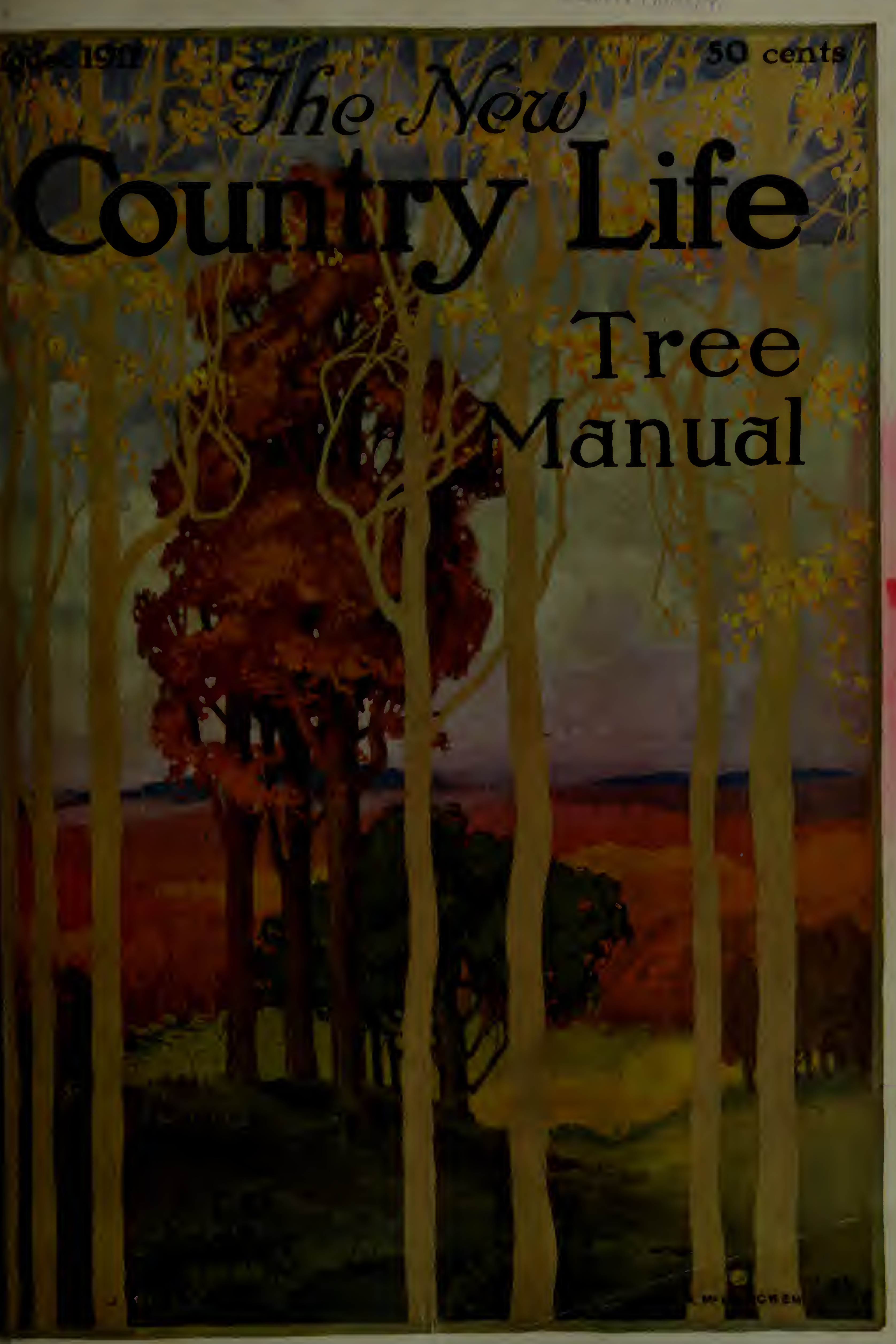
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Their exceptional motors place these cars in exclusive company

When you consider that the Willys-Knight motor is conceded by disinterested men who know motors to be superior to all other types to begin with

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Of Quality and Dependability

Modern design and period styles meet in our large assortment of artistic, graceful furniture. Appropriate suites and odd pieces, which may inspire the creation of a home setting to meet your own ideas of charm, fitness and individuality, are assembled in this store.

The illustration shows part of an American Walnut Dining Room Suite in a reproduction of the Louis XVI Period. Complete, it consists of Buffet Serving Table, China Closet, Extension Table, five Side Chairs and one Arm Chair with seats covered in blue leather.

The Mid-Summer Sale of Furniture Now Offers Every Opportunity For Selection

R. H. Macy & Co

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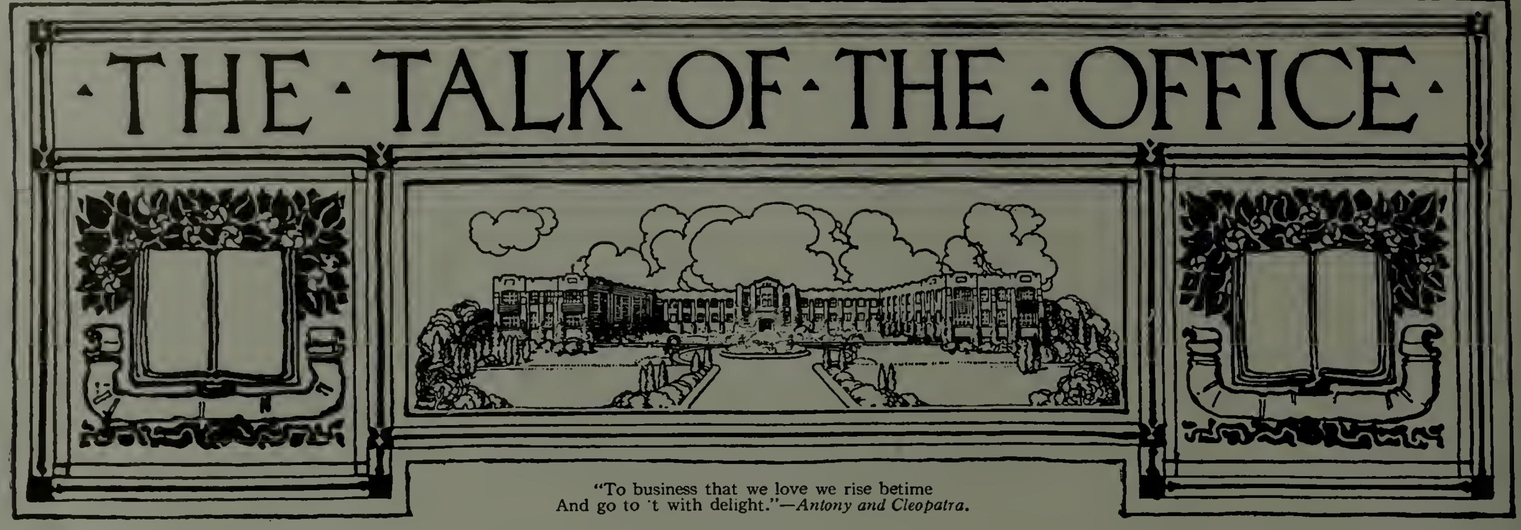


"To business that we love we rise betime
And go to 't with delight."—*Antony and Cleopatra.*

THE IRISH QUESTION BY A SCOT

It is not often that this burning question is treated in a quaintly humorous and yet entirely practical way by any writer, much less a Scot. The one man in the world who could do it is Ian Hay, author of "The First Hundred Thousand," "Getting Together," etc., etc., and he has done it in a little book under the title, "The Oppressed English." Captain Ian Hay Beith, who by his long visit to us has come to be widely known by his real name, tells of what the English have done for Ireland and what Ireland has done for England, and perhaps the summing up can best be represented by his closing paragraph:

> Ireland, as ever, has drawn us far from our text. But I have said enough to demonstrate to unbiased observers the present deplorable status of that unfortunate country, England. To-day her chief offices of State are occupied by Scotsmen of the most ruthless type; Wales supplies her with Prime Ministers; while Ireland appropriates all her spare cash and calls her a bloodsucker. When the War is over, and the world has leisure to devote itself to certain long-postponed domestic reforms, it is most devoutly to be hoped that the case of that unhappy but not undeserving people, the English, may be taken in hand, and that they may be granted some measure, however slight, of political freedom. After that we must do something for Poland.

In view of the excitement about the so-called settlement of the Irish question, this book by Ian Hay will be widely read for the very good reason that it is based on common-sense and good-nature, rare qualities when associated with this vexed subject. It sells for 50 cents.

KIPLING'S LATEST BOOK

We should like to fill this page with the critical opinions of "A Diversity of Creatures," but readers who care for good literature are reading the book, rather than the critics' opinions of it. Here is one from England:

> He has never shown himself a greater master of the art of story-telling, never combined creative imagination with more triumphant realism, or handled his own English prose with more ease, economy, and certainty of effect. The first of the fourteen, "As Easy as A B C", is perhaps the finest short story of the future ever written. . . . As a craftsman, and something higher than a craftsman, Mr. Kipling has gone on developing. To open the book anywhere is to see that he is a supreme master of style, in all its applications. —*The Athenaeum,* London.

It is available in three editions: the regular green cloth library binding at $1.50 net; the red leather binding at $1.75; and the Seven Seas Limited Edition, $6.00.

SELMA LAGERLÖF

The uniform edition of Miss Lagerlöf's books is fast making its way. Bound in green flexible leather, the volumes are as follows:

The Emperor of Portugallia
Jerusalem
The Story of Gösta Berling
The Wonderful Adventures of Nils
The Further Adventures of Nils
The Girl From the Marsh Croft
The Miracles of Antichrist
Invisible Links
From a Swedish Homestead

A recent reviewer speaks of her work as "so deep that the wise cannot find bottom nor the child get beyond its depth."

ENGLISH FAVORITES

An English edition of Mrs. Gene Stratton-Porter's "Michael O'Halloran," published at a shilling, has just been brought out by John Murray, in London. The advance orders were just short of 200,000 copies.

O. Henry, too, is selling probably more rapidly than any English author. His latest devotee is Sir James Barrie, who has been reading and recommending his work to the English.

Even business and financial literature is invaded by the O. Henry cult. The hard-headed Mr. Price, in "Commerce and Finance," among his market reports has this to say:

> All the critics between Salem, Mass., and Salem, Ore., might cry to high heaven that Mr. Porter's work was not "literary," but the fact would remain that it was pure literature—a mirroring of many phases of human character. To class it as "journalistic" is not to its detriment. Dickens was a reporter—the greatest that ever lived. So was the greatest of living dramatists.

BONDHOLDERS

Five hundred and ten members of the staff of Doubleday, Page & Co. participated in the Liberty Loan.

AN O. HENRY HOTEL

Hotel people have not, as a rule, named their enterprises after great writers, but this honor has come to the name of O. Henry.

On June 10th this year, O. Henry, whose fame has spread round the world, had been dead just seven years, and upon the anniversary actual work was begun upon the O. Henry Hotel at Greensboro, N. C., the birthplace of William Sydney Porter and always remembered by him with the greatest affection and loyalty. Perhaps it is fitting that a hotel, sheltering and attracting all the variously faceted sides of life, should be built to the memory of O. Henry, who revealed in his writings the loves and emotions of so many kinds of humanity, and who knew so many different phases and classes of life. A living thing was the work of O. Henry and his spirit would undoubtedly find infinite pleasure in the ebb and flow of the human tide through the great hotel which will bear his name.

The O. Henry Hotel, which is being built by a syndicate of North Carolina capitalists, has been under discussion for some time. According to the plans, the hotel will be a seven story building, containing one hundred and seventy-five rooms, one of which is dedicated to O. Henry and decorated with photographs and other O. Henryana.

A REAL HISTORY

Mr. Frank H. Simonds, who has written much for the New York *Sun* and the New York *Tribune*, has completed the first volume of his "History of the World War." There are, of course, a thousand books on the various phases of this orgy of blood, but we believe that there is no history quite so searching in its analysis, so brilliant and illuminating as Mr. Simonds's.

If you are one of the hundreds of thousands who have read his wonderful newspaper articles, you will want this book, which lays the foundation for the history in a way quite as interesting and exciting as a novel.

This work will be sold by our esteemed contemporary, The Review of Reviews Company, which has the proud distinction of a list of book customers numbering a round million. Either The Review of Reviews Company or Doubleday, Page & Company will give further particulars upon request.

THE RED CROSS MAGAZINE

which comes from the presses of Country Life Press, has been greatly enlarged and improved. The August issue is the Allies' Number, and has a full section in color. In September this magazine, which is growing in circulation as no other magazine ever grew, will be further enlarged. Mr. Clarence Underwood has contributed the cover design, and Charles Dana Gibson the frontispiece.

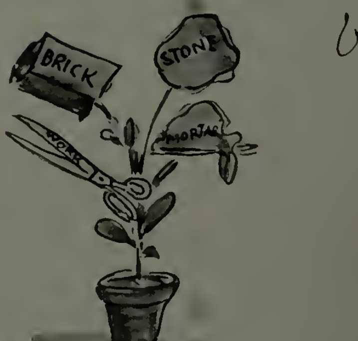
June 25, 1917

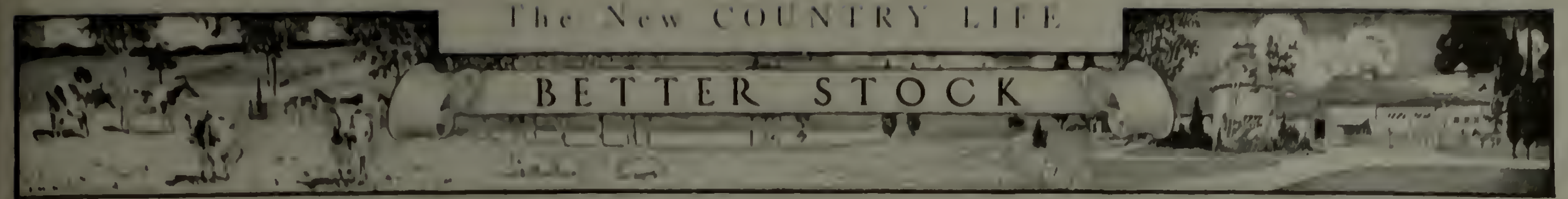
Messrs. Doubleday, Page & Co.
Garden City,
Long Island, N.Y.

Gentlemen:

It is always a pleasure to write you particularly so in acknowledgement of such a beautiful bunch of peonies as now adorns my desk. I wish I had your garden.

Sincerely yours,





NEWS *of the* BREEDS *and the* BREEDERS

The Southdown Ram Cheveley Sheik The Ohio State University at Columbus has recently placed at the head of its flock the Southdown ram Cheveley Sheik, purchased from Mr Robert McEwen, Alloway Lodge, London, Ont., who, in turn, imported him from the McCalmont flock in England in 1916. During his short sojourn on this side, the ram has already won the championships at the 1916 New York State Fair, the Toronto Exposition, and the Chicago International Live Stock Exposition.

Record Price for a Guernsey Bull Whether or not it will disturb the balance of popularity of the breeds on the Pacific Coast, the transfer to California of the Guernsey bull Itchen Daisy's May King of Langwater adds some splendid blood to that fast developing dairy section. The animal was purchased from Florham Farms of Madison, N. J., by Mr. B. F. Nixon of Yountville, for $8,000, which is a record price for a Guernsey bull, and a good round sum for any animal, even in these days of astonishing sales ring performances. The various parts of his name serve as an index to the blood lines that have made and doubtless will continue to make him famous.

Farmers' Financial Backing of The War It is said that the farmers of a fighting nation are as vital to its ultimate success as its first line trenches. But American farmers it appears are far from willing to restrict their support of the nation's burdens to the share they carry as tillers of the soil. They are also to be its financial backers to the extent of their ability. In testimony whereof we note that "The National Duroc-Jersey Record Association purchased $1,000 worth of Liberty Bonds and has authorized the further purchase to an equal amount whenever a second issue is made."

Middlesex Meadows Farm Ayrshires Mr. A. Henry Higginson, owner of Middlesex Meadows Farm, South Lincoln, Mass., reports the addition to his Ayrshire herd of the best ten cows from the herd of the late C. P. Searles of Ipswich. The stock is well bred and prospects are bright for some good records. Among the older members of the Middlesex herd, Rosella Webb, who stands sixth among all Ayrshire three-year-olds, started her four-year-old record by producing a fine heifer calf and more than 1,600 pounds of milk in her thirty days. Late in May she was milking 65 pounds a day and going up steadily. The spring crop of calves arrived just in time to replenish the stock of animals available for sale, which the winter and spring demands had brought very low.

That Sheep Sale A joint sale of registered sheep will be held under the auspices of the Shropshire, Hampshire, Rambouillet, and Lincoln registry organizations at the Ohio State Fair Grounds at Columbus on August 7th and 8th. No unrecorded rams and only sheep of pronounced merit will be admitted; registered rams will be sold singly, in pairs, and in pens of five and ten; registered ewes will be offered in pens of three, five, and ten, and grade ewes in pens of ten and twenty-five. This is the first sheep sale of its kind to be held east of the Mississippi River, and only one such event has ever been held west of that line. An office will be opened on the grounds not later than August 1st.

The Best Cow West Of the Missouri River Every cow cannot be a world's record holder, but this doesn't mean that a good many more local honors are not worth attaining. For instance "The best cow west of the Missouri River," is no mere loud-sounding title, for it has been won by a year's record of 11,424.6 pounds of milk, 629.66 pounds of fat by the Washington Estate cow Sammanich Topsy 46,902. Her owner, Dr. Park Weed Willis, of Seattle, is rightly proud in that, with only five years of experience with pure bred Guernseys behind him, he has bred and developed this splendid performer, as well as a number of other strikingly good ones. Verily the Far West is on the dairy map to stay and to progress.

The Southdown ram, Cheveley Sheik, first imported from England to Canada, and now at the head of the Ohio State University flock

Itchen Daisy's May King of Langwater, the Guernsey bull that has just been taken to California for the record price—for the breed—of $8,000

CALIFORNIA NOTES

AN ACUTE labor shortage is reported from California farms; the loss of a large part of this year's crop is threatened by the lack of dependable farm help. The California Association of Practical Farmers is trying to bring in Mexican labor to help garner the 1917 yield and plant the 1918 crop.

THE sheep cheese industry of western Yolo County is growing, and the demand for the product is showing a steady increase. The Western Yolo cheese factory was organized one year ago. They began by milking 900 ewes and during the year made twelve tons of cheese. This year they increased their flock to 1,300.

MAYOR James Rolph, Jr., of San Francisco, attended the Chico (Butte County) Fair largely in order to stock up his ranch at Menlo Park with more pure bred Jerseys. He purchased from S. F. Williams, of Orland, two heifers that not only were winners at the Chico Fair, but that also had taken prizes at the Panama-Pacific International Exposition.

ACCORDING to Mr. Herbert A. Emerson, who has been in California investigating food conditions for the Commissioner of the State of New York, the Pacific Coast will be able to ship East a surplus of 150 cars of butter, 24,000 pounds to the car. Four years ago the Coast imported 200 cars. A great part of the butter supply of the Navy is being purchased in California.

MRS. Luella Hughson, of Modesto, who built the palatial Hughson Hotel at that leading dairy city, has purchased sixteen head of Holsteins from the Sanitary Dairy. Mrs. Hughson has a fine ranch, and in former years had one of the finest dairy herds in the section around Modesto. The lure of the butter market and the high price of beef have been instrumental in bringing her back into the field.

A COTTON crop worth $15,000,000 at the present prices will be harvested this year by growers in the Imperial Valley. Buyers from the Orient and England have visited the fields and made large purchases.

MR. Harold Robinson, a San Francisco business man, has established a pure bred live-stock farm between Auburn and Grass Valley.

MRS. D. O. Lively, of Mayfield, who is owner of the Loch Lomond Kennels of West Highland Terriers, reports the sale of Loch Lomond Lassie to Mrs. Charles Lyman, of Mayfield, for $100.

GUERNSEYS

The Guernsey Breeders represented on this page are recommended by Country Life. For information concerning the Guernsey breed, address
Country Life Readers' Service Department
Garden City New York

Langwater Farms
GUERNSEYS

The Kind Langwater Produces

Langwater Dairymaid sold for $6,150.00 at sale on October 10, 1916—the highest price ever paid for a Guernsey Cow. Her blood is being continued at Langwater Farm through her son, Langwater Steadfast.

75 head of Langwater Guernseys sold October 10th at auction made an average of 1075; establishing a record in the dairy world.

Bull calves of this blood for sale.

For particulars apply

William Grant, Supt. North Easton, Mass.

Sunnybrook Guernseys

Junior Champion at National Show Bred at Sunnybrook

A distinct family of high producing animals of correct type.

A. R. Records average 579.47 lbs. fat, with increases in progress

A few choice animals usually for sale

Herd regularly tuberculin tested

CHARLES D. CLEVELAND
Box 21 Eatontown, New Jersey

Harbor Hill Guernseys

Clarence H. Mackay, *Owner*

A Healthy Herd of High Producers

Young Bulls of A. R. Breeding, for sale. For pedigrees and prices address

C. H. HECHLER, Supt., Roslyn, New York

Gerar Guernseys

Herd founded 1890. A. R. Work started 1912

We have in our herd four females with average records of 600 lbs. fat, all now over twelve years old, all safe in calf, three carrying their twelfth calves, and all with two or more A. R. daughters. We are offering bull calves from daughters of two of these cows.

LOUIS McL. MERRYMAN, Cockeysville, Md.

The Mixter Farm

Over 1,600 purebred Guernseys have been bred on these farms. Present herd includes over

300 GUERNSEYS

Exceptional young bulls for sale at reasonable prices, sired by May Rose sires and out of dams with A. R. records above 10,000 lbs. milk. Buy producers.

J. S. CLARK, Supt. Hardwick, Massachusetts

The Oaks Farm Guernseys

Senior Herd Sire
MAY KING OF LINDA VISTA, 17946

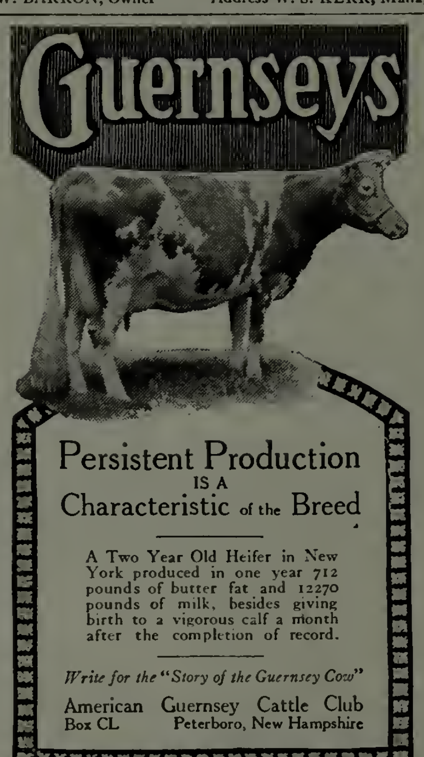
Junior Herd Sire
DON IAGO OF LINDA VISTA, 28387

Nuggets Primrose, 48835

The Leading Two-year-old Milk Record of the Breed
15,436.10 lbs. Milk 705.56 lbs. Fat

Several Bull Calves and a few Young Heifers of choice breeding for sale

THE OAKS FARM, COHASSET, MASS.
C. W. BARRON, Owner Address W. S. KERR, Manager



Edgemont Farms

Offers yearling Guernsey herd bull of May Rose breeding—his dam, two granddams, and four great granddams all A. R. and the records of the seven average 729 lbs. fat—also few females. Write for particulars and prices.

T. E. HYDE, Bloomsburg, Pa.

Brooklawn Farms Guernseys

BELSIRE 18645, one of the best individual bulls of the breed and a sire of producers. A few of his sons for sale.

BELSIRE 18645

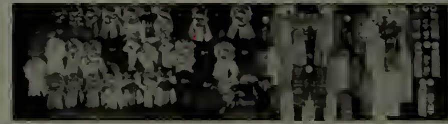
BROOKLAWN FARMS Morris Plains, N. J.
D. H. McAlpin, *Owner* A. E. Wright, *Superintendent*

The above photograph shows the prize winning Get of Sire Group exhibited at the National Dairy Show of 1916

Upland Farms offers bull calves sired by show winning bulls of distinctive breedings.

We have a few females for sale from time to time

Our herd won more prizes at the National Dairy Show than all the other Guernsey Breeders of New England.



Ribbons won at the 1916 Show Circuit

UPLAND FARMS
IPSWICH MASS.
Benj. F. Barnes, Mgr. F. P. Frazier & Son, Proprietors

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Campton, New Hampshire

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100 Strong, Hardy Plants, either Superb or Progressive, sent post paid on receipt of $2 cash with order.

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The World's Standard.
Over 2,000,000 in Use

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165 Broadway, N. Y. 29 E. Madison St., Chicago

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Let Them Lick Salt As They Want It!

No one can salt *your* food to suit *your* taste. *No one can salt food right for horses!* Let them salt *themselves*—they'll do it as *best suits their condition.*

Compressed Pure-Salt Bricks

in handy holders enable them to have *refined dairy salt*—all natural impurities *taken out.* No more forgetting. Saves time and work. Ask dealer and write for free booklet.

Belmont Stable Supply Co.
Patentees and Manufacturers
369 Fulton Street Brooklyn, N. Y.

The New
Country Life

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Photograph by H. C. Mann

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Henry H. Saylor, Editor

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"THE OLD HOODED COTTAGE OF NEW ENGLAND, UNDER ITS HIGH CANOPY OF ELMS"

The New
Country Life

Volume XXXII | August, 1917 | Number 4

The USE *of* TREES

By FLETCHER STEELE

Charcoal drawings by Walter King Stone; pen-and-inks by A. H. Hepburn

TREES are more than trees in art. They are elements in landscape; forms and masses of varying color and texture. As stone and brick to the architect, so are trees to the landscape architect material with which to construct a composition. But the analogy holds only in a general way, for unlike brick and stone, trees are living things. And like all that lives they are subject to manifold vicissitudes, and finally they die. Maybe it is because they share with us all the chances of life and death that we are their friends. We plant them, encourage and protect them, inquire into their health, and mourn for them when they are gone.

A thousand words have sprung to the lips of poets describing the trees that they honored, but the scientist has few, and those usually self-explanatory rather than technical. The student is grateful to Dr. Sargent for the terse aptness of his descriptions in the "Manual of the Trees of North America." Scientific definition is but poor description at best, however, and helps us very little in planting for predetermined effects. Only observation and study tell us what to plant and where.

Chestnut (*Castanea dentata*). Fine in trim youth. Round top. Dense dark green foliage. Conspicuous white flowers in summer. Delicious nuts in autumn. Noble in old age, with immense twisted trunk and ragged stubs of broken limbs. Strength in every angle. Lately subject to bad blight, but try a few in extensive plantings

It is to be noted that one cannot always import the tree setting with a foreign architectural style. This is the chief reason why exotic buildings rarely look at home in our countryside. A millionaire can build an Italian villa, but he cannot grow the cypress; he can have Spanish patio and red roof tiles, but he cannot have gray olive orchards and a bougainvillea vine over his gate. He must be satisfied with the trees that nature smiles on in his soil and climate.

And how finely unified are house and frame of trees where each becomes the neighborhood! Picture the old hooded cottage of New England under its high canopy of elms. At each corner the severe architectural simplicity is softened by an overgrown thicket of lilacs. At one side is an orchard of gnarled apple trees, and beyond lie narrow valley and gently swelling hilltops. No more beautiful rural scenery is to be found. Yet how far it is from the gardener's ideal of suburban decoration! The charm lies in economy of motive and beauty of detail. Our eyes are drawn to the elm. In structure it is essentially formal. A single stem of considerable height, strengthened by huge buttresses around the base, diverges subtly in several branches twenty or thirty feet from the ground. Seventy feet up they begin to bend over. It does not take an artist to see the resemblance to an exquisite vase.

Breezes blow freely over the spot it covers. As the foliage is never heavy, its shade is shot with gay sunlight and the sky twinkles through its leaves. All its features make it as desirable to plant near our houses to-day as it ever was. Its formal lines harmonize with architecture. Its great height and mass tend to reduce the apparent size of buildings near which it stands. Thus they give human scale to artificial features. With careful attention they can be kept free of the many pests that unfortunately attack them.

In a country where the elm is found in the rich lowlands one should look for a white oak in the sterile soil of the uplands. Like the elm, the oak prefers to stand alone, but loves the eternal rocks of ledge-broken hillsides. Even in the forest old oaks are oftener found in open glades.

We would never apply the word grace to the asymmetrical white oak tree. It is angular in the unions of its branches and in all their ramifications. A great trunk rises clean from ten to twenty feet above the ground, where the lower branches turn off at abrupt angles. Above, other boughs break away sharply, and the central stem is soon lost. The limbs extend to a remarkable distance in a generally horizontal direction, although on steep slopes the lower branches tend to grow roughly parallel with the ground. Not infrequently one thus finds the extremities of the limbs to be lower than the bottom of the trunk. But even so, it would be incorrect to say that the branches droop. Instead they seem to force their way to the place of their choice, whether up or down.

The man who would use the oak in his landscape must be satisfied to subordinate his scheme to the tree to get the best results. The elm adorns architecture while architecture must be designed to harmonize with the oak. Stone is the best material to use and the style should be low-spreading and picturesque, avoiding all traces of classic formality. Do not attempt to tidy up too much around an old oak nor include it in formal gardens or neat lawns. It will lose all the virtues that make it worth knowing, like a blind, toothless lion in a circus wagon.

In southern Canada the sugar maple is the finest tree, and it approaches its best standard in several of our Northern States. When young it is naturally the most symmetrical and formal of our deciduous trees, developing a narrow, egg-shaped head. Because it is so trim and well set up, it occurs to mind at once as a formal avenue tree. Indeed it serves the purpose admirably, but one must remember that when old it loses formality, "ultimately spreading into a broad, round-topped dome often seventy to eighty feet across." Its trunk is then gnarled and irregular, but erect withal, rising to superb heights. The lower branches turn off horizontally some ten or twelve feet from the ground. The upper branches diverge at gradually diminishing angles, reaching upward more and more. The great roots, where they leave the trunk just above the surface of the ground, fit full comfortably the back of a man stretched out. There is clean pasture grass under the old maple, and sun and air. There is shade, too, though it is scant from old trees; but below the dense foliage of young specimens the shadow lies a dark mat on the greensward.

Even after all formal stiffness has disappeared, measured lines of

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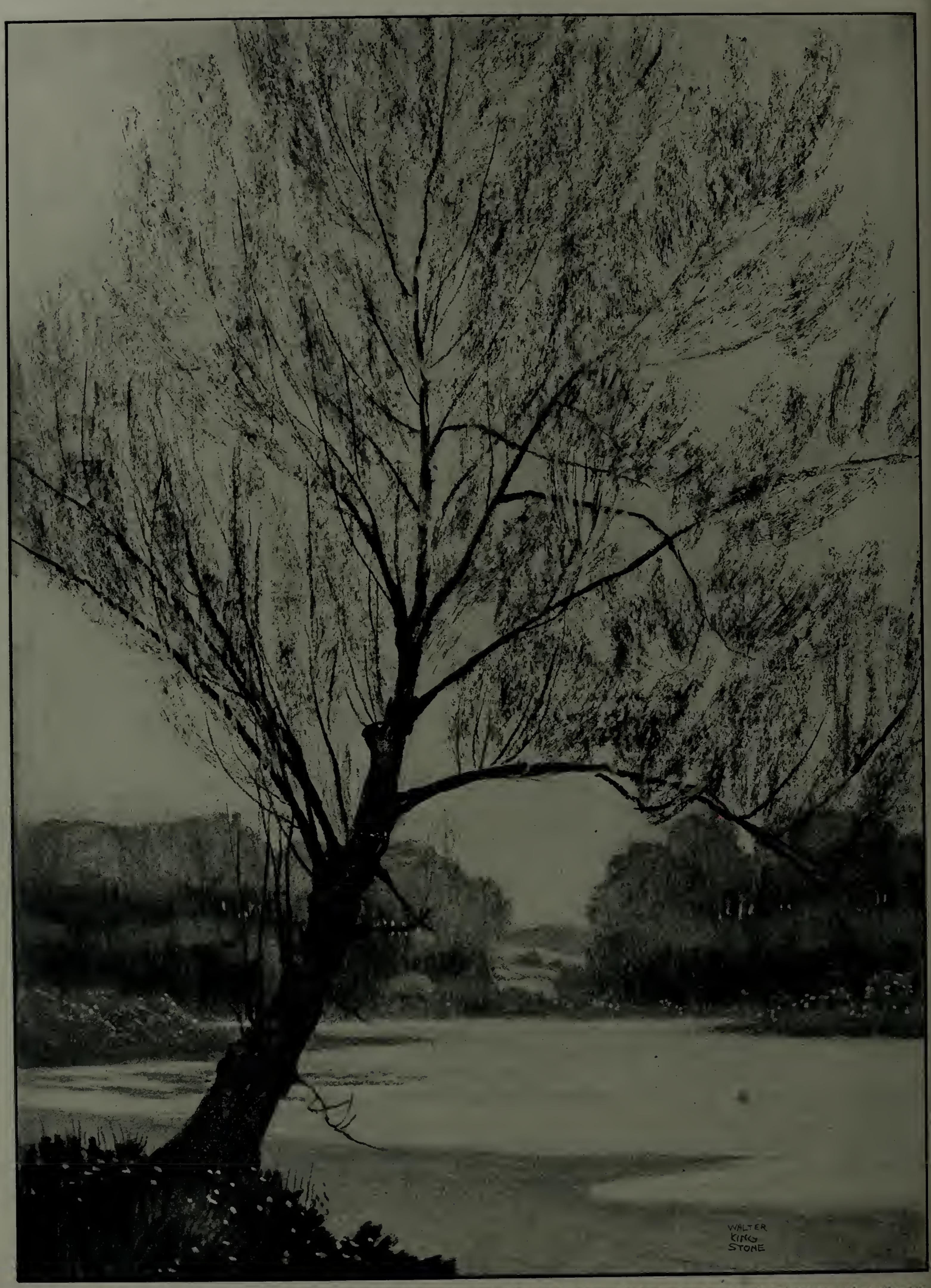
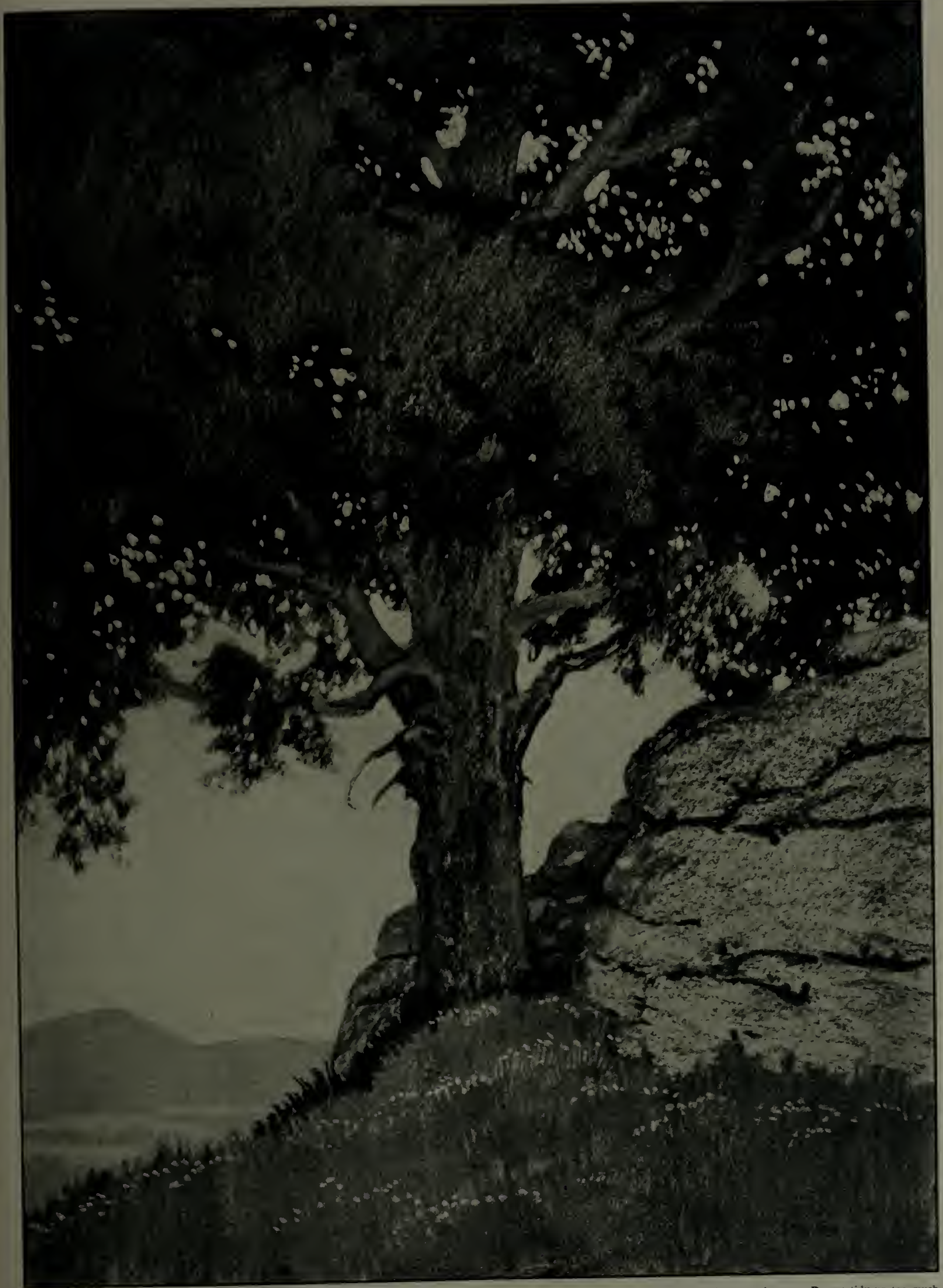


Of all the trees that flourish in wet ground, the finest in our Northern States is the white willow. One thinks of willows as bending over quiet ponds and streams, and no other tree excels them for holding wet banks with strong, matted roots



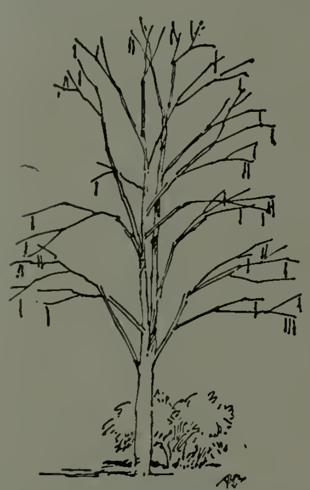
No one would ever describe as graceful the asymmetrical white oak. The man who would use it in his landscape must subordinate his scheme to the tree. Do not tidy up too much around an old oak, nor include it in formal gardens

maples serve a valuable esthetic need in counteracting almost insensibly the long, horizontal lines of any flat landscape—river, wall, and far-set skyline—which otherwise would often prove a monotony of parallels.

The sugar maple is a more sociable tree than elm or oak, and is frequently found in mixed woods where in foliage and texture it harmonizes well with other trees. It is particularly good friends with beech, ash, hemlock, linden, butternut, poplar, and wild cherry. Two or more of these happy life-long neighbors are often seen together. Consequently if you have in mind a grove of trees you cannot do better than to use the sugar maple as the predominant one, with a generous admixture of the others mentioned.

Apple (*Malus sylvestris*). The tree that makes a home. Low, from twenty to forty feet only, with spreading head, changing in shape with the variety. Short, crooked trunk, and a few large branches at all angles. Fruit of many flavors and colors. In spring, covered with white or delicate pink, fragrant flowers, the greatest beauty of the countryside

If color is an object, do not omit that near relative of the sugar maple, the red or swamp maple, especially if there be a plot of wet ground. No other native tree furnishes such brilliant variety of hues. In April or May, before the leaves, its tiny flowers appear in such myriads as to clothe the swamps in scarlet. The young shoots are crimson, or sometimes purple, and later change into the lively, clear gray of the trunk, often covered with white and green lichens. The young leaves are a bright yellow-green, deepening soon to a rich, dark tint, frequently variegated with lines of scarlet, crimson, or orange. At times leaves here and there or branches—even whole trees—will turn gaudy colors in midsummer while the forest is still green. In autumn the red maple is sure to be the gayest of the trees, though the color may never be twice alike.



Kentucky coffee tree (*Gymnocladus dioicus*). Medium sized tree. Narrow, upright head. Stout branches devoid of twigs form gaunt winter framework. In summer, immense pinnate leaves change stiffness to grace. Late starting in spring. Slow growing, but eventually a fine specimen. Conspicuous red-brown seed pod, often remains on tree during winter. Seeds formerly used as substitute for coffee

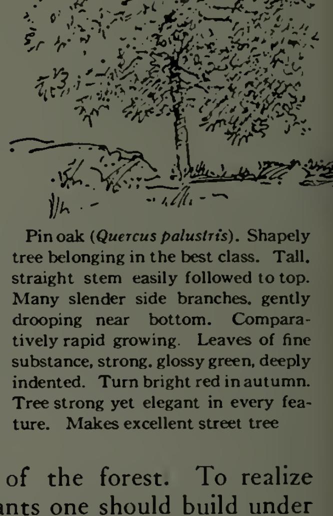
It is well to note here several other trees that flourish in wet ground. The finest in our Northern States is the white willow, which one is tempted to call the most urbane of trees. It is not native here, but has adapted itself with complacency to form what are now among the most beautiful of our landscapes. One thinks of willows as bending over quiet ponds, and again in comely rows along raised roads through swampy land. They have always affected poets and painters with peculiar appeal. Many a picture by Corot might well have been painted under the willows beside our still waters. Their leaves are green of a strange lightness, almost luminousness. An artist has written: "There is a perfect gradation of increasing lightness from the trunk to the topmost spray. The twigs are parts of an elegant structure, and from their extreme flexibility they bend and move more elegantly in light breezes than those of any other tree."

Wild cherry. Forms magnificent round-topped specimen at its best, like a story book tree with huge, short trunk and far-flung, twisted limbs. In blossom, worth a journey to see. Fruit of little account. Ordinarily the wild cherry is but little esteemed. First to be attacked by, and thus to spread, many pests

No tree excels the willow for use in holding wet banks with strong matted roots. There are other native willows that do well in wet land, but they are more usually shrubs than trees. The common alder is another excellent plant to use. Sometimes it attains the height of a small tree but more usually it is a large bush. The same is true of the swamp magnolia or sweet bay. Among others to use near water are the black or cherry birch, the yellow and—if you can find it—the red birch, all charming and rather delicate trees with interesting bark. The tacamahac (*Populus balsamifera*), a large and rapid-growing tree, might be used at times, and the swamp hickory and swamp oak, handsomest of trees for wet land, but comparatively slow growing.

In the South no single tree is used so generally near houses as is the elm in New England. But travelers in Virginia have often noticed how frequently the locust is found on the lawns. Nothing could be more charming in composition with the tall white columns and red brick of the Southern Colonial mansion than the locust. It grows to a considerable height with very narrow spread. Indeed one remembers the locust as being largely a trunk, somewhat gnarled but approximately straight upright, in a feathery veil of delicate green leaves and white flowers. Such trees temper the summer sun without shutting off the cool winds. Their many vertical trunks repeat the lines of the white columns without hiding them from view. They distinctly enhance the architecture.

For shade the Virginians turn to other trees. Most beautiful is the evergreen magnolia (*Magnolia grandiflora*), of which I once heard a Northern lady say that it was "the way her rubber plant would look in heaven." There is the live oak, too, which will grow in protected spots, as well as other trees that cannot be grown north of Washington. But for the most part the species used northward are also found in that latitude.



Pin oak (*Quercus palustris*). Shapely tree belonging in the best class. Tall, straight stem easily followed to top. Many slender side branches, gently drooping near bottom. Comparatively rapid growing. Leaves of fine substance, strong, glossy green, deeply indented. Turn bright red in autumn. Tree strong yet elegant in every feature. Makes excellent street tree

The tulip tree or yellow poplar—in botany the sounding liriodendron—reaches its largest size in the lower Ohio basin and the mountains of North Carolina and Tennessee, according to Dr. Sargent, but no trees could be more magnificent than the tulip tree in the Middle Atlantic States. It reaches enormous heights with straight, clean trunk and branches. It is the young athlete of the forest. To realize childhood's dreams of the land of giants one should build under a titanic tulip tree. In fact, if height in trees is part of your scheme for a homestead, do not come north of Philadelphia, since the average height of trees there much exceeds that in New York or New England.

You will find some of our most beautiful evergreens thoroughly at home in the North, however. Of these the finest is probably the white pine. It lacks the formality that distinguishes the fir and spruce, making specimens of them even in the pure forest. It becomes more round-headed. The individual branches have a grander upward sweep. It lifts its summit far above the heads of the surrounding trees. As Wilson Flagg observes: "The white pine is a tree that harmonizes with all situations, rude or cultivated, level or abrupt. On the side of a hill it adds grandeur to the declivity and yields a sweeter look of tranquillity to the green pastoral meadow. It gives a darker frown to the projecting cliff, and a more awful uncertainty to the mountain pass or the craggy ravine. Over desolate scenery it spreads a cheerfulness that detracts nothing from its

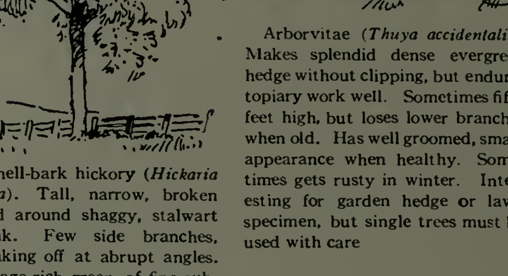
American beech (*Fagus Americana*). Tree of beautiful outline, attaining large size at times. Notable in winter. Bark a smooth gray or pearl white. Sturdy trunk and well-spaced branches subdivided into thick lacework of graceful twigs. In summer, well covered with smallish leaves of good color and shape. The most elegant of our native forest trees

Because the sugar maple is so trim and well set up, it suggests itself at once as a formal avenue tree

power over the imagination, while it relieves it of its terrors by presenting a green bulwark of defense against the wind and the storm." This explains very well the esthetic reasons for planting the white pine and where it should go. One practical application is omitted, however, the fact that it makes the quickest permanent screen against unsightly neighborhoods. The white pine grows fast and in light places keeps its thick foliage down to the ground. Thus it often performs an inestimable service either in shutting out what is better unseen or in turning the gaze toward what is beautiful.

White spruce (*Picea canadensis*). Most compact and formal of native evergreens, each specimen retaining individuality even in the forest. In open, retains branches to the ground many years, but lower limbs, easily killed by shade or accident, are never replaced, leaving ugly holes. Very engaging when thrifty. When old, with many branches gone, loses charm

Tulip poplar (*Liriodendron tulipifera*). Tall, stately tree. Magnificent columnar trunk. Open head. Large leaves appear to have ends cut off. Light green above, whitish below. Large flowers like a tulip, greenish-yellow in early summer. One of the largest and most satisfactory of American trees



Shell-bark hickory (*Hickaria avata*). Tall, narrow, broken head around shaggy, stalwart trunk. Few side branches, breaking off at abrupt angles. Foliage rich green, of fine substance, turns yellow and purple in autumn. Nuts of fine flavor. Makes very handsome specimen. Slow-growing and difficult to transplant

Arborvitae (*Thuya accidentalis*). Makes splendid dense evergreen hedge without clipping, but endures topiary work well. Sometimes fifty feet high, but loses lower branches when old. Has well groomed, smart appearance when healthy. Sometimes gets rusty in winter. Interesting for garden hedge or lawn specimen, but single trees must be used with care

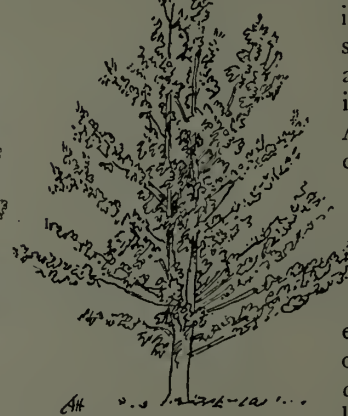
In this connection it is interesting to note that even a factory town in the distance is often picturesque and full of color, with billows of opal steam and purple smoke. Because of its association with bustle it makes the quiet of a faraway vantage point the more peaceful, while near-by a city and its outskirts is in general bitterly disheartening. The pine will shut out the near ugliness and allow the distant prospect. By planting a heavy mass and softening the edge with separated small groups and single specimens one can create irregular vistas of rare charm.

In old woods the pine loses its lower branches and the tall, straight trunks stand out in superb ranks that compare in unity of esthetic effect with the repeated columns of a Greek temple. Over too great an area one becomes oppressed by the monotony of this arrangement and a certain sombreness that underlies the dark hushing canopy. Used sparingly, on the other hand, we get one of the most interesting effects of landscape architecture, when it is arranged to look down through a thin screen of pine bolls at a broad, fertile valley or a lake.

Fine as is a pine wood, there is equal charm in a hillside covered with primeval hemlock, as is to be seen on Hemlock Hill in the Arnold Arboretum. Without sacrifice of dignity, there is an added grace of detail. In the wood the hemlock retains longer the living branches low down, and each is as elegant as the frond of a fern. Then, too, a hemlock forest is never sombre—indeed, is curiously light. This is caused by the fact that the underside of every tiny needle is almost white, though seen from a distance the trees appear a rich, deep green. Fortunately, too, under hemlocks the soil conditions are often favorable to the growth of mountain laurel, best of our Northern broad-leaved evergreens. Otherwise they are carpeted underneath only with their own brown needles. Hemlock branches are particularly fine as a lacy frame for a distant view.

In a brief review it is necessary to pass over many invaluable trees, but not even the shortest article could ignore that unique blessing of Heaven to warm the cockles of the architect's heart—the red cedar. He likes its color and texture against his buildings, but even if of magenta tinware, he would continue to picture it in his renderings because of its form. From its infancy it looks like a Noah's Ark tree, and the older it gets the stronger the resemblance becomes. This shape appeals to the architect, and indeed to everybody else for that matter. The tree can be used between windows without cutting off the light, and in the drawings to relieve the stiffness of the architecture without disguising it. But architects are too prone to advise its use for hedges and screens. The fact is that, notwithstanding its formal shape, it is not at home in crowded plantings. Cedars love the open meadows and cracks in the ledges. If you see them growing wild you will notice that almost every specimen is isolated and open to air and light.

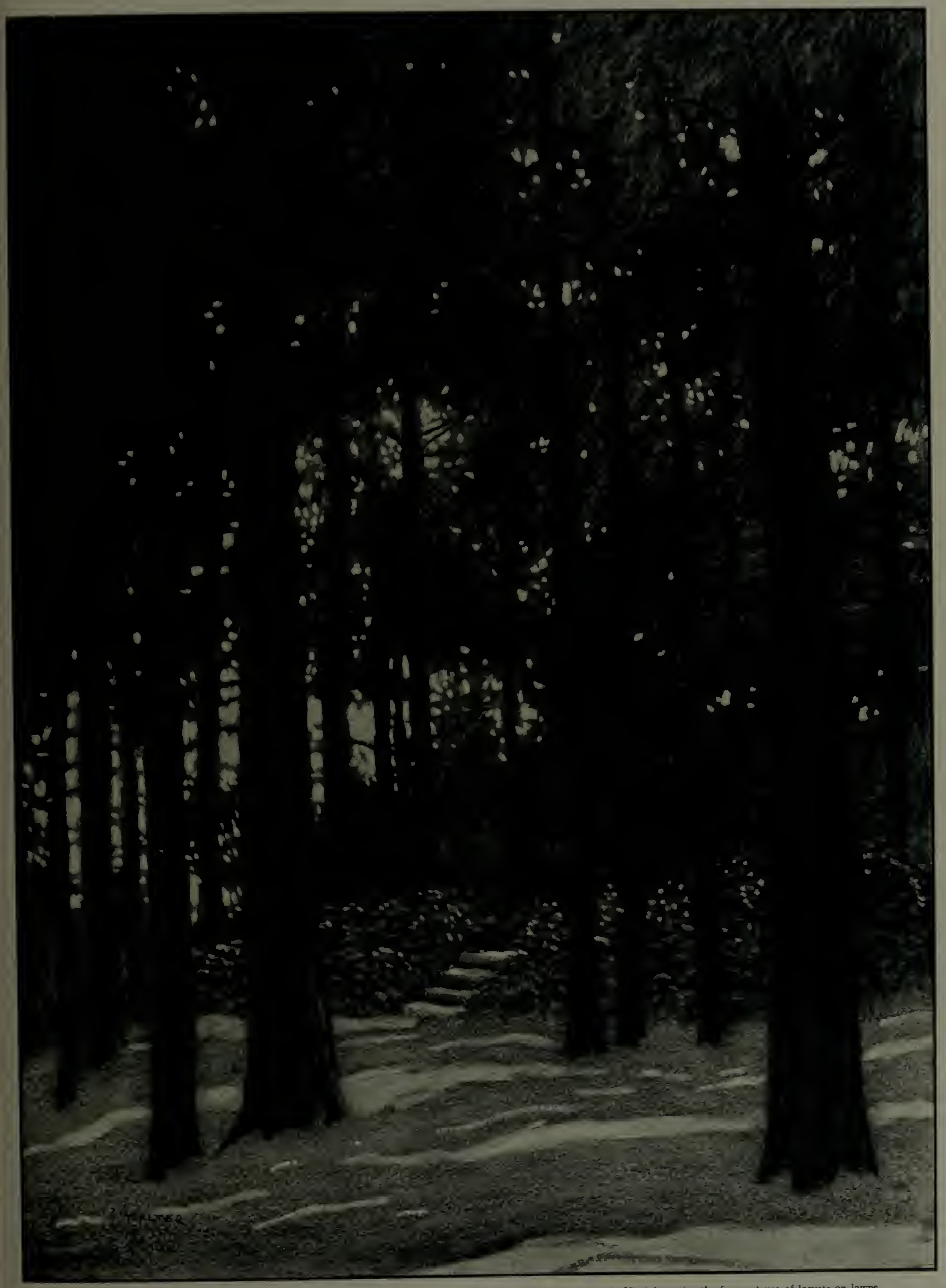
White birch (*Betula alba*). Small tree of peculiar charm. Gleaming white trunks, usually several from one centre, lean weakly but with lovely grace. Leaves sparkle gaily. A tree of pleasant moods, particularly cheery against dark pines. Rapid-growing and short-lived, it serves well as nurse for more enduring varieties. Not a choice tree, but could ill be spared



Maidenhair tree (*Ginkga biloba*). Shows two forms. Male apt to sprawl, throwing out great branches at awkward angles. Female often fastigiate and close knit, forming pointed head. Distinctly individual. Leaves small, fan-shaped, somewhat resembling maidenhair fern enlarged. Easily grown. Few enemies. Endures city conditions well, proving excellent for street planting

In no way can they be said to take the place in our climate of the Italian cypress, because that tree rapidly attains an enormous height, while in the Northern States the red cedar rarely grows as tall as a two-story house. Farther south it reaches greater height, but, curiously enough, then it frequently loses its sharply formal lines to become the most picturesque of spreading evergreens. One sees thousands of red cedars in Maryland and Virginia that resemble crooked old apple trees from a distance. To lovers of contrast in landscape the red cedar is unrivaled. Its formal spotting on the worn-out rocky meadows of new England, crossed by rough stone walls, varied here and there with warped white oaks, clumps of blueberry, sweet fern, steeple bush, and hardhack, and now and again a neglected apple tree, spell for them the melancholy romance that lies in abandoned farms.

Of larger size, we find a tree of similarly upright form in the Lombardy poplar. It was originally imported into this country, and like so many that are not native, it is less dependable than indigenous stock. Usually short-lived, it is apt to be attacked by borers while still young, so that large pieces die out and the tree drags on a moribund existence that we like but little. For we Americans are young enough to feel distaste for all that warns of weakness and of death. More sophisticated eyes have found great beauty in the bare shanks of poplar trees, as all will remember who have seen "The Avenue" by Hobbema. In certain parts of our country the Lombardy poplar does better than in others. Particularly fine specimens are to be found all through the rich valleys of western New York, where the tree grows taller and of bigger girth than elsewhere, remaining in excellent condition for many years. As so often happens, they look best where they do best. In that country the landscape elements are on a broad, generous scale. Valleys and hills are miles long and wide. The aspiring



In the South no one tree is so generally found near houses as is the elm in New England, but travelers in Virginia notice the frequent use of locusts on lawns

Tree of Heaven (*Ailanthus glandulosa*). A weed among trees, but deserves mention for one great service—it prospers in the slums and tiny back yards of great cities. It has a clean, green foliage, interesting seed clusters, and some grace. Great care should be taken to get only trees having pistillate flowers, as the staminate have a bad odor

poplar is in harmony with this great topography, as the small red cedar fits the lesser elements of New England, where even if the mountains are higher than any land in the Great Lakes region, the elements which go to make up the average landscape compositions are less spacious.

There seems to be but little reason to mention the value of the Lombardy poplar as a quick screen adapted to narrow limits. Everybody knows it. Few people seem to realize that it is a tree which demands rich soil and quantities of fertilizer to get good development.

A Lombardy poplar reaches our extreme of height in fastigiate trees. For a corresponding round-headed, dense mass of foliage I know nothing to equal the wild cherry tree as seen in the Brandywine region near Philadelphia. Many trees there are found spreading over a hundred feet and more. Where the cattle do not reach it the foliage mass begins at the ground, the parent tree being supplemented by a thick growth of cherry seedlings which continue the line down. While fine at all times, such a tree is nothing short of amazing in the spring when completely covered with flowers. Who wants a huge mass of foliage and a mountain of flowers could do no better than to plant this tree where conditions are right. Generally speaking, the wild cherry is but little esteemed.

In contrast with such trees one could not go further than to the birch (*Betula paperifera*), the "Lady of the Forest." White and slim of trunk, the branches finely divided, there is an airy elegance here possessed by no other tree. Its foliage is always a clear, bright green which in autumn turns to gold. Like the wood nymph, it is associated more with wild scenery than with the haunts of men. But it is easily domesticated and makes a particularly pleasant tree where a thin screen is wanted near a house, looking especially well against gray stone with white joints. Where possible it is well to associate it with hemlocks or white pines, as each serves to accentuate the beauty of the other. In the forest it grows sometimes singly, at other times in large clumps. In artificial plantings it is apt to look best in groups, and it is well to plant them close together, sometimes putting two trees in the same hole.

Lombardy poplar (*Populus nigra Italica*). Most conspicuous of fastigiate trees here. Good for high, narrow screen. Gross feeder. Attacked by borer which kills out parts of tree. Comparatively short lived. Foliage of indifferent color, rather untidy. Generally out of place in our pastoral landscapes, but invaluable at times for accent

When it comes to the more formal use of trees, the problem is less to find those whose natural growth and tendencies are to be selected as obligato to the principal theme of the landscape composition. We are concerned more with the patience of any species in undergoing the grooming process, whether in topiary work, espalier, pleaching, or other modifying tricks of the horticulturist.

Of these, topiary work is the most practical and will probably become increasingly popular as the habits of trees and shrubs are better understood. It is sculpture in vegetable medium. The commonest seen form is the clipped hedge, of which there are thousands, if not hundreds of thousands, of miles in this country. But as yet the practice is confined largely to shrubbery. Here and there, however, one sees an immense wall of clipped Norway spruce, house high; or perhaps it is of old hemlock or white pine. To come across a great velvet green rampart of this sort opens one's eyes to the remarkable possibilities for formal gardening in the English style that have lain at our hands unused.

Tupelo (*Nyssa sylvatica*). Small to medium sized tree. Branches often strangely contorted, yet falling generally into parallel drooping layers. Glistening rich green leaves, turning brilliant red in autumn. Both picturesque and elegant. Will grow in sandy, sterile, acid soil. Rarely planted, as supposed to be difficult to establish. Well worth an extra effort

White ash (*Fraxinus Americana*). Favorite with some, but on the whole more useful to commerce than to art. Trunk and branch system uninteresting. Foliage starts late and drops easily. Rarely luxuriant, but has a fine yellow moment before disappearing. Famous in fable and story. The tree Igdrasil was an ash

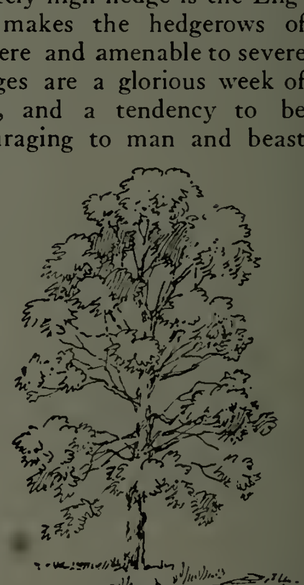
Austrian pine (*Pinus nigra*). Best of the imported evergreens for thick screen. Naturally dense growth. Long needles. Dark green color. Formal but not stiff. Does not harmonize with all evergreens, but if properly arranged is good with our native picturesque pitch pine of similar foliage, and with dwarf pines —*Pinus mugho*

But we are not limited to the use of evergreens. At times only deciduous trees will fulfil the requirements of texture and color. Or it may be that the normal pyramidal head of the evergreen is less satisfactory than the round top of a deciduous growth.

For a high, thick-set deciduous hedge, no tree compares with the European beech. It is naturally twiggy and, with shearing, makes a close wall from the ground up. It has the further advantage of frequently retaining many of its fawn-colored leaves all winter, which makes it almost as good a screen as an evergreen. In summer it varies, according to the variety, from deep green to the so-called "copper" and "purple" tones. At least eight feet in width should be reserved for a beech hedge, and preferably more for final growth, for it is a tree, not a shrub, and must be so treated even when severely clipped back.

The next best tree for a topiary hedge is the hornbeam, either American or European. It may be used in place of the beech, where the final height is to be not more than twelve or fifteen feet. Another tree for a moderately high hedge is the English hawthorn, which makes the hedgerows of England. It is hardy here and amenable to severe clipping. Its advantages are a glorious week of color in early summer, and a tendency to be thorny, which is discouraging to man and beast trying to push their way through.

The hawthorn is a Cratægus, which family has lately received a great deal of attention from students of trees. A very large number of different varieties have been found native in this country, and almost all of them have a landscape use. Few are to be found in the nursery lists, however, though it is possible to get almost all of the desirable effects from those that are available. They are small trees, most of them with a good show of flowers in the spring, and a cover of handsome berries in the autumn. The shining thorn (*Cratægus nitida*) is one of the best, with lustrous leaves, numerous pure white flowers, and scarlet fruit. The Washington thorn (*Cratægus cordata*) is a small, slender tree with cream-white flowers in June, and scarlet fruit which stays on the



Sycamore (*Platanus occidentalis*). Largest deciduous tree in America. Magnificent columnar trunk. Tree of marked variability. Bark flakes off, leaving whitish splotches, very conspicuous. Leaves light yellowish-green, make bright, pleasant shade. Flourishes best in rich river bottoms, where it grows with great rapidity. Very like oriental plane, the favorite of classic times, chosen to shade the Academy of Athens

Like the locust, the tulip tree's long, straight trunk is charming in composition with the tall white columns and red brick of the Southern Colonial mansion

tree until spring. The cockspur thorn (*Cratægus crusgalli*) is the last to come into flower, often being at its best during the first week in July in New England. It retains its red fruit all winter. All these trees have foliage which turns brilliant colors in autumn, for which alone they would be worth planting on every place. Probably all of them would make good hedges, although the last named is the only one that has been used largely for that purpose. Because of their thorns and spicy twigs, they make good barrier plants.

Among the most valuable trees that we have are the lindens. Here again we find trees that will stand clipping well, and may be used to form high walls of foliage, though it takes coaxing to keep the branches down to the ground. The European variety, which grows as well in this country as our native species, or even better, is especially good for topiary work. It is better known, however, because of the flowers in July and August, which perfume the air far and near, like the apple tree of spring.

Horse-chestnut (*Æsculus Hippocastanum*). Foliage very strong and dense, casting deep shadow. Clips well, forming high wall of green. Of little interest for autumn color. Mahogany brown nuts. Glory of the tree is conspicuous upright white flower clusters, "the candelabra of the spring"

We have a few other flowering trees which deserve mention, but there is space for but three. The virgilia (*Cladrastis lutea*) is a small tree, growing sometimes to fifty feet, with one or two short trunks and a beautifully rounded top. In June it is covered with loose panicles of white, fragrant flowers. Its foliage is a beautiful yellow-green. Later on in the summer come the flowers of the Japan lacquer tree (*Kœlreuteria paniculata*). This latter is less dependable than the virgilia through our Northern winters and less handsome when well developed, but more picturesque. But it is worth having, not only for its showy yellow flowers in July and August, but for the exquisite coppery red of the opening leaves in spring. The third is the Japan pagoda tree (*Sophora Japonica*), the type, not the pendulous form. It grows to be a medium sized tree about sixty feet high, very graceful, with a broad-spreading top. In winter the bright green twigs add a spark of welcome color. In midsummer the numerous cream-white flowers come when the gardens show least color. Where there is room, all places should have at least one specimen of these flowering trees.

We might well look to our Colonial garden makers for one use of trees that is now largely forgotten or avoided. In the old days, gardens were as much for use as for pleasure. Fruit was an important product, even on the smallest places. The apple trees were generally put at one side in an orchard by themselves, as they took up too much room to allow many of them near the house, but the smaller fruits suffered no such objection and were set out in more or less straight lines, and the flower gardens were built around them. Thus we find pears, peaches, plums, and quinces in the old beds surrounded by flowers and ragged box edging. The flowers did not do quite as well under the trees, perhaps, but that was a secondary consideration. A similar treatment is often wise to-day. The true gardener cares less for horticultural bloom than for atmosphere, and rightly. This elusive quality could often be snared by following the old custom. Since use is no longer the guiding motive, we might well substitute for some of the old fruiting varieties the newer flowering apples, cherries, quinces, and plums, than which we have no finer flowering plants. A discussion of these trees and shrubs and the best way to use them would take too long, but every one should make experiments along this line for himself. I am sure that all who know an old garden of the sort, or a new one which has been built around an old tree, will agree with the principle laid down. I know of no more charming place than such a garden in the hills. A grass plot follows the natural lines of a tiny hollow. In the centre is a sunken pool. Around are borders of riotous flowers. The natural banks which enclose the garden are covered with wild roses, with rough stone steps down here and there. Farther out the red cedars, growing wild, form a high, jagged background through which one may glimpse a hilltop in the distance. At one side a scraggly shadbush spreads lacy branches over a sun-dial. As good flowers may be had anywhere. It is the old shadbush and the background of cedars that make the garden.

TREE SURGERY—GOOD *and* BAD

By DR. H. D. HOUSE

State Botanist, New York

THE man who selects the site for his country home because of the trees which grow there is very apt to place a high value upon those trees, and is willing to spend large sums in order to preserve them and keep them in a healthy condition. He has the right to expect that for the money he spends he will receive the highest quality of expert service. He ought to know whether or not he is receiving this kind of service.

Unfortunately, it is my observation that few owners of trees have the slightest idea of what constitutes good tree surgery in contrast with unskilled work. I have in mind a typical case of this sort, upon an estate not far from New York, owned by a gentleman whom I will designate as Mr. Williams. Mr. Williams's house is surrounded by numerous elm, maple, and horse-chestnut trees, so old and large that their beauty doubles the value of the estate.

Several of the trees were badly decayed, and about three years ago Mr. Williams received a visit from a persuasive young man who suggested to him that he could doctor them up in such a way that they might be preserved for many years to come. All that was necessary, he said, was to remove the decay and fill the cavities with cement. So convincing was the young man, that he was engaged to do the work.

Mr. Williams believed that his trees had received skilled attention. Within two years, however, the cement fillings began to crack. There was no healing growth of callous around the edges of the treated cavities. There was a flow of discolored sap or slimy fluid from the bottom of some of the cement fillings. Dead bark falling away from the edges of other fillings disclosed the fact that the cavity had not been extended to the edge of the living tissue, or that carelessness during the operation had caused the live tissue to die around the edge of the cavity.

It was at this stage that Mr. Williams asked me to examine his trees and give my advice. I had seen so much of this sort of work that I was quite frank in telling him that he had been duped and swindled, and what was worse, that the trees had suffered great damage as a consequence.

Mr. Williams could hardly be blamed if he had concluded that all tree surgery was a sham and had refused to countenance any further work upon his trees. But by my advice he had the work done over again, and this time, you may be sure, he knew what he was doing, and most important of all, he took the necessary time and trouble to inform himself regarding what constitutes reliable and skilful work.

I mention this particular case because it is typical of a certain phase of tree surgery which within the past ten or fifteen years has done more harm to valuable shade and ornamental trees than any insect or fungous pests could accomplish in twice the time.

It is important to recognize just here the fact that good and thoroughly reliable tree surgery, which is worth all that it costs, can easily be had if the tree owner will simply exercise proper care

Of the evergreens thoroughly at home in the North, probably the finest of them all is the white pine. It grows rapidly and quickly makes a permanent screen against unsightly neighborhoods

in the selection of the concern that is to be entrusted with this important work.

Such conditions as I have described, and the obvious ignorance of many so-called tree surgeons regarding the nature and method of growth of the object of their professional work, have created not merely a contempt for the profession, but a deep suspicion and distrust regarding tree surgery in all those who have seen the results of unskilled work.

Tree surgery of a thorough and trustworthy character is a comparatively new profession, and the many mistakes made by its practitioners in the past or the recent past have been due, no doubt, in large part to ignorance and not to mere greed or any deliberate intention of injuring the trees treated or of defrauding their owners. The large number of unskilled and poorly trained men who think that they are able to do good work form a menace which owners of valuable trees must guard against.

Like medical surgery, the profession of tree surgery must pass through an epoch of development, and as in all other professions, there will doubtless always be with us those poorly trained, ignorant, or avaricious practitioners who can only be recognized by their lack of high professional standing. Owners of trees must expect to have to protect themselves against them in the same way that intelligent persons protect themselves against the blandishments of quack medicines, cheap dental surgery, or any other cheap and worthless professional service. Protection in this case would be to seek advice of tree owners who have had extensive and satisfactory work performed upon their trees, which has stood the test of time. I am thoroughly convinced of the benefits to be derived from skilled tree surgery, but to be of any value and of any lasting benefit to the trees treated, it must be performed by men who have been carefully trained for the work, who understand the nature of trees, and who place honesty and high quality of work above every other consideration.

From a study of a variety of tree surgery cases, and taking into consideration what we know about the nature of tree growth and of the insects and fungi which attack trees, certain essentials stand out very conspicuously. These are:

Complete removal of decayed parts. Failure to remove completely the decayed interior of a tree trunk always results in serious trouble. Moisture, gathering in the remaining decayed tissue, hastens further decay, especially if the cavity has been filled with cement. Frequently the excess moisture will ooze out below the filling and cause an unsightly staining of the bark. The unskilled tree surgeon usually tells the tree owner that this is due to the sweating of the cement. Cement may sweat, but there should never occur a flow of discolored slimy fluid from below a cement filling, where the decayed wood has been completely removed and the cavity otherwise properly treated before filling. In the majority of cases of unskilled work this is the chief fault.

Work of this sort upon a tree merely encloses moisture, interrupts aëration, and prevents drainage, conditions which hasten rather than retard decay. Figure 1 shows the usual type of this kind of work, although some workers with greater skill in the handling of cement may produce a better external appearance of the cement filling, but with the same bad internal conditions as shown by Figures 2 and 3, which are views of the same tree.

If impracticable to remove absolutely all decayed wood, it is better to leave the cavity open, well drained, and ventilated. An attempt to avoid the expense of complete removal, reinforcement, and cement filling has given rise to a compromise method of tree butchery which might be designated as "open cavity tree surgery." The decayed wood is largely but not always entirely removed, and the exposed surface, even out to the living bark, is painted with some tar-like preparation, or burned. Such work serves little purpose in the object to be desired—that is, the preservation of the tree by restoring the strength of the lost parts and presenting a smooth surface over which healing may begin.

Sterilization of the cavity. The threads of the fungi which cause the decay of wood penetrate the apparently sound wood some distance in advance of the actual decay, and thorough sterilization of the exposed sound wood after complete removal of the decayed tissue aims to destroy these threads as completely as possible and thus prevent further decay. It is an important feature of good work. It is essential, however, that the medium used for this purpose should not come in contact with the living inner bark around the edge of the cavity. The only living part of the trunk of a tree is a thin layer, known as the cambium layer, just inside the bark, which is depended upon to develop a callous-like growth that may in time completely cover over the cement filling. It is this cambium layer which forms a new ring of wood and a new inner layer of bark each year. If the vitality of it is destroyed around the edge of a cement filling, healing is impossible. Also, if it is destroyed, decay is very apt to begin around the edge of the filling, in which event the entire job is rendered worthless.

Waterproofing the cavity. Continuation of decay in the heart wood is reduced to a minimum if it is well sterilized and covered with a durable waterproof material, so that moisture which may seep in behind the cement, or which may come from the sweating of the cement, cannot gain access to the sound wood. The ultimate success indeed of all tree surgery depends very largely upon complete removal of the decayed wood, and the insurance of the remaining wood against entrance of external moisture and fungous spores.

Shape of the cavity. It is a matter of common observation that a wound upon a tree heals by the formation of a callous from the vertical edges of the wound, and that little healing takes place on the horizontal edges. This fact is shown in Figure 9, where a wound caused by the removal of a limb was at first nearly circular, but soon became elongated by the rapid healing from the sides; eventually it will become entirely closed by this lateral growth. Hence it is essential for rapid healing over the face of a cement filling that the cavity should taper at both ends, even at the expense of some living tissue. Likewise it is important that the freshly cut edges of a cavity should traverse the edge of living tissue (cam-

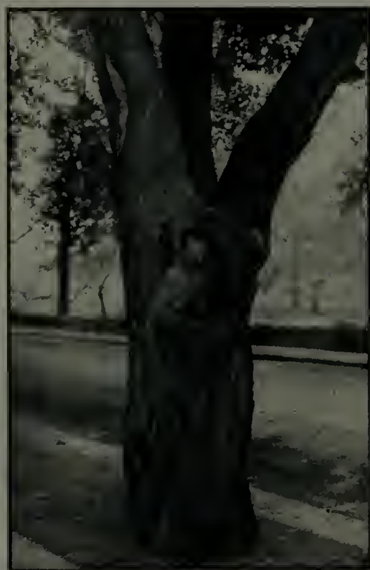


Fig. 1. Trunk of a maple tree, showing the crude work of the unskilled tree surgeon

Fig. 2. Same tree with filling removed, showing mass of decayed wood behind the cement

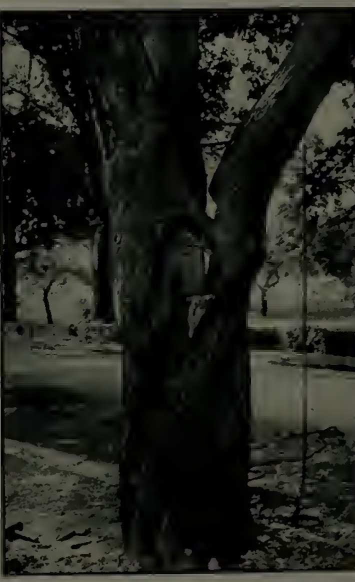


Fig. 3. Decay completely removed and bolts inserted to strengthen trunk and support limbs

Fig. 4. The finished work of a skilled man. This shows a perfect job of tree surgery

"It is the old shadbush and the background of cedars that make the garden." Notwithstanding its formal shape, the cedar is not at home in crowded plantings. In the wild, almost every specimen is isolated and open to the air and light

bium layer) and be covered immediately by paint, which will prevent the living layer from drying out and dying. This insures an immediate growth of callous around the edge of the cavity.

Drainage system. One of the chief necessities in successful tree surgery work is to prevent seepage of water into the cavity after it has been filled with cement. Waterproofing the cavity aids greatly in accomplishing this, but the expansion of water in freezing makes it important to keep water from collecting behind the cement filling, whence it might find its way into the sound wood and render the entire work worthless. The danger of water thus entering may be largely if not entirely obviated by cutting a groove in the sound wood just beneath the bark into which the outer surface of the cement filling projects. The grooves on both sides of the cavity should meet at the base in such a way that any water collecting in these grooves will escape at the bottom of the filling without finding its way in behind the cement. As soon as the callous of the new growth extends over the edge of the cement filling, danger from this source is usually past.

Figs. 5 and 6. Showing the proper method of mechanical reinforcement for a tree which is badly weakened by decay and loss of sound wood, and the finished work (at right). The bottom portion may never heal over, but the tree should stand for many years. Untreated it would have died in two or three years

Mechanical reinforcement. Extensive decay within a tree, especially if accompanied by the destruction of a considerable portion of the outer shell of the trunk, results in a great loss of strength, which the tree needs in order to support its crown during windstorms. When a tree supports a normal sized crown of branches and foliage, it is essential that the original strength of the trunk be restored by properly placed bolts, both horizontal and vertical, as shown in Figure 5. In addition to bolts, many trees require various kinds and combinations of bracing. This calls for a high degree of mechanical skill as well as an accurate knowledge of the nature of the strains to which a tree trunk will be subjected. Cross bolts should have lock nuts within and the heads countersunk on the outside. The heads should be sunk sufficiently so that tiny cement fillings may be placed over them (Figure 7), otherwise further decay might start at these points. If they cannot be sunk deeply because of the thinness of the remaining sound wood, both they and the exposed live tissue can be immediately painted, and they will heal over in a short time. Bands of iron placed around a trunk or across a cement filling are disfiguring and can serve no ultimate usefulness. As a rule they result in almost irreparable damage by girdling the all-important bark.

Cement filling in sections. Trees are not entirely rigid. They sway in the wind, and in severe storms there is also a twisting motion to the trunk. Were this not so, no tree trunk could pass through some of our severe windstorms. When cavities of any considerable size are filled solid with cement, the flexibility of the tree trunk is destroyed, and in a severe windstorm it is apt to be snapped off just above the unyielding cement filling. The effort of the trunk to sway in the wind also causes such solid fillings to crumble and sometimes to fall out.

A properly placed cement filling should be in short sections, the top of each section rounding upward toward the back of the cavity, and separated from the section next above by a layer of tar paper or some enduring flexible material. By this means the necessary flexibility of the trunk is not destroyed, cracking of the cement is reduced to a minimum, and there is at the same time provided a smooth, solid surface over which the healing process may progress. When the filling is skilfully smoothed on the outer face, with an eye to the restoration of the symmetry of the tree, and the surface of the cement is brought close to, but not quite flush with, the surface of the living wood where the two meet along the edge of the cavity, there is established an ideal condition for the rapid healing of the wound.

Treatment of weak crotches in trees. A very common form of weakness in certain trees, particularly in elms and maples, is the presence of a weak crotch between the main branches of the trunk. Not infrequently windstorms have caused such crotches to split because they were structurally weak. Moisture may enter these cracks, and the process of decay then secures a start. Externally the tree may appear in perfect condition, but the practiced eye of the expert easily detects this danger and has a remedy for it. In addition to removing the decay from the crotch and filling it with cement, he uses various cross bolts to restore the strength of the crotch, and adds to the support of the limbs above by the use of chains placed from limb to limb at a height above the crotch which will give the greatest amount of support (Figures 7 and 8). Any crotch cavity that is filled with cement without providing proper support for the limbs above is practically worthless.

I have not attempted here to cover the entire subject of good tree surgery, but only to touch upon some of the most essential points that determine success or failure. If it does not measure up at least to these requirements it does not accomplish its purpose.

If a tree from its location, beauty, or association, is not worth the most skillful treatment which is available, it is better to let it alone or to remove it and substitute for it a young and vigorous tree which in a few years will take the place of the diseased tree in the general scheme of the landscape.

On the other hand, owners of trees should bear in mind that proper care given to young and growing trees to-day may obviate the necessity for expensive tree surgery a few years hence.

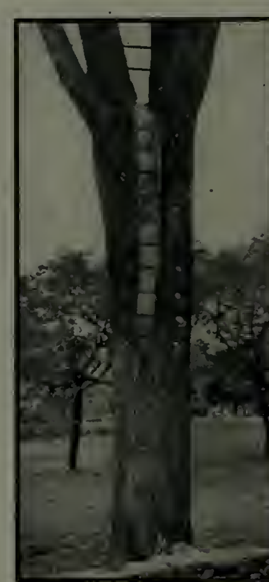


Fig. 7. Showing detail of proper treatment of weak crotch

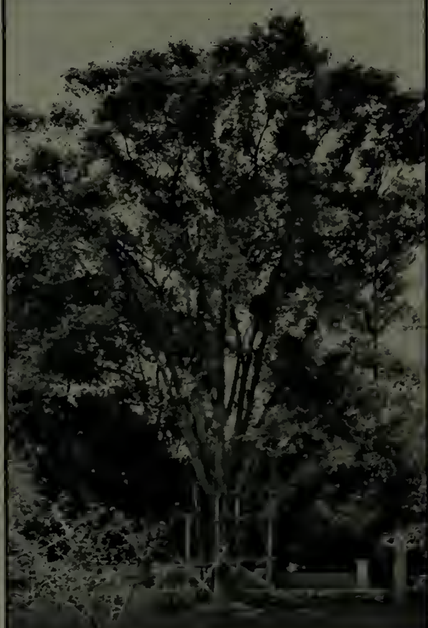


Fig. 8. Doctoring weak crotch in an old elm. Notice the use of chains high up on the limbs

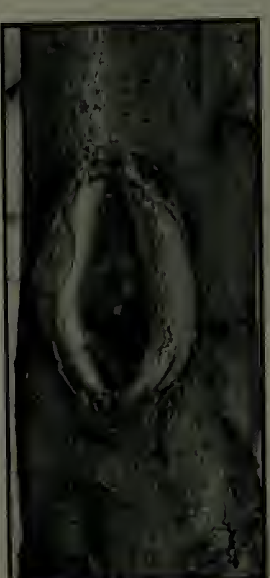


Fig. 9. Nature's method of healing over a cut surface

The NEIGHBORLINESS *of* FURNISHINGS

By RUBY ROSS GOODNOW

Photographs by E. A. Walter, G. W. Harting, L. C. Crossman, F. B. Johnston, and M. E. Hewitt

WHAT makes for neighborliness in furniture? There are thousands of answers. One could sit and write neat examples all day, as for instance:

French furniture will not consort with flowered wall paper; or

Needlepoint is outraged by the nearness of chintz; or

Gilt furniture has no place in rooms with wicker; and so on, until people of conservative taste will turn in disgust from what seems a bad joke, and people with no taste will wonder what is to become of Sentiment, and people of the new taste—which means an unprejudiced seeing of things as they are—will go on mixing things haphazard, violating all axioms, and getting results ranging from the pleasing to the enchanting.

Charm in house furnishings comes from a recognition of neighborliness; the most proper room that was ever conceived is empty of charm until some one brings in an element of surprise, of gayety. The unexpected is just as valuable a quality in decoration as it is in human friendship. We do not demand of our neighbors that they shall entertain us constantly, but we do hope that they will amuse us occasionally. We do not want the furniture in our rooms to assert its differences ostentatiously, but we are very happy when some fine object declares our extraordinary good taste by making everything near it charming. There is little chance for this agreeable quality in an unmixed period room, which probably accounts for the eclective system of house furnishing now so far reaching.

The adventurous decorator is that one who *can* use gilt with wicker, in the extreme exception to all rules. The safe decorator is so safe as to need no advice. She will go on with her back-to-nature, her mother-earth's-own-colors scientific arrangement of tones, and period arrangement of rooms, and it is well that it should be so. Consistent things are always a stimulus to originality; a hodgepodge room of frightful taste is sometimes just as consistent as a modern, model sort of room of sad burlap and pious oak—and just as sure to cause the woman with flair to go home and do something human with her room.

Grace Woods, decorator

An example of the decorative excellence of things of no period. Against the quiet background of simple paneling the marble figure, suggesting a fountain, gives the necessary element of surprise

It is easy to do a mixed room, but there must be a beginning, a dominant note, a point of departure. If furniture is to be congenial, it must be congenial with some fixed thing. What with what? Every room worth its salt, its charm, has a beginning of some sort—a lovely lot of old chintz, a set of engraved Venetian mirrors, a pair of pale blue needlework chairs, certain family portraits, a hobby of some sort—and then the room grows.

If there does not seem to be a point of departure, the personality of a room may often be found by weeding out the obviously impersonal things, and then reducing what is left to good or bad. If there is nothing so good or so bad as to suggest a new arrangement, you might as well put the old things back and give it up as hopeless.

In mixing furniture, the one infallible test is, does it please the eye? All the axioms are as nothing, if the association of unusual things is pleasing. But we can make large divisional rules, to which the exceptions will be the work of experienced decorators. Certain groups of things are usually pleasant, others are usually unpleasant — and there you are.

A room that has any architectural importance is half done when the mantel, the moldings, and the lighting fixtures are planned. The room at once becomes Italian, or Georgian, or Elizabethan, or what not, and demands a certain number of furnishings of the period declared by the architect. But there is always possibility of elasticity: the severest English paneled room will welcome Italian gilt mirrors, and Chinese porcelains, and small gayeties of no period.

If the ceiling of an English oak room be modeled plaster, the standard of furnishing is raised, and you can take fewer liberties. In real English houses, of course, they mix things as they jolly well please, and get the most home-like, comfortable results. For instance, in an English house you find chintz-covered chairs side by

James Brite, architect

Living room in the Herbert Pratt home at Glen Cove, Long Island. The dictum is that if the ceiling of an English oak room be in modeled plaster, the standard of furnishing is thereby raised and you can take fewer liberties

side with needlework ones, and you like it immensely, but you feel that the same thing in a new American house would be an affectation. With our clear-seeing eyes, we would mix Italian paint and lacquer, knowing that there lies more real friendliness. The chintz-covered chairs we would place in simpler oak rooms with cottage furniture, or in the pleasant painted rooms that we find so right for our country houses. Damasks, needlework, old velvets, and plaster ceilings belong together, just as do other damasks, pale brocades, and painted and gilt *boiserie* in other rooms.

Our tendency in house furnishings is even more strongly Italian-ward than our architectural tendency, if possible; the Italian antiques that remain to us are so delightfully varied, so friendly to all rooms. Italian painted furniture is the salvation of many a too-dark room, just as a few glowing pieces of Tuscan walnut, or an occasional flamboyant gilt mirror, is the making of many a too-pale one. Venetian lacquer, or paint, has the happy faculty of mixing with almost any sort of furniture. Because it is absolutely without fixed laws, it may be combined with many things that are fixed. Large desks and commodes of it are magnificently decorative when used with Italian, English, or Spanish oak and walnut. The smaller, more delicate chairs and tables agree perfectly with Sheraton, Adam, Louis XVI, or Louis XV things.

Abruzzi chairs, for instance, are very friendly to old English furniture of the cottage type. In my own dining room I have used dissimilar things most agreeably. This room is on the basement floor of an old house. For gayety, I used a reproduction of an old wall paper of sky-blue ground, patterned with pomegranates in yellow fruit and red flower, and great white cockatoos. The wainscot, woodwork, and ceiling are painted the pale sky blue

Ruby Ross Goodnow, decorator

Venetian lacquer, because it is so entirely without fixed laws, may be combined with many things. Large desks and commodes of it are marvelously effective used with Italian, Spanish, or English oak and walnut

Chamberlain Dodds, decorator

This paneled room is unqualifiedly Italian in the larger things—the walnut walls, velvet curtains, Panini overmantel, etc.—but the small tables and caned chairs and couch are French, while the wing chair is American—and yet harmony and charm are achieved

of the paper ground. The doors are the vermilion of the pomegranate blossoms, the yellow of the fruits being repeated in yellow Chinese vases, and many old Spanish platters. The long dining table and dresser are reproductions of old English pieces, in oak. The chairs are copies of Abruzzi ones, red, with much gold on their carved slatted backs and rush seats—almost gilt and wicker! There are obviously no pictures, but I find those coarse gilt-framed mirrors from north Africa exactly right against the gay paper. Here in one room there are things Italian, English, Chinese, Spanish, and American, but all in the same value of color and design, a primitive crudity that is not at all dull.

One of the illustrations of this article shows a room in which many Italian things are used against a background of that simple paneling which we associate with Louis XVI. Here is an example of the decorative excellence of things of no period; the plain, soft rug, which gives color, the plain soft walls which furnish pale back-ground, the simple curtains innocent of elaborations. Against this quiet background the marble figure, with its surrounding cluster of plants in ordinary earthen pots, becomes as dramatic as a fountain in an Italian garden. The long, empty walnut table with its figures of white paste takes on great distinction. You feel merely an excellent arrangement of light and shadow, and do not seek to pigeonhole the room as this or that. The suggestion of a fountain supplies the necessary element of surprise, of charm.

The paneled Italian room shown is a little more consistent in the larger things; the walnut walls, the velvet curtains, the Panini overmantel, the many gilt candlesticks and frames and lanterns, are absolutely Italian. But the small tables, the caned chairs

James Brite, architect

Different English periods cannot always be mixed with impunity, yet nearly every English period and some French ones are represented in this drawing room (Mr. Herbert Pratt's), with happy results. It's all in knowing how

and couch are very French, while the elongated wing chair is absolutely American. This room achieves lightness and gayety by the use of many mirrors, many small pictures, brilliant cushions, and fresh flowers in pale-colored glass.

English things are not always to be mixed with English things, obviously, but in the drawing room shown here, things from almost every English period, and some French ones, seem happy together. Here are needlework chairs of every sort—Heppelwhite, and William and Mary, and Queen Anne, and Louis Quatorze, and Louis Quinze—but the bigness, the calm spaciousness of the room, accepts them. One feels the lack of groups of chairs with tables, of fixed places for conversation, in this room, though all its elements are beautiful.

A room painted Georgian green-blue, with lines of gilt on its moldings, seems to be the final home of hundreds of lovely things. We have tried dozens of pictures, countless arrangements of furniture in this green-blue room, and always the result is delightful. In the illustration shown there is a characteristic motley, agreeable in color and form. The room is carpeted in fawn color, with a half-width of black velvet as border. The door is of black lacquer, with a Persian panel—a gold tree in turquoise ground—inset. The furniture is a mixture of English and Italian; a William and Mary spinet lacquered in the Chinese taste, an eighteenth century screen of cream color, lacquered in the same manner; lovely pale blue Venetian chairs, very Queen Anne in form; a Jacobean draw table of oak, with the most audacious Venetian painting above—an enchanting lady seated in a quaint chair under a blue parasol, with a red-coated attendant. There are newest Victorian gilt frames, and florid gilt mirrors, and Italian saints, and Chinese gardens, in this room, and one and all, they are exactly *right* against the definite green-blue walls.

One could go on forever detailing successful mixed rooms, but a few generalities are worth observing. With flowered chintz, for instance, flowered wall papers should never be used. Each cheapens the other. But with flowered wall paper, check ginghams, or striped or plain linens, or taffeta of flat texture, may be used. Chintzy bedrooms suggest old-fashioned furniture, mahogany or yellow maple, or the plain painted things. The French chintzes, or *toiles de Jouy*, are so fine in design, however, that they may be employed with Adam or Sheraton or kindred French furniture. It is much easier to mix dissimilar furniture than to mix stuffs; figured stuffs are hardly ever amenable to such group rooms as we have described. Pictures, also, must be carefully used.

For certain rooms, nothing seems so agreeable with the simpler models of our Colonial furniture as Japanese prints and bowls, for there is congeniality between the restraint of the Japanese and the austerity of the New Englander, but flowered chintz is too frankly colorful to be used with Japanese prints. Old American or English prints of birds, or flowers, or pictorial scenes *à la* Currier and Ives, are more pleasant with chintz rooms. Flowered walls absolutely refuse pictures, unless the paper be patterned in a small scale, but they welcome old mirrors. All rooms of a fresh painted sort demand plain carpets, or old-fashioned flowery hooked rugs, or braided ones. Oriental rugs have no place with painted furniture or flowery stuffs.

The Oriental feeling that so nearly engulfed us, last year, is happily modified. The joys of the Chinese taste were too much for must of us; we became so Chinese as to be appalling. The rare beauty of an occasional Chinese rug, which we experienced a few years ago, has gone forever, thanks to the enormous supply of copies and imitations. Chinese furniture never did belong in our houses, though the English and French and Venetian interpretations of it always did, and always will. Chinese objects of art, porcelains and jades and such, will always find places in good rooms.

Among the most joyous and refreshing things that could happen to an American country house is a Georgian room in the Chinese taste, one of those heaven-sent wall paper rooms, where incredible trees bear blossoms and fruits never dreamed of, and brilliant birds swing on fragile branches, and color becomes a feast. When one comes upon such a room, with its thousand flowers and fruits spread out delectably, with a mixed lot of eighteenth century furniture of graceful shape and almost every coloring, one feels that the millenium of decoration has been reached. Everything, anything, is possible in a room so completely gay. I have seen these rooms in English castles and country houses, in gloomy city houses, in glorified Long Island cottages, with every possible sort of furniture, and invariably they seemed to me the happiest of mixed rooms. Like luxuriant aimless gardens, their ever-surprising color, their whimsical divergences, make for a decoration that an orderly plan could never bring to pass.

Ruby Ross Goodnow, decorator

The green-blue walls of this room, with lines of gilt on its moldings, serve as a harmonizer for almost any combination of furnishings that is put into it

BARBARA DEVELOPS *the* LAND

By FRANCES LESTER WARNER

ENDICOTT and I have always had a seemly regard for appearances. Our consciences, therefore, used to trouble us mildly as we considered the looks of our estate when the children were small. We ran, in those days, an amateur public playground in our backyard—sand boxes and potato bakes, croquet-wickets and a tennis set, a hop-scotch field and a house for the bandit Geoffrey. Our backyard was small, and these things filled it full. These furnishings, moreover, were not all strictly of the ornamental type. A landscape gardener had not been consulted as to their placement, and the "values" were hardly according to his art. Geoffrey's little house, for instance, was made from a large piano box, clapboarded and shingled, the interior furnished and inhabited by his roistering gang of followers. Where our "velvet lawn" should have been, they had sunk old tubs in the ground for turtle tanks; and up and down within these ponds sailed twenty stately turtles in black and yellow shells, their inquiring necks stretched forth. There was no room to keep a garden. Relics of our former flower beds struggled bravely here and there—a flowering almond bush in the fence-corner, a vine-like growth known as perennial pea, which miraculously reappeared every spring, striped grass beneath the plum-trees, and a row of grapevines by the wall, these last immensely encouraged by the boys. This was about all, except the apple tree, laden with Baldwins and acrobats each fall. In fact, our backyard was not one of the sightly spots of town.

Barbara's garden is lovely now, but it is best after a late shower, when against the cool wetness lie long shadows of the flower spires

Then Geoffrey, outgrowing turtles and his little house, moved upward to his attic workroom. The gang, busy there with print-shop and wireless, climbed the garret stairs instead of the apple tree, and left the yard deserted. The garden rested quietly in the sun.

Here, logically, might have been our chance to reassert our suspended plans for a picturesque and fruitful plot of ground. Endicott, however, is no born tiller of the soil, and I had other rows to hoe.

Barbara, at this point, announced that she was going to have a garden. She was decided about it. She said it in the tone with which Saint Simeon Stylites told his friends that he was going to have a pillar. This tone, from Barbara, means persistence through trials of mockings and scourgings. Geoffrey attends always to the mockings.

"It's too bad," said she, "to have that ground running to waste, with nothing growing on it to amount to anything."

"There's the Perennial Pea," said Geoffrey hopefully.

"That," observed Barbara firmly, "is never going to come up again."

Barbara is business-like and independent. She believes in consulting experts about her projected schemes. That afternoon she made her way to her grandfather's, hunted up his workman, who was busied about the early gardening, and consulted him.

"You can't expect to have no such garden as this," Andrews told her. "This land of your grandpa's has had something put *on* it every year for years and years. You can't have a good garden without you put something *on* it."

Barbara decided at once that her garden should have something on it, and inquired what.

"Father," said Barbara that evening, "I wish that you would order two loads of well-rotted stable manure for the garden."

"How you talk!" murmured Geoffrey from his paper.

"That is what Andrews said it needs." Barbara's tone was final.

Endicott promised indulgently, and at once forgot all about it. He kept forgetting. Barbara, as days went on, became importunate. She introduced her request at unexpected moments, in the midst of lofty discussions, irrelevantly. Geoffrey begged her to look up the chemical formula which should express two loads of W. R. S. M. He said that there must be one. At length, Barbara led her father to the telephone, and dictated the order word by word. Margaret and Geoffrey gathered to hear Endicott's gracious voice repeating the well-conned ritual. That was all the assistance that Barbara required from us. The rest was a matter that lay quite between herself and experts.

In the season that followed, we saw her transformed before our eyes. From a graceful ornament to our household, a cheering friend, and a talented adjunct in all our exploits, she became preoccupied, her conversation smacking strongly of the soil. Instead of going up to call upon her grandmother, she went up to see Andrews. She hobnobbed socially with the butter-man, exchanging with him anecdotes of transplantings and cutworms. That word "cutworms," we learned, is the shibboleth and countersign among gardeners. Barbara, accordingly, spent confidential moments at the door with a certain kindly and dejected Mr. Pollard, who comes with the vegetables, and mingled her tears with his as he recounted the depredations of the cutworms—these subterrenes. "Ten rod of radishes," sighed Mr. Pollard, "and all but two rod cut clean off!"

"When do they turn into butterflies," asked Barbara, "and stop cutting?"

"They don't never stop," said Mr. Pollard morosely. "They keep right on a-cuttin'!"

The vegetable garden, however, was not Barbara's most intimate concern. Her most thoughtful planning was devoted to the flowers. She had a feeling that a garden as small as hers should not be too flat. The plants should hold their blossoms rather high. She knew the flowers that she wanted, most of them hardy perennials, blooming the second year. That first spring she spent transplanting frail wisps of green, setting out the seedlings in careful groups, and later weeding plump rosettes of flowerless green plants through the summer. Snapdragons, digitalis, hollyhocks, and delphiniums—all these were only one sober mass of green.

She never told us all her trials. We could not help knowing when a row of hopeful shoots that she had just transplanted for the second time burst unexpectedly into bloom—the unmistakable fine flower of chickweed. Barbara explained that in the cotyledon stage she had taken it for something more rare and more generally sought after, something that evidently had not come up at all. She called our attention to the fact that at least it was uncommonly thrifty chickweed.

About her pink sunflowers she did consult the family, in advance. "They blossom right away," she began, "and will make a rapid effect this first year. They are of dwarfish growth, and the petals are creamy white, with rose-color on the edges. You can cut them, and they blossom all the more. 'Cut and come again' the catalogue says."

We advised pink sunflowers, by all means. How they grew! "A rapid effect" was a conservative phrase. They grew into great angular stalks, with rank towers of rough green leaves, where

swarms of grasshoppers sprang explosively out upon the observer. The first enormous bud appeared, fat and round and hard. We watched with suspense for the pink sunflower to unroll its rays of rose and cream-color, as advertised. "*La tulipe noire*," Geoffrey called it. And one morning when we looked out it was open. Its perfidious ochre heart lay flat to view, and every sturdy petal was bright yellow, yellow as a healthy pumpkin is yellow.

"Just exactly like the sunflowers around Mr. Pollard's chicken yard," said Barbara cheerfully. "Only larger."

At that same time, the hollyhocks were weighing heavily upon their trainer's mind. Three dozen beautiful plants out by the wall were attacked by hollyhock rust, and were curling up their leaves to die. Barbara went at once to Geoffrey.

"You have to spray my hollyhocks with whale-oil soap," announced Barbara politely.

"Why?" asked Geoffrey. The most casual reference to whale-oil soap always makes Geoffrey's social manner a bit stilted. His tone just now was chilly.

"Because I can't work the spray," explained Barbara.

"I'll *show* you!" Geoffrey started hopefully for the toolhouse.

"No." Barbara was calm, but resolute. "I'll get the whale-oil so——"

"Look here," began Geoffrey reasonably. "You don't know what it means to spray the under sides of those leaves! You have to go at it upside down and the stuff gets all *over* you. Your little old hollyhocks will live just as well without soap and water as with. What do you care?"

But Geoffrey went forth with the sprayer, and sprayed. Whale-oil soap, he said, went a great way. He was confident that there would never be any rust on him.

A varied life for Barbara began with that year. Now that her garden is a family institution, it seems odd to reflect on those experimental seasons, when the roses and radishes were her chief consolation. For the garden is lovely now. The flowers are tall and graceful, well above the ground. Spires of giant larkspur, deep blue and light blue and lavender, rise just beyond the pointed stalks of white foxglove, gleaming against the shadows. Lofty Japan lilies grow along the garden path, and hollyhocks beside the wall. It is hard to suggest in words the effect of these straight, thin lines of bloom rising all over the garden. The beauty of the flowers seems to be starting upward in slender shafts of color, from the green below. It is best after a late shower, when it stands in the low sunlight. Against the cool wetness of the leaves, lie long shadows of the flower-spires, and the clear tones of blue and ivory in the blossoms content the eye.

Endicott and I stood watching it late one afternoon, as the children went out to tie up the bent stalks after a summer storm. It was a picture that we like to remember—the girls, with Geoffrey sauntering in their wake, moving in and out among the tallest flowers. That garden is almost like the visible rising of a dream. It means that the children have grown up, to meet us on lines of our own planning. I love the flowers for that. And yet sometimes I give a swift, affectionate thought to that old-time scene—the sand piles, the little house, the snapping turtle pacing up and down, on guard, and by the fence, the hardy flowering almond bush, the crocus flowers, and the Perennial Pea!

FALL MANEUVERS *for* ESTATE OWNERS

By EDGAR L. SMITH

Present work and future plans to increase the production of food

HERE is probably no estate owner who is not eager to do his share toward producing larger food reserves for the country, and it is to be assumed that every one has planted a maximum acreage and is now preparing to conserve the crops so that there will be no waste. The wives and daughters are surely putting up preserves of every description, and many have helped organize local canning associations such as the one in Berwyn, Pa., where the schoolhouse has been equipped with canning facilities, and a committee of women takes turns in supervising the work of preserving vegetables and fruits which are brought in by all the neighborhood.

As to home gardens, we may never know the exact number that were planted in response to the nation's call, but there is evidence to show that it has run into many millions of plots, which in the aggregate must have a beneficial effect on the whole food situation, particularly as in most communities the need for expert supervision and advice was early recognized, as well as the necessity for arranging to preserve the perishable products grown.

Meanwhile, it is inspiring to hear how splendidly the professional farmer in the rural districts has responded to the President's call, and while as a rule statistics are dry, in this instance they represent a patriotic reaction that should be known to all. They also give a clear idea of the real problems of food production that confront us, and thus point the way to effective action in preparation for a spring drive on the farms next year.

In spite of the great confusion and lack of centralized organization incident to the hurried campaign for increased crop production, a surprising amount has been accomplished, if the preliminary figures obtained in New York State are a fair indication of what has taken place throughout the country. These figures were compiled from a canvass in fifty-two counties conducted through the county agents, with the assistance of the State Board of Education. They represent the response of the farmer to the nation's call for greater food crops, as follows:

67,000 acres more of potatoes planted than last year
148,000 " " " corn for grain
16,000 acres more of barley
40,000 " " " buckwheat
20,000 " " " spring wheat
80,000 " " " field beans
13,000 " " " canning factory crops
and an acreage in cabbage representing an increase of 80 per cent. over the crops of 1916.

All this was done with 14,000 fewer hired men on the farms than last year.

That is one side of the picture. On the other side the report shows that it will take 52,000 more farm hands than are at present in sight to bring these crops to maturity and harvest them. To be sure, 22,000 of these need not be experienced, and here is where comes in the opportunity for finding places for boys under military age, yet physically strong, and for men above military age without farm experience. For the rest of the work the farmer ought to have experienced farm hands. He may be forced, however, this year, to do the best that he can with inexperienced help.

But the problem of placing boys or inexperienced men on farms is not simple. Conditions are not always such on a farm that it is right to call upon a boy to live entirely under the farmer's jurisdiction. It is essential that the boy's welfare be safeguarded, and it is almost as essential that boys be sent out in groups rather than singly, with these groups under competent guidance.

In this work of providing camps and supervision, the estate owner during the summer months has an opportunity to assist. There are a number of organizations in close touch with the boys, which have developed sound plans for placing camps in different parts of the state, where the boys can be assembled in suitable surroundings and sent out to farms in the neighborhood, to take care of the fluctuating labor demands of the section. Perhaps there is a camp in your vicinity. If so, it will be worth your while to become familiar with its organization, its activities, and its needs. Perhaps it would be possible to locate a camp if none already exists. The Military Training Commission of the State of New York has made a particular study of the problems connected with boys' encampments and has concentrated its energies this year on placing camps where they can be of service to the agricultural community. This

Commission is eager to offer its services and information to those who are interested in this work. It is frequently in touch with organizations which have been offered tracts of land, have secured volunteer workers, and have enlisted a large group of boys, but which need additional funds. Similar efforts are being made in other states.

The shortage of farm labor is not a thing of the moment only, but is certain to continue over a period of years, and it is our duty to help train a new supply. Camps can serve the double purpose of mobilizing a supply of untrained labor for this year's work, and of training boys so that next year they will not be entirely inexperienced. An estate owner who has a competent superintendent can also personally help in this work by taking on two or three such inexperienced boys and putting them to work where they will learn some few things about farming.

Several agricultural colleges are considering the opening of special courses to train farm hands. These will not deal with theory at all, but will confine themselves to actual practise in plowing, harrowing, planting, milking, setting up farm machinery, etc.

This is the year to take an especial interest in the county and state fairs. Suggest to the committees that, besides having prizes for live stock, pumpkins, and the like, they devise contests in which farm hands may demonstrate their skill. When we want to improve the breed of horses, we encourage horse racing. Now that we want to get more land under the plow, let us encourage plowing contests with horses and with tractors. If these are planned and announced in advance, plowing on the farm will cease to be mere drudgery and will be considered an opportunity to train for the great event in the fall in which prizes are to be distributed.

I have talked with Italian farmers, and their eyes dance as they tell of the time in 1898 when, as boys, they won the prize for drawing the longest and deepest straight furrow over hill and dale, so that their point of starting was out of sight before they reached the finish.

These are some of the lines along which the estate owner, when he goes to his farm this summer, may help the general situation by taking an active interest in his own rural community. That active work of the kind is needed is obvious from the fact that the canvass made by the State of New York, referred to above, discloses that during the past year, in spite of the great shortage of farm hands in the fifty-two counties reporting, more than 41,000 farmers' sons left the farm to engage in work other than agricultural, and more than 40,000 farmers' daughters did the same thing.

Besides this community work, the present food crisis lays upon the estate owner the burden of making his own farm productive along lines that will be in harmony with conditions as they exist. In considering what may be done on your farm, bear constantly in mind the widespread labor shortage. Do not try to increase the production per acre on your individual farm by the use of additional labor which could be more productively employed on other land. This is the time to lay your plans, not for next season only, but for a number of years to come, with a view to getting the most out of your farm with the least expenditure of labor.

This means planning. It means talks with your superintendent over a table upon which a map of your farm is spread. It means careful consideration of the machinery, the draft animals, and the live stock which you have, and the formulation of a plan whereby these may be most effectively used. It means doing all the fall plowing that is advisable in order that work in the spring may be reduced.

Perhaps this spring, under the impulse of patriotic enthusiasm, you were led to plant so large a proportion of your acreage to a single crop that the seasonal demands of this crop created a series of labor crises through the summer or at harvest time, so that either you were in constant hot water trying to get enough men to do the work, or failing to get them, were not able fully to care for your crops. Such situations can be avoided next year by planning in advance. On the chart herewith is shown one method by which advance plans can be made.

It is not likely that any plan laid out for a number of years will be carried through without change, but every change will be made with a full knowledge of its effect on subsequent years' operation. This chart is only one of several that it will pay to lay out before the spring work is upon you. Careful study should be made of the relation between the number of animals that you have on your farm and the pastures and feeds produced, or if the number of animals is limited by barn capacity, then the crops should be adjusted to this limitation, or additional barn capacity be provided.

By studying these problems now, any structural improvements needed can be made at seasons when the farm work is slack, thus increasing the efficiency of your labor.

By having such a chart before you, it will always be possible to place orders for fertilizer, seed, and equipment many months in advance of the time when they will be needed, thus insuring yourself against delays in delivery, which are only too common in these days of high pressure on transportation facilities. You will also be able to figure out, for instance, how much of your rye should be planted with a view to plowing under as green manure, and how much should be planted with a view to harvesting for the purpose of providing seed for next year's cover crops.

In other words, there never was a time when the owner of a farm was called upon to take his farming more seriously than he is to-day. It is distinctly his duty to see that his land is farmed efficiently, with particular reference to the amount of labor employed and the use of products often wasted.

It is the common belief that a farm owned by a city man and run under the management of hired farmers cannot be made to pay. Certainly most of them do not pay. But there are cases where they not only pay, but pay well, and in these there is the closest possible intelligent coöperation between owner and superintendent. The owner has studied his farm, has looked to the superintendent for a knowledge of farm operation, but has himself assumed the responsibility of business management.

This is the year to take your farm seriously. Study its problems and work in close coöperation with your superintendent. If you cannot do this personally, get the best advice available. In doing this you will know that you are doing your share toward solving the food problem in the most effective manner.

CHART OF CROPS AND LABOR — Clover Top — FARM

Field	Acres	Topography, drainage	Present condition	19[illegible] Spring	19[illegible] Fall	1919 Spring	1919 Fall	1920 Spring	1920 Fall	1921 Spring	1921 Fall	1922 Spring	1922 Fall
A	37	Gentle slope, Dr. OK	Sod	[illegible] Corn, [illegible]	Rye & [illegible] under	25 Oats, 12 Oats & Peas	Seed down to Clover						
B	14	Level, Tiled	Sod	Potatoes	Rye to harvest [illegible]	Rye	Clover	Clover					
C	26	Level [illegible]	[illegible]	Clover	Clover, manure	Mixed Hay	Mixed Hay	Pasture	Pasture	Ens. Corn	Rye to Plow under	Oats	Seeded down to Clover
D	6	Slope, Dr. OK	Clover Sod	Mixed Hay	Mixed Hay	Pasture	[illegible]						
E, F	7, 5	Level [illegible]	[illegible]	Clover	Clover, manure	Mixed Hay	Mixed Hay						
G	20	[illegible]	Timothy Sod	Pasture	Pasture	Ens. Corn	Rye to plow under						
H	13	Level [illegible]	[illegible]	Clover	Manure & Plow	Potatoes	Rye to harvest [illegible]						
I	[illegible]	Rolling	Sown to Rye	Rye	Clover	Clover	Manure & Plow	Potatoes	Rye to harvest [illegible] to follow				
J	34	Rolling	[illegible] Stone	[illegible] Oats, [illegible] Oats & Peas	Clover	Clover	Clover						
K	27	[illegible]	Clover Sod	Mixed Hay	Mixed Hay	Pasture	Pasture						
L	15	Rolling	Timothy Sod	Pasture	Pasture	Ens. Corn	Rye to Plow under						
M	4	Level	Sod	[illegible]	Clover	Clover	Clover						
TOTAL 227													
ACRES PLOWED				89	48	37	52						

DISTRIBUTION OF LABOR

LEGEND

2nd MAN'S TIME

1st MAN'S TIME

JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC

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Suggestion for a campaign map in preparation for the coming year's work

Like every really good garden, the Hayward garden owes much of its effectiveness to its enclosing walls. The great oak tree at the far end was chosen as the focal point at the end of the longer axis

The GARDEN *of* H. T. HAYWARD, *Esq.*

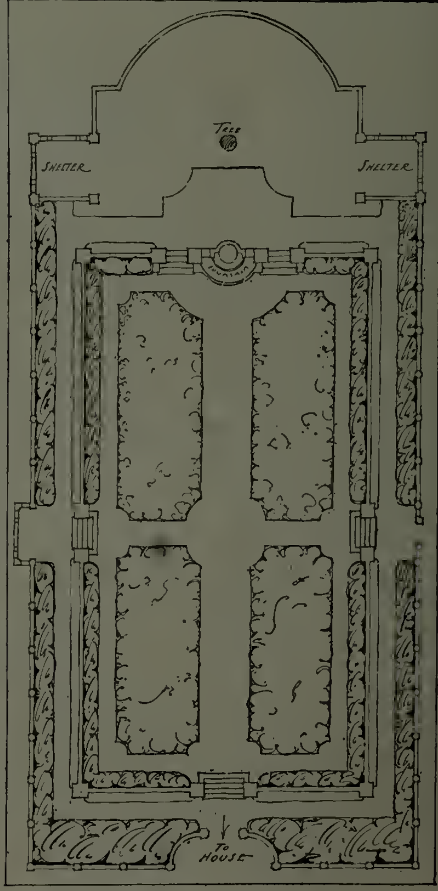
At FRANKLIN, MASS.

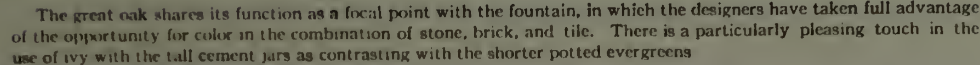
Fisher, Ripley & Le Boutillier, Architects

Photographs by Julian Buckly

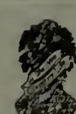
One of the two similar shelters at the ends of the long paths, which flank the great oak and afford a raised point of vantage for those who would enjoy the garden

The long, rectangular plan has been used so successfully in many gardens as to make it a safe standard. It is here given real distinction by the tree-shaded plateau end





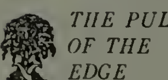
The great oak shares its function as a focal point with the fountain, in which the designers have taken full advantage of the opportunity for color in the combination of stone, brick, and tile. There is a particularly pleasing touch in the use of ivy with the tall cement jars as contrasting with the shorter potted evergreens



FROM A COUNTRY WINDOW

"WELL, WHERE SHALL WE RIDE to-day—to the sea?"

(With a show of impartial indifference): "But we went there last Sunday."



THE PULL OF THE EDGE

"All right. Then we'll go along the wood road and——"

"But I want to go to the *sea!*"

The above conversation, occurring with quite ridiculous regularity in our midst, never fails to amuse the more logically minded of us. But to those who feel the lure of the sea, the mental struggle is easy to understand.

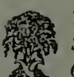
You wish to be perfectly fair to the old brown earth, and think that perhaps, after all, this wanting to be near the sea is becoming an obsession with you. So you ride along the wood road and tell yourself that nothing could be more exquisite than the sunlight sifting down through the green leaves, or than the sudden tiny vistas framed for a fleeting instant between two tree trunks. You follow the high road and wonder if there is anything quite so comfortable as the look of the little gray stone walls which climb up and down the rolling green hills.

And so you go, trying to persuade yourself that the earth has more to offer than the sea, and almost succeeding, when, of a sudden, with a turn in the road, the sea lies crashing at your feet. Something seems to swing into place within your consciousness, as if you had been only half there before. You experience a sense of complete fulfilment, and know that nothing in the world but the sea could give you that deep happiness. A mere glimpse of the sea, lying miles away in the distance, gives you the same sense of comfort and happy security that you feel in the love of an absent friend.

Wherein lies the fascination? Is it because the sea is always essentially the same—and always different? Is it the constant motion, making you feel that the sea is a living thing? We rather think it is even more fundamental still, this something which makes the sea so essential to our happiness; which prompted the inconsistent member of the dialogue above to ask, when considerably smaller, but no less astute, why people *would* keep on living in the Middle, when they could live on the Edge; which makes Henley cry,

> The full sea rolls and thunders
> In glory and in glee.
> Oh, bury me not in the senseless earth,
> But in the living sea!

THE GRIM HORRORS of war gardening are now making themselves felt to us no less than to untold thousands of embattled hoemen. A year ago at this time we paused in the middle of a long row of bush limas to inveigh against the Planting Madness which, earlier in the season, had foully betrayed us into sowing seed for more garden truck than one man could tend or one family consume. Probably we alone of all our readers remember the devout avowal made at that time that, come another year, we should curb ourselves and adopt the motto "One garden, the vegetable needs of one family, the work of one hoe."



THE SUMMER OFFENSIVE

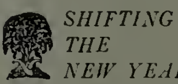
Alas, for our good intentions! The President's proclamation left us barren even of the privilege of gratifying our esthetic needs with a small but tasteful flower garden. Whereas we should have laid out a dainty bed of sweet peas, we find ourselves blessed with more peas of the shellable, cumulative variety than may be canned in a long and torrid August day. Whereas, in the cool of the evening we should have reclined in the lengthening shadows and looked over the hills and far away, we now stand, handkerchief in hand, and gaze lightheadedly at the hills of potatoes, stretching over the recent lawn and on every side, farther than the eye, let alone the hoe, can reach.

Nor is this more than the introduction to our heaped up woes. An omniscient Congress having decreed that we are too old to fight a ferocious enemy, are we then too decrepit to combat a voracious army of insects? We are not, as the embryonic orphans of countless thousands may yet be called upon to attest. Against the blinding glare of a noonday sun, under the pelting hail of summer showers, in the face of attacks en masse, en echelon, and as skirmishers, we have met the enemy and he is ours. Down the long trenches we have charged, surprising and administering the *coup de grace* to new hordes at each traverse, and having done for the moment with animate things, we have mined and countermined and uprooted inanimate but seemingly sensate weeds by the basketful.

Yes, we have suffered—but we have conquered. With our double-barreled anti-aircraft artillery we have maintained the mastery of the air against the cawing scouts of an implacable foe, and with our pump gun we have sent a spray of arsenate of lead into the serried ranks of the tomato beetle. The day on which myriads of luckless potato bugs encountered destruction in their march upon Paris (green) loses nothing in comparison with Armageddon.

And we have been the gainer for this relentless warfare. What we have lost in weight we have added in strength, and we envisage an array of approaching peace-time gardens with the calm assurance of a veteran campaigner.

IN THESE DAYS of revolutions and *vers libre*, when mutuability seems the spirit of the hour, we wonder shall we be considered heretical if we tell the world of a pet reform which we have been cherishing this long time, namely, to shift New Year's Day to the first of September.



SHIFTING THE NEW YEAR

January 1st stands out—or rather, flatly refuses to stand out—in the middle of a long stretch of weary winter weather, an undistinguished link in a chain of days as like each other as peas in a pod. You wake up, and the calendar tells you that the new year is upon you, but there lie the snows of yester-year before your eyes; the temperature, the whole atmosphere is the same; you even don the same clothes, or, at best, clothes of the same genre as you doffed on retiring the year before. You have a desire to formulate high resolves, a fresh philosophy of life with which to meet the exigencies of the coming year, but there is nothing in your surroundings that brings the impetus of an unmistakable turning point, none of that incentive which results from an outward change. And within, what is there to spur you on, save the rather negative conviction that you have spent far too much on Christmas presents, and a general, disheartening sense of aftermath?

Turn rather with joy to September 1st. It stands at the commencement of a new season, full of potentialities! The hot weather may persist, it is true, but the exhilaration of the fall is in the air. You have come back from your vacation, refreshed and vigorous, ready to grapple with what the year may bring forth. You are filled with a great zeal to cast the things of yesterday from you and start afresh. Moreover, there is new raiment—an outward and visible sign of this inward and spiritual change; and let any one dare to deny the moral uplift and inspiration which comes with new clothes. Or better yet, perhaps, the thrill with which, on September 1st, you welcome back from its long summer banishment that old gray felt hat!

Oh well, we hardly hope to inveigle a hide-bound world into casting still another time-honored custom to limbo. But we know in our hearts that this is the day of days on which to wipe clean the slate and start afresh; and nothing can take from us the joy and satisfaction of celebrating our own little New Year's Day on September 1st.

FROM A

RETROSPECTIVE EXHIBITION

OF PAINTINGS

By

George Inness, N. A.

IN THE AINSLIE STUDIO, NEW YORK CITY

ETRETAT,
NORMANDY

NEAR THE VILLAGE—OCTOBER

NORTH CONWAY,
WHITE MOUNTAINS

MY DOG

By E. C. A. SMITH

DO YOU know your dog? I do not mean merely that you discriminate between its general character and that of your previous canine ventures, but do you really understand and enjoy the impulses and inhibitions of its doggish soul? For dogs have souls, by all the criteria of human experience, just as they have consciences. No animal as emotional and responsive as a good dog could withstand the long ages of close human contact without developing its moral and intellectual faculties. Compared with some of the elementals of our own genus, the standards of some dogs are disconcertingly complex.

I have always considered myself a person of wide experience in dog psychology. Some sixty-odd, from the wise mastiff, Gurth, of my childhood, to creamy, inconsequent Huan Shi Kai of Pekin, who preëmpted a corner of my pillow through the last warm weather, have shared the same yard with me. Although few have officially borne the title of house dog, many, as a matter of fact, have spent the winter on the same rug, so to speak. The first regular duty of my childhood was taking my grandfather's crippled collie down the cellar stairs each night; my first profitable venture was a kennel of caniches, augmented by an insufferably delicate Maltese, a lady with the neurasthenic temperament; my keenest enthusiasm was a string of the little wire-haired foxies, who still set my covetous heart stirring; my most delightfully wasted hours passed watching young setters learn why they were born. And still I look back with a sense of opportunities wasted, pleasure let slip.

It was Charmer, a wise Airedale, with a second-rate coat but a first-rate head, the dignity of a Scotch deerhound, and the impudence of a clever baby, who showed me how a dog should be enjoyed. Others might have done so, but I was always content to swing through the activities of the day with their patter following at my heels, and to sit at night where a damp tongue could touch my wrist, soliciting a casual word, or a weary head use my instep for a pillow. It was Charmer's fortune to help me while away long, sometimes painful, days when I was denied even the solace of books. It was her misfortune to become the victim of some of my leisure experiments.

The history of most favorites begins with love at first sight; Charmer, however, had to win her way in my affections. Only her unusual individuality enabled her to do so, for Charmer was the unwelcome substitute for Alert, whom Charmer's owner lost for me—Alert, who was my own dog so thoroughly that only my children had ever been able to lay a hand on her, who flattered me into affection over the barrier of her gray coat, since even Alert was only a substitute for a foxie. And Charmer, from the moment she disembarked from her crate, had played no favorites; she even bade farewell to the baggageman with an effusiveness that I felt to be in bad taste. She greeted my entire household with an undiscriminating tongue; yet, somehow, despite my resentment, before sundown she had acquired her name.

This knack of insinuating herself into the regard of others constituted her first obvious value in my eyes. Another person on our lawn had a prejudice born of a recent loss; Charmer promptly won the run of that house as well as my own, and the first application was in for one of her family. But I still held her a far cry behind Alert. To me her chief virtue lay in her speed. No dog without a job is good for anything, so my terriers are required to drive the stock and to maintain a vigilance against all rodents but the family rabbits. Charmer tended more toward energy than discrimination. Alert knew the animals of three barnyards and returned strays to their respective gates, while Charmer would gaily gather into my own paddock anything which could be made to run. And yet, in case of a scrimmage resulting from one of these indiscretions, she showed a dashing disregard for heels, and when she was set to hold fast young stock in the lane while I went to cut out more, I had the comforting sense that she covered her beat with marvelous thoroughness.

Playful as a kitten, in the kitten's way and for the kitten's purpose as I now know, she soon developed one way of showing off—she became an expert diver after balls. She learned to retrieve with lightning speed and indomitable perseverence, though at first nothing but a ball or an apple would interest her. It must keep moving or the game was off. If I bounced one on the walk she would snatch it from the air unerringly. Since she had never willingly entered the water, I threw it in to try her; it was then, only, that I realized how completely her soul was in the employment I had set up, for she finally followed her quarry, a white golf ball for choice, in an open eyed plunge from the springboard as long as she could see it through the green water. And within her possible range she lost very few.

But golf balls are an extravagance in a current as swift as ours. Noticing that she invariably demolished her playthings, that their edibility seemed to constitute an important element in her imagination, I would explain, "It's a bone! Charmer, a juicy bone!" gnawing it in an interested manner. Up would come her ears at the word, she would climb all over me until I threw it far into the stream, bring it ashore, chew it up, and look for another. But it had to be a bone, and it had to float temptingly in the current's sweep.

Demolishing her apples, she learned to eat them when her play was done. After frost she was quite disconsolate until she went down cellar and found the barrel; she also learned their box up at the store, whence she brings home an occasional Greening, by way of variety. In times of dearth, she will even fall back on potatoes or onions. She has never learned to like the last named as a food, but tears it in a sort of rage. Spools are a delight—they splinter in the teeth; but marbles are of an exasperating indestructibility. They will do, however, if one takes them up and drops them down the stairs, where they bounce and hide until one whines with feigned anxiety. Then they roll under things where one must reach with spread paws, eventually enlisting sympathetic assistance, and possibly a playmate, in an accommodating child. Knitting yarn (she had a ball one night when the house was still) like all entrancing things, is interdicted. This, be it known, she honorably recognizes.

When it came time to lock up the poultry for the winter her practice brought its legitimate result. Dick, the cowhand, and I made the coop rat-proof, shut ourselves and the dog inside, and tore up the flooring beneath the roosts where we had reason to believe that the invaders were entrenched. Charmer's first victim was easy; the second bit her. She gave one snarl of surprise, for one moment wavered, then she became a mænad. In silent fury she accounted for every rat as fast as it could be dug. Once three started across the floor at the same time; she had crippled them all before we could offer the slightest assistance. And that flashing accuracy was acquired from balls. We took out her prey in a pail—twenty-seven within half an hour—and Charmer's careless puppy days were at an end. She has had a steady occupation ever since, and one which weighs constantly on her mind. At the most unexpected junctures, such as when some one is reading aloud, with the dog apparently fast asleep, let the word "rat" be uttered, and automatically her ear will flap up. Repeat it, and she is on guard. Inquire directly if she does not hear one, and she is patrolling the house, sniffing like a fire bellows.

She will tolerate a family cat after about three good thrashings, provided the cat survives that long. With chickens she is just plain inconsistent; little chicks she loves and I can trust her to lie motionless while they climb and snuggle all over her. Big birds she will not chase if they behave reasonably; she is terribly annoyed when the ducks splash in the pond, perhaps because they exclude her too sharply from their company, or possibly it offends her sense of propriety. She has one.

Thieves are another of her diversions. I can pretty much tell if a man has been cutting across my land by requesting him to roll up his trouser-leg. One gentleman had me nearly convinced of his innocence, despite very strong circumstantial evidence, including the warm corpse of a cockerel under the head of my drain bridge, until a reminiscent curl to Charmer's lip suggested the inquiry. She has sometimes carried this vigilance to undesirable extremes, ejecting an unfamiliar messenger or grocer's boy with ominous silence; indeed she is so infernally quiet about it that I can never catch her *flagrante delicto*. However, one formal introduction places a trespasser perfectly in her mind, and the pressure of more serious matters will diminish this surplus and unsanctioned energy.

Not until an injury befell me did Charmer prove her allegiance to me. Then she apparently made it a point of honor to remain at my bedside; the memory of my delirium holds little more vividly than the touch of her tongue curling between my fingers with the same terrified thoroughness that she displayed just once more, in her own distress. Nurses do not always understand such assistance, but the children all united in explaining the situation, the atmosphere seemed convincing, and anyway, she was a sensible nurse. For at such times, when with all the sensitiveness of fevered nerves you feel the tension in the humans who surround you, there is something infinitely steadying in a dumb beast.

As I grew better and she began to range abroad, the thief took his revenge; he caught her following one of the children across the road, and ran the front wheel of a car across her. Poor Charmer! She could not understand those fierce pangs which made her tremble. Pain broke her spirit, until the little beast who would stand against the charging bulk of a cow, whimpered and shirked. Since neither veterinary nor physician could be reached, we faced it out together. Highstrung and nervous, it was hard for her to find patience. Often she seized my wrist in protesting teeth, or writhed to get away from the brace of my knee. The first stillborn puppy I successfully whisked away, but she was on the alert for the last; instinct had awakened her intelligence, and she snatched it from me. Over and over she licked it with passionate anxiety, her weakness forgotten in her eagerness to vitalize that limp form with her welling affection. My tears started at the sound of that whine of anguished solicitude with which she strove to arouse it.

I was relieved enough for the time, but doubly worried about the next day when her milk would be in full flow, since I hated to use camphor and endanger her future capabilities. But Dick

solved the problem inside of the hour, he clattered off on old Spot, his heels driven into that deliberate creature's fat sides, and returned with a blond and squalling puppy—a puppy with a collie coat but a bulldog tail—squirming in his pocket. We hid it in Charmer's bed and waited to see her find it.

It was well we stayed. Missing her own pup, she ranged the house in search of it. On her return she went for the substitute in a rage, Dick kicked her nose aside in the nick of time. For the rest of that day, the only safe place for that puppy was in my lap, and she would sneak up on it with unmistakable hatred in her usually amiable face. Nevertheless, at regular intervals I made her climb up beside me, and let it nurse.

By next morning she was resigned to the nursling within limits. Never would she tolerate it in the nest, or even in the room, where her own little one had been. And she refused all care of it. If I saw fit to bring it to her, well and good, but she would not go to it. I might scold and shame her, and she would stand before me the picture of repentance, but toward that puppy she had nothing but clenched teeth. And her trips in search of her own still flesh seemed to light that aching rage anew, so it came about, through her very disobedience, that she won a place beside my fire. The stable, the cellar, even the sewing room, have been dedicated to such use, but Charmer's family occupied my own corner; her box barred the doors to my paper files and her disorderly charge played unrebuked with my shoe laces.

As I grew more and more preoccupied and less and less careful of the puppy's hungry protests, I would feel her sneaking delicately past my knees, and presently only its noisy feeding would betray her presence. On the first cold day she cast pretence aside and cuddled it frankly, poking it back with her nose to the shelter of her hind leg. The one thing she would not do was to carry it, she picked it up once, so clumsily that it yelled, and she dropped it again. As it learned to squirm out of its bed on to the floor she would try in a half-hearted way to shove it back, but would soon give up the attempt and go after help. Once in the night she came for me; I tried to be obdurate, but she preferred to endure my wrath rather than risk those shrill wails.

In the end, the pup, a scandalous-looking creature with sparkling eyes, the sweetest temper in the world and an unutterable appetite, came to amuse Charmer as much as it does the rest of us. When she feels the need of respite from Fauna's hunger she climbs up on the back of the cushioned couch, and dozes in placid unconcern while her foster-child sniffs and begs in vain. On the floor it follows her about snatching at her; if she lies before the fire it ramps up with the attitude of a dragon on a Chinese plate, ears back, mouth open, tumbles over her, and eats again! Then she lies on her back, growling, tossing it, taking its head in her mouth, or boxing it with her nose. But she still realizes that it is not her own, still pensively creeps upstairs to lie where her own puppy was born. She still leaves me in no doubt that this is just a last responsibility I have imposed upon her, and it is obedience, not affection that commands her. She still has moments of standing aloof, gazing first at me, then at the waddling Fauna, as if to say, "That's the deuce of a looking thing, anyway, and you know it."

Seeing that she is always holding the puppy down with a stern paw and grooming it from end to end, the devil, having good opportunity with my idle mind, led me to try how far her conscience might be made to drive her. I dabbed that puppy with castor oil and she was faithful to her duty; then I tried tabasco sauce—and became ashamed to see her conquer her revulsion, and, between sneezes, restore it once more to tidiness. I have given her strange animals to nurse, smelly creatures, or dirty—once she accepts the charge she performs her whole part. Or I call her in the midst of a game of ball to nurse her stepchild, and she comes, ball in mouth, to lie obediently, licking now the puppy, now the ball, patiently anticipating her release. Indeed that air of conscious virtue is her only irritating quality.

Her chair is another inexplicable whim. She owns it, but not because she wants to lie in it. She much prefers the couch before the fire, and even when that is occupied she will snuggle unobtrusively beneath one's elbow. Her chair is to her a place of chill and penance, far from the comfortable glow, where wicked dogs are set to meditate on their sins. But leave so much as a handkerchief in it and she will occupy it aggressively until the offending article is removed.

I suspect her of a sense of humor. For instance, sometimes Fauna is indiscreet in her choice of playthings—she finds a glove, perchance, or an overshoe, dropped by some equally irresponsible child. Manifestly Charmer should reprove her, since she would never touch it of herself; instead I find her dragging at the other flap. "Shame!" I call accusingly. For an instant she stands reproved; her ears drop, and her tail. Then, with a wag that is scarcely less than a giggle, she lays the offending article in my hand, perhaps with the sneaking suspicion that she can lure me, too, into the game, sure that I'm not beyond temptation.

Perhaps I am sentimental; certainly I find myself chagrined after my many theories about dogs, and their proper place, which is not in the home, I still maintain on very well-founded reasons. Nevertheless I shall amend thus far: to enjoy your dog to the fullest extent, you must share your hearth with it, and accord it the same consideration, understanding, and constraint which the rest of the household must practise toward each other. Only, then it will cease to seem just a dog, and become a fellow creature, obliterating some of the bounds we are accustomed, who knows how wisely, to accept.

PHOTOGRAPHING *the* ELUSIVE LOON

By HOBART V. ROBERTS

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HAVING for two mating seasons tried unavailingly to photograph a loon on its island nest in Beaver Meadow, I determined, when the third May came, to pit cunning and a canvas blind against the timidity of the loon, and having set up my equipment on the nearest side hill, confidently awaited results. But they were not forthcoming, for the loon, whose nest commanded an unobstructed view of the passage by which we were obliged to approach, had taken French leave when our canoe first glided into view, and refused to return so long as we remained in sight. Wherefore, on the following day I returned to the blind provided with a dummy figure which was to take my place in the canoe when my companion paddled away and left me hidden with my camera.

My scheme worked! Not long after Antone and the dummy had left me, the loon swam into view and returned to her nest, not, however, without making certain by repeated trips to the middle of the Meadow (which is under water in spring) that canoe and occupants had actually disappeared. With what excitement I exposed a dozen plates of the bird on her nest, but with what disappointment learned upon developing them that either the bird or the camera had moved in every instance!

Weather conditions being unsuitable for photography during the next ten days, the bushes at the edge of the loon's island grew so energetically that the nest was no longer visible from our hillside blind, and for my next attempt I was obliged to transfer the screen to a raft and conduct operations afloat. Cunning was now greatly diluted with patience, for I hoped by moving the raft a few yards closer to the nest each day to accustom the loon to its presence, and thus get within

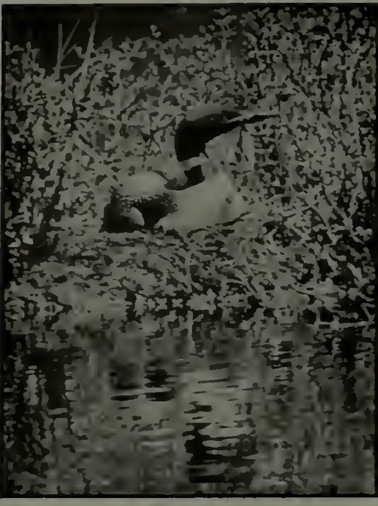
A newly hatched loon. While the picture was being taken the parents made the near-by water fairly boil with their wild manœuvers to entice the photographer away

House-cleaning time—the mother loon clearing the eggshells out of the nest after the little ones were hatched

When sitting, loons turn their eggs just as tame fowls do

The canvas blind behind which the pictures were taken

The mother bird feeding the little ones


On the alert

Giving him a piece of her mind. The old loon expostulating with the photographer, while the little one lurks safely in the background

Sliding snake-like into the water

good photographic range. I had not been slow to observe that the loon always put distance between herself and the nest upon our approach, by swimming under water, and it was by taking advantage of this daily submergence that I was able to secrete myself behind the blind and move the raft forward without exciting her suspicions unduly. At this time, also, Antone always paddled away with the dummy, talking most volubly to and about nothing.

In the course of two weeks I secured a few small pictures, but at length reckoning that the period of incubation was about over, I decided to make the bold move of anchoring the blind within sixty feet of the nest. I spent an anxious ten minutes after the departure of Antone, but my temerity was rewarded, for the loon returned to her nest with an entire absence of her customary caution, and I was fortunate enough to perpetuate a dozen different poses, all of which turned out most satisfactorily.

On the following day I was delighted to find that one egg had metamorphosed itself into a hungry little loon which afforded excellent picture material; and on my last visit, some days later, I wound up the series with a view of the male bird haughtily and indignantly convoying his two offspring away from such a be-photographed place.

Male loon leaping into the air like a fish

Treading water in her fury

"The male bird haughtily and indignantly convoying his two offspring away"

Close-up of one of the youngsters

AUGUST *in* YOUR OWN WAR GARDEN

By ADOLPH KRUHM

T'S never too late to start a garden! This is the most cheering message that I can think of for readers of COUNTRY LIFE. It's intended to be an encouragement to the eleventh-hour-comer to the army of garden enthusiasts. Never before has the country so heartily welcomed serious minded men and women to the ranks of food producers as in this crisis.

The selection of extra early, quick-maturing varieties is of paramount importance. Within fifty or fifty-five days after August 1st, vegetation will cease to make rapid progress. The way to offset this is to select sorts maturing before then, or to grow kinds that are reasonably hardy. Such vegetables as beets, carrots, lettuce, radishes, etc., contain varieties that are sufficiently hardy to withstand early frosts.

Beans of the dwarf or bush type, while tender, accommodate planters with a variety that has the unusual record of bearing pods in fifty days after seeds were sown. Hopkins's strain of Round Pod Red Valentine holds out the promise of a crop of short but deliciously flavored pods by September 25th from seeds sown the first week in August. Where light frosts are apt to occur before then, plant the rows closer together—say eighteen inches apart. A few stakes, a few yards of burlap, a little watchful waiting for weather forecasts, plus half an hour's work, if necessary, will spell complete insurance for the August planted crop of Red Valentine beans.

Beets. Varieties that will perfect the desirable two and a half to three inch size before frost are Faust's Early Crimson, Eclipse, and Egyptian. The one point to watch while sowing beets in rows, a half inch deep, eighteen to twenty-four inches between the rows, is to press the soil in firm contact with the seeds to insure quick and even germination.

Lettuce. No other crop in the August garden develops as quickly as lettuce. Warm days and cool nights are nearly ideal for these salad plants, which also appreciate an abundance of water or cultivation. As a matter of fact, a dust mulch maintained between the rows and, later, between the plants, does quite as much good as frequent watering. Sorts of particularly rapid development are Black Seeded Simpson, Wayahead, Naumburger, and Crisp-as-Ice. Black Seeded Simpson does not form heads, but large bunches of crinkly leaves of very good flavor. Wayahead and Naumburger perfect splendid butter-heads in fifty-five and sixty days respectively. Crisp-as-Ice is the hardiest little crisp head lettuce on record. It reaches full size in sixty-four days from date of sowing, but is so hardy and so long-standing that it will last until Thanksgiving, if afforded slight protection during very cold weather.

Peas. Sow in double drills, about four inches apart, so that the vines of one row act as support to the other. Extra early sorts of exceptionally prolific character are Pedigree Extra Early, Little Marvel, and Sutton's Excelsior, maturing in fifty-five, sixty, and sixty-five days respectively.

Radishes. The secret of success with radishes sown in August depends entirely on choice of varieties. Sorts that develop rapidly and yet retain their crispness, besides remaining in good condition for several weeks, are Scarlet Globe, Icicle, and Long Scarlet Short Top. Sow in rows, eighteen inches apart, scattering seeds thinly. At the end of the second week after sowing, thin out the seedlings to stand two to three inches apart in the row.

Spinach. While broadcasting the seeds is a frequent practice, much better results will invariably be scored by sowing in rows, eighteen inches apart. Thin out the plants to stand three to four inches apart in the row as soon as they develop the second pair of leaves. Long Standing and Munsterland Frost-resisting are two splendid kinds for fall use.

Turnips. Only extra early sorts, like Red or White Milan or Early Snowball, should be sown this month. While these are not as good keepers as sorts requiring a longer period in which to develop, they have the advantage of being of very delicate flavor. Sow them in rows, a quarter to a half inch deep, eighteen inches between the rows, and thin out or cultivate just as you do radishes, excepting that each root should be given four inches of space in the row.

Two factors deserve prime consideration in connection with August-made gardens. The soil being quite frequently dry to a considerable depth, and irrigation facilities proving inadequate, *all seeds should be sown twice as deeply as usual.* Beans, commonly covered two inches deep, may be sown four inches deep. Beets, generally sown a half inch deep, may be covered to a depth of one inch, provided the soil is finely pulverized and light. Do not cover more than the usual depth (twice the thickness of seeds) in heavy soils.

The other point to watch is that soil should be pressed in firm contact with seeds to encourage prompt germination. Put a board over the row, after sowing it, and walk over the board. With beets, dispense with the board.

At the approach of the cold season such plants as beets, carrots, lettuce, etc., may be transplanted into spent hotbeds and kept in fine growing condition until long after cold weather makes further gardening activities impossible in the open ground.

This is the month to start from seeds, to be grown to maturity in the greenhouse, cucumbers of the forcing type, like Improved Telegraph or any of the improved English varieties; also tomatoes, such as Cornet, Stirling Castle, Globe, or any other sorts renowned for good results in your particular section.

From now on, do not use fertilizers that stimulate growth. Rather water the plants with a weak solution of nitrate of soda once a week. Since different crops will respond more readily to solutions of different strength, no arbitrary recommendation can be made as to the proportions of the solution.

Celery will appreciate its first hilling or blanching this month. Handy paper bands or celery bleachers come to the aid of the gardener who does not relish the thought of spending hours in hilling with soil.

August is the critical month of the season with tomatoes. Your management of the plants during the next four weeks will largely determine the yield of fruits per plant and the size. If they are staked, curb their growth upward. "Spare the knife and spoil the crop" is a particularly appropriate slogan to be kept in mind with the tomato patch in August. Prune the vines severely and limit the plant to a certain number of branches, and the plant's energy will be diverted to fruit production. Furthermore, remove regularly all the suckers that develop at the leaf-joints on every branch. They thrive at the expense of the fruit clusters just beyond the joint. You will find the removal of these side shoots and suckers to make a most remarkable difference in the productiveness of the plants.

Thousands of new gardens being started this season resulted in hundreds of thousands additional pounds of seeds being sold, and it is safe to predict that seeds of all kinds will be considerably higher in price next year than they were this, with no relief from outside sources in sight.

Those who have gardens are in a singularly fortunate position to help themselves—and thus the country—by setting aside a small part of different crops for the purpose of saving the seeds. A row or two of beans, a few rows of corn, left to mature on the plant, will provide enough seeds to sow a sufficient number of rows in the 1918 garden. The resulting decrease in demand will not only provide stocks for other planters (possibly newcomers) but will help to keep prices at normal levels.

The classes that lend themselves to being easily saved, cured, and stored are as follows:

Beans. Simply refrain from picking pods off a row or two. Let them grow to full size, giving regular cultivation, the same as with the other rows. When plants and pods become dry, pull the plants up, put on sheets, and shell or thresh, after which the seeds are ready for storing in bags.

Corn. Wait until ears are thoroughly shrunk or shriveled (Look out for deprivation by squirrels). Then pull the ears and hang them up, husk and all, until they are thoroughly dry. Then husk and store in a dry place, or shell and store in bags.

Melon, pumpkin, and squash seeds are easily saved from your prize specimens, by simply cutting them open when dead ripe and removing the seeds with a spoon. Spread the pulp and seeds thinly over sheets of paper, muslin, or canvas, until thoroughly dry. Then rub pulp off the seeds and store them in glass jars.

Save the seeds out of your prize tomatoes. Let the fruit get dead ripe and put in a glass jar. Add a little water and let stand until white foam shows that fermentation has set in. Then wash through a sieve that retains the seeds, dry carefully, and store.

Always remember, however, that seed saving is the work of specialists. While in a national crisis like the present, thrift and economy in seeds are as essential as in every other line, yet the man who needs or wants certain highbred strains in order to maintain production of high standard crops, should always depend on seed specialists. An occasional saving of seeds of particularly well developed vegetables pays. A constant practise of this, however, tends to lower standards, unless, indeed, you are developing into a specialist yourself.

Remove superfluous shoots at base of tomato plants

Prune off suckers that develop at leaf joints

A WATER GARDEN *while* YOU WAIT

By HARVEY WHIPPLE

IT ISN'T everybody who can go to the country, but almost everybody but the cliff dweller can put some of the country in his backyard. It is the effect, the suggestion, the spirit of things, that contribute more to happiness than do the realities. If, by artful dissimulation, with a few rocks and a little water all intermingled and grown about with vines and flowers, there can be supplied some nourishment for the imagination, some suggestion of the spirit of the country, it is worth trying. It is more than ever worth trying if the thing is really much more simple to do than is usually supposed.

Formal pools—fountains and trimly curbed basins—are common enough in city gardens, and they can be provided in very limited space, for formal treatments lend themselves to cramped areas. Yet it takes very little more space for an informal treatment of a garden with rocks and water, and such work is made more interesting because to achieve the naturalistic result requires more thought, a better sense of nature itself.

My own rock and water garden, which I must take as an example, is a miniature indeed, and it was very simply constructed. It occupies, including its essential surroundings, a space about 12 x 30 feet. The distance from the back wall of the house to the far end of the lot at the alley end is about 130 feet. The back 50 feet is vegetable garden and does not enter in any essential way into the scheme. Thirty feet of lawn lie immediately back of the house. This is terraced up from the back garden or natural level to the established building grade of the street. The width of the lot is 45 feet. Immediately back of the lawn there is a terrace, two thirds of whose width is abrupt; the remaining third is gradual, requiring a distance of about 25 feet to reach the natural level which is only about 30 inches below the lawn. The lawn is on filled ground; the earth excavated in making the pools was used to extend the sloping ground.

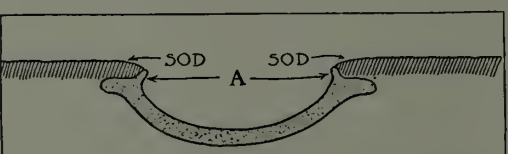
The first pool where the "spring" originates (from a $1\frac{3}{4}$-inch pipe underground from the house water supply) is just below the terraced lawn at a level about a foot lower. It is a shallow basin, 5 feet long and half as wide, like an elongated oyster shell, permitting a depth of water of about 4 inches in the centre. This is merely a bird bath—a very successful one. The second pool, is about 6 inches lower than the first, and is about 7 feet long, 3 feet wide, with a water depth in the centre of about 12 inches. The next water level is about a foot lower still, and comes slightly below the lowest ground in the garden and perhaps 8 inches below the ground which immediately surrounds it. This lowest and largest pool is about 16 feet long, of very irregular outline, and about 7 feet wide at the widest part. A water garden of larger area would seem to require more marked differences in level to be effective in the contrasts afforded, but in the garden described, these slight differences in grade—the different levels accentuated by the use of rocks where the water falls over—give an effect quite satisfactory in a reasonable likeness to nature.

The basins that confine the water are of concrete, as, the water supply being intermittent (only when turned on), some such means is necessary to prevent the undue escape of water by absorption in a porous soil. Most of the desirable water plants do best where the water is still, and where it becomes warm under the sun. It isn't at all difficult to build the concrete basins. It is work for an ordinary laborer, providing he has a little intelligent direction.

Aside from its beauty, the water garden with its finny inhabitants is an unending delight to the children

If you happen to be a man hankering, now and then, for a little rough work, this concreting will afford the opportunity as it did for me and some of my helpful neighbors. It need not all be done in one day. Begin with the first pool, the bird bath. Scoop out the earth and be sure that the earth remaining as a foundation is thoroughly compacted. To this end it is advisable to place the earth as long as possible in advance of the concreting. Plan to have the basin about 6 inches larger all around than is desired in the finished work. By covering the edges with sod, this will help in obtaining the natural effect.

In preparing the concrete, use a gravel or crushed stone that is well graded from fine up to pieces an inch or so in size, or use sand and crushed stone from which the finest material has been screened out. You will have to have a separate supply of sand, anyway, in making a mortar course for the top.



Cross sectional sketch showing (at A) how the concrete is built up to act as a sod retainer

Provide a tight mixing board—about 8 feet square is a good size—and mix a small batch first. Start with say two cubic feet of your well-graded (and by all means clean) gravel and on this place half of a cubic foot (one half bag) of Portland cement. Mix these materials very thoroughly in a dry state, turning over and over with a shovel until the mixture is of an even color. Then add water gradually, continuing the mixing, until the mixture is pasty and of like consistency throughout. Do not make a sloppy mixture. Have the excavation well sprinkled where the concrete is to be placed. Do not make a mud puddle of it, but give the ground enough water so that all the moisture in the concrete will not be absorbed by the earth. Then spread the concrete with a shovel and even up with a wood float, making the concrete about $2\frac{1}{2}$ inches thick all over. Don't have any seams. Begin work at one side and work across to the other side continuously. For this reason it is best to have a helper to keep mixing fresh concrete. Embed in this first course some chicken wire. You will find that 1-foot strips are conveniently handled. Weight it down, if necessary, with clean stones. Then as quickly as possible mix up another batch, this time using one part of cement to two and a half parts of sand. This is stated arbitrarily and is not at all scientific. If your sand is uniformly fine use a mixture with less cement in it, or if it is uniformly coarse, use more cement. A mixture richer than one to two would scarcely ever be required. Place this mortar over the first course concrete, spreading it 1 to $1\frac{1}{2}$ inches thick over the chicken wire. Use a rather stiff mixture without too much water, and work it up into shape as desired for the interior of the basin. This second course should be placed as soon as possible after the first concrete is deposited so as to insure a good bond. When this is done, use some stiff mortar to build up a little fence as shown at A in the accompanying cross sectional sketch. Let this extend all around the basin 6 inches or so inside the outer edge, and undercut as shown. Cover the work with canvas to keep the sun off, and as soon as the cement has set so as not to be washed out, paint the basin with a mixture of cement and water of a creamy consistency. This is just an extra precaution against leakage. As soon as the concrete has become sufficiently hard, fill the pool with water. Rapid drying of concrete frequently results in shrinkage cracks.

Waterlilies in the third and largest pool, showing in the background the overflow into it from the middle pool. The difference in levels is accentuated by the use of rocks where the water flows over

When this work is first laid out and while the concrete is being placed, be sure to watch your levels. You want water to overflow at a definite place. Do not attempt to place stones in the basin and concrete up to them. It isn't at all likely that you would get such a job to hold water. Place the stones later, after your concrete basin is entirely completed and hard.

Except for size and the amount of concrete required, the second and third pools are like the first. Bring the concrete of the second pool well up to the first, even though a considerable space between the basins is to be occupied by stones. Plan well in advance where and how you will use rocks so as to provide a suitable resting place for them. It is advisable to use rocks where one pool flows into another, placing them so as to hide the concrete at a point where it could not otherwise be

Where the uppermost pool flows into the middle one (left) When the pools were built, three years ago, seven goldfish were installed, and they have multiplied greatly. In winter they occupy a tank in the house. Toads and frogs, too, are voluntary sojourners here

covered. If a little concrete must show in such a place, then partially embed in the surface, when still soft, a layer of fine gravel, so that the gravel will be evident and the binding material concealed.

The third pool probably will contain the water plants, at least most of them, and for that reason it must be considerably deeper to allow for earth in which the lilies are to root and for sufficient water over them. Many of the most desirable plants for such water gardens get along very nicely with water from a foot to fifteen inches deep. In order that there shall be no needless construction, suitable pockets can be made in which to grow the plants, without having the pool of one depth throughout its area. Make these pockets somewhat larger than a bushel basket when the earth is excavated, and then when the concrete is placed, if it is of that pasty consistency which is the best, it will be easy to line the pockets with concrete and reinforce them with chicken wire just as in the rest of the work, being careful to keep the concrete continuous so that there will be no tendency toward separation around the pockets.

The very simple design which I followed in building my concrete pools presupposes that they are to be placed in firm ground. The chicken wire reinforcing cannot be counted upon to add much strength, certainly not enough to resist any unusual stresses. Such reinforcing has been quite generally and quite satisfactorily used, however, on just such simple work, to take care of certain temperature stresses. Even these are not great in such construction because the fact that the pool is filled constantly with water, into which there is run a daily fresh supply, tends to equalize the temperature. While this construction is not scientific, it has in my own experience been very satisfactory on at least two different jobs. If the work were to be much larger or conditions more unusual and trying, then it certainly would be best to put the work entirely into the hands of a capable builder. But this of which I write is small work that has fully justified itself. Be sure to pattern your pools after the oyster shell; that is, do not let the basins have abrupt slopes. If the sides dip gradually, probably no steeper in any event than forty-five degrees, the work will be easier to do, and when completed the concrete will be in the best possible shape to resist frost and ice.

When the concrete work is complete it is necessary then to add touches which make of the work a success or a failure, esthetically. It is, of course, of first importance that the actual construction be concealed. Those little fences about three inches high that you molded of concrete all around each basin just a few inches inside the edge, will make it possible for you to lay sod to a point below the water line, the fence keeping the sod within bounds and holding the thick layer of soil which is taken up with the sod to prevent its burning out in the sun when placed on the concrete. The rest is done with stones, preferably weathered-looking rocks, and with plants set around the edges. It is hard to say how the rocks should be used, certainly not in solid rows or in pyramidal piles. Keep the earth up around them so that they will look as though they "grew" there. Don't clip the grass about them too precisely. The effect is to be naturalistic, and Nature is not precise in such matters.

With say, three pools constructed practically as a unit, cracks are likely to develop in the concrete in the narrow places where the pools join. If the work has been properly done these cracks will undoubtedly develop at the exact line where the water flows from one pool to the next, and such a crack will not do any harm. It is well to plan, however, in addition to the use of gravel in the surface of the concrete and in addition to a judicious use of rocks, to have earth pockets close by where drooping plants will help to conceal any suggestion of artificiality.

Needless to say, all evidence of the artificial source of the water supply can readily be concealed. The flow is controlled by a valve and key hidden among some rocks and plants, and the pipe outlet into the bird bath is covered with rocks. In summer the water is run in about fifteen minutes every day—sometimes more and sometimes less, or not at all. The overflow is to a small concrete-lined pit, no bigger than a peck measure, from which the water is led away by drain tile out into the garden, passing through a bed of German iris at a depth of about a foot, and going to a depth of about two feet farther back among the vegetables.

An improvement in the big pool described would be sufficient depth over the crowns of the hardy plants so that ice would not form solid in winter. The hardier lilies would then need no protection. In my own pond, the water is baled out and the basin filled with leaves. With enough ground slope or by a sewer connection the pond might be drained. Of course, the gold fish must in this case be netted and taken to winter quarters.

All but one of the seven fish that were placed in the pond three years ago are thriving, and they are multiplying each summer most satisfactorily. They occupy a tank inside in winter. Toads chose the pond for a breeding place last year, and this proved a matter of constant interest. Frogs, too, make their home in the pond, dragon flies flit over its surface, and birds innumerable come there to bathe.

Do not buy too many plants. Our big pool was almost choked the first year through fear that some would fail to grow. The yellow water poppy grew marvelously. An oversupply had to be raked out several times during the summer. Thinking that all of it was lost when the pool was cleaned up for the winter, it was planned to buy more, but it was only a short time after the water was admitted to the basins in early May, when the poppy appeared, growing out from the bank.

The rock and water garden is a real source of joy. A little water, a few rocks, an old stump half buried at one side, a few shrubs in the background, a few drooping stems in the foreground, and a changing fringe of blossoms in between—daffodils, iris, German, Spanish, and Japanese, Shasta daisies, coreopsis—these make it a beauty spot. It is something more to play with in the garden—something that adds charm to all the other beauties that a garden holds.

The place has all the atmosphere of a natural pond, and without an extra supply of mosquitoes—the fish take care of them

The water garden in its entirety. Distance's diminishing effect robs the large pool in the background of its impressiveness

Broadly speaking there are three color families of sea weeds—green, brown, and red. One of the commonest of the browns is the bladder-wrack (*Fucus vesiculosis*) so named because of the floating bladder like cells in the fronds

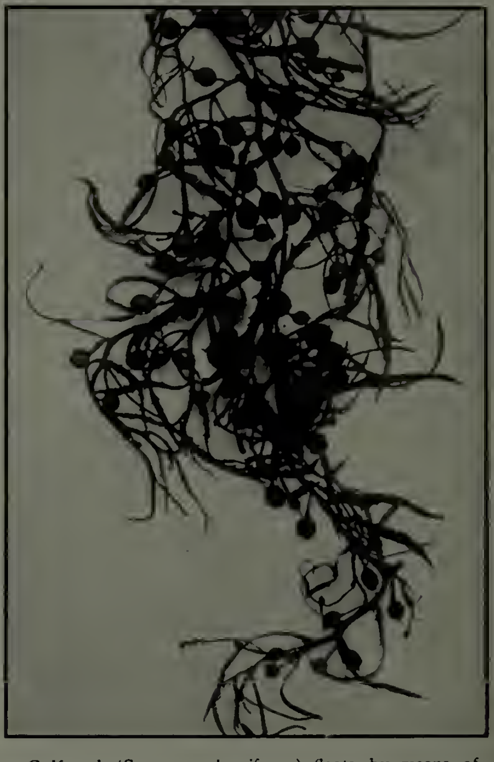
There are many ramifications of the green division, but probably one of the best known forms is the sea lettuce (*Ulvo latissima*)

SEAWEEDS *from* AMERICAN WATERS

Photographs by S. LEONARD BASTIN

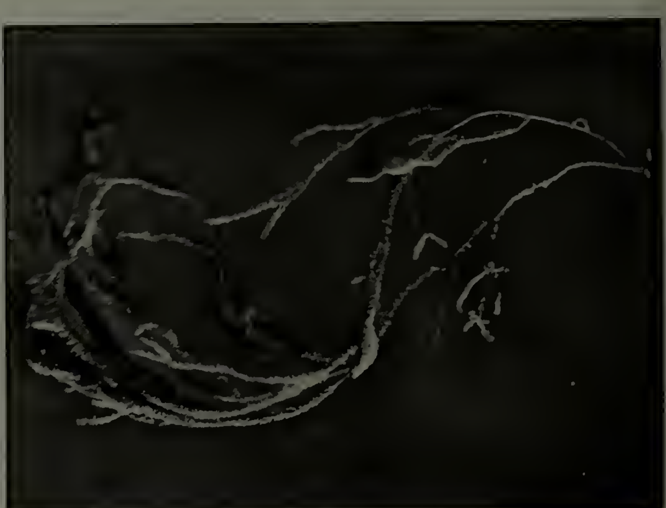
Three of the large brown seaweeds with which most of us are familiar: from left to right, *Laminaria digitata*, *L. saccharina*, and *Chorda filum*. All brown seaweeds belong to the sub-group Phæophyceæ

A beautiful red seaweed, *Polysiphonia elongata*, belonging to the Florideæ, a group whose members are characterized by the possession of red coloring matter



Gulfweed (*Sargassum bacciferum*) floats by means of grape-like air vessels. The famous Sargasso Sea in the North Atlantic Ocean takes its name from this seaweed, of which it is principally formed

Another type of red seaweed—*Delesseria alata*. In point of size the largest of the reds cannot rival the larger browns, while the majority require the aid of the microscope for their examination



Not all the brown seaweeds are large, however, as witness the small *Cleodostephus verticillatus*

TWENTY-FIVE GREAT HOUSES *of* FRANCE*

IT is a fortunate circumstance that this masterly work of Sir Theodore Cook's becomes available at the moment when the nations of Lafayette and Washington are reaffirming and strengthening the bonds of friendship that were established so many years ago. For we would know more of France, of her glorious past, of those who laid her enduring foundations. And we could refresh our memory of France's history in no better, no more delightful, way than by an arm-chair journey through her domestic architecture.

The author covers a wide range in his selection of these twenty-five great houses of France. In character they vary from the citadel of a royal borough to the substantial residence of a burgher tucked away in the crowded streets of a city, and from the country seat of a Minister of State to a great, fortified monastic establishment upon an island of rock. In date they range over five centuries, and even then stop with Louis XIV's time, before the results of the later Classicism had been added to the country's architecture. The twenty-five have found favor with the author for various reasons: one as a piece of medieval military engineering, one for its picturesque mass, one as possessing the choicest architectural beauties of its age; another for its part in history, and so on. As Mr. Ward says in his introduction to the volume: "It would be difficult to lay one's finger on any one characteristic, any one principle of structure, arrangement, or decorative treatment, which they have in common. Yet, studied collectively, they will be found to constitute, within strictly defined limits, a fairly complete picture of the development of domestic architecture in France from the end of the fourteenth to the middle of the seventeenth centuries, as represented in the houses of the great."

A roof at Chambord—one of the full page illustrations from "Twenty-five Great Houses of France"

The list of these houses is: Mont St. Michel, Manche; the Fortress and Castle of Carcassonne; Château Gaillard, Eure; Pierrefonds, Oise; the House of Jacques Cœur at Bourges; Loches; Josselin, Morbihan; Langeais, Indre-et-Loire; The Château d'O, near Mortree, Orne; Montreuil- Bellay, Maine-et-Loire; Amboise, Indre-et-Loire; The Maison Bourgtheroulde; Blois, Loire-et-Cher; Chambord, Loire-et-Cher; Azay-le-Rideau; Chenonceaux, Indre-et-Loire; Anet, Eure-et-Loire; Le Lude, Sarthe; Chantilly, Oise; Kerjean, Brittany; Maintenon; Serrant, Maine-et-Loire; Valencay, Indre; Cheverny, Loire-et-Cher; and Vaux le Vicomte. With all the devastation that France has suffered, with all the monuments that have been stricken from the world's priceless treasure list of ancient art, it is a joy indeed to be able to say that none of these historic piles has been struck by the vandalism that is now turned back in its ruinous path.

It is an interesting thought to project oneself ahead five or six hundred years, and attempt to gain the point of view of the student of those far ahead days. Is there any single element of present-day architecture or any other art that will serve to focus his attention for even a moment? We can at least trust to being remembered and perhaps honored for our development of the tall commercial building—let us hope that they will designate it by some term more dignified than "skyscraper." In comparison with these great monuments of France, however, our little achievement is but a feeble reflection from the unquenchable lamp of Art.

*By Sir Theodore Andrea Cook, M. A., F. S. A., with an introduction by W. H. Ward, M. A., F. S. A. Country Life, London; Charles Scribner's Sons, New York. Illustrated with photographs. 436 and xl pages. 10½ x 15 in. price $16 net.

ARISTOCRATS *of the* GARDEN*

AMONG the many books and magazine articles written during late years by Ernest Henry Wilson, the distinguished botanist and traveler of the Arnold Arboretum, who on four expeditions botanically explored Western China, perhaps "Aristocrats of the Garden" will prove to be one of the most popular in the horticultural world.

The book contains fifteen chapters on the choicest and best kinds of trees, shrubs, and vines (in addition to two on lilies and herbaceous Chinese plants) for the gardens of the North and Northeastern United States, together with some adapted for the Pacific Slope and other climatic conditions.

One of the most romantic chapters is that giving the story of the modern rose, telling of the establishment of a trading station at Canton at the close of the seventeenth century by the English East India Company. It was here that the wild species and prototypes of the modern rose were found growing in Chinese gardens. Sent to England and worked over patiently for many years by the hybridizers of that country and France, the productions have brought to the gardens of to-day the beautiful and fragrant Tea, the hybrid Remontant, Hybrid Tea, Rambler, Polyantha, and others.

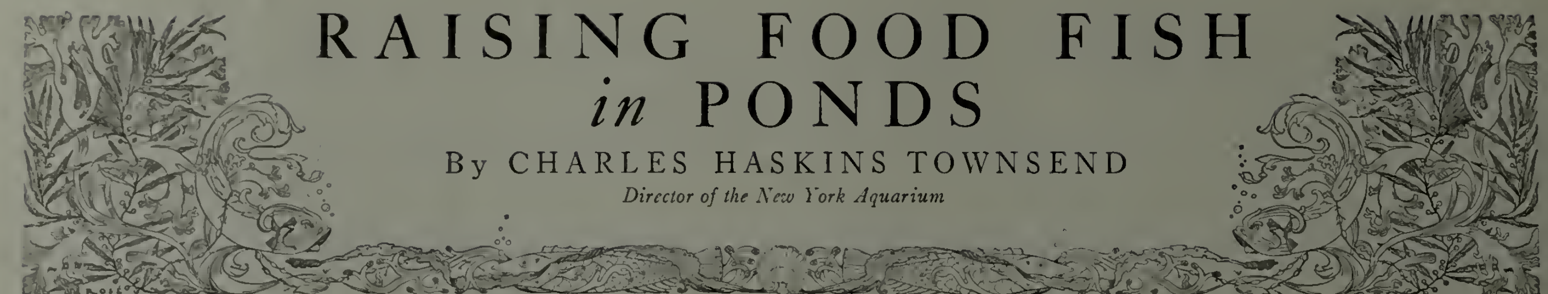
In the chapter on lilies, Mr. Wilson makes clear the fact that we have coddled lilies to their detriment and our own disappointment. We have attempted to force unnatural conditions upon them in the fond belief that we were giving them what they most needed. If Mr. Wilson's advice is followed there should result a decided decrease in the perennial mortality of lily bulbs in amateurs' gardens.

Illustration of *Davidia involucrata*, the dove tree, from "Aristocrats of the Garden." The larger bract is about the size of a man's hand, and becomes pure white as the flower matures

Chapters on Hardy Climbing Shrubs, Spring and Midseason Flowering Trees and Shrubs, The Best Hardy Conifers, are particularly valuable to the modern gardener. No one, be he gardener or golfer or plain citizen, can help being thrilled by the story of the Davidia or dove tree, in search of which Mr. Wilson took his first and most perilous journey into the hinterlands of western China. His instructions were to attempt first to visit Dr. A. Henry at Szemao, Yunnan, and obtain from him data as to the habitat of the plant sought. After many vicissitudes, the first stage of the long journey was finished. Dr. Henry sketched on a half page of his notebook a tract of country about the size of New York State, marking by a dot the spot where he had seen a single tree of the Davidia—the only example discovered in a trip of more than six months by a trained botanist. To make a long story short, the tree was found—but it had been cut down! A little later, Mr. Wilson accidentally found a number of the trees in full bloom, and from them he gathered a rich harvest of seeds. We may soon expect the first bloom of *Davidia involucrata* on this continent. Mr. Wilson calls the Davidia "the most interesting and most beautiful of all the trees that grow in the north temperate zone."

JOHN DUNBAR.

*By Ernest H. Wilson, M. A., V. M. H., author of "A Naturalist in Western China," etc. Doubleday, Page & Co., Garden City and New York. Illustrated: 312 pages; 5¼ x 8¼ in.; price $5 net.



RAISING FOOD FISH *in* PONDS

By CHARLES HASKINS TOWNSEND

Director of the New York Aquarium

THE possibilities of small fish ponds as sources of food have received little consideration in this country, but it is gratifying to note that trout culture, in the hands of the private citizen, is making some progress in certain states. Trout raising is, however, a branch of fish culture which requires special conditions, such as purity of water, comparatively low temperature, the construction of buildings, and the fertilization of fish eggs by artificial methods. There are splendid possibilities for the raising of other kinds of fish which are more widely distributed than the trouts, and which can be cultivated by simpler methods.

In Europe the cultivation of carp is carried on extensively. This fish is now abundant in American waters and, while not comparable with many of our native species, already contributes annually many millions of pounds to our market supply. The methods of carp culture as practised in Europe have been frequently published in this country and are available for use. It is unquestionably the easiest of all fish to raise, and it is only necessary to turn to the market reports for assurance as to its money value and extensive use. But it is our native fishes which I wish to consider especially in this connection, as many of them have been proved available for cultivation and are more acceptable as food to our people than the carp. Among them may be mentioned the various species of bass, perch, sunfish, and catfish, which are well distributed in our Eastern States. There are other species found in the Western and Southern States which are also available for pond culture.

Comparatively few persons who have undertaken to raise pond fish have realized the necessity for proper equipment and actual cultivation, which involve the complete control of the waters and of the fish contained therein. Very little can be accomplished with a single natural pond; there should be several artificial ponds which can be readily controlled, while the various operations of pond culture require frequent attention and considerable labor. Fish food may be produced with the same amount of intelligent effort that is necessary for the raising of fowls.

There are many sections of the country inadequately supplied with fish food which could be produced locally by pond cultivation, and such supplies would find convenient home markets. With the ordinary run of ponds in the Eastern and Middle States where the water becomes rather warm in summer, it is necessary to restrict the list of available fishes to bass, perch, and sunfish, to which they are adapted. Some of these occur in almost every county, and are to be found in the streams, lakes, and ponds of the region about New York City and on Long Island. Fish already acclimatized are safer for stocking than those brought from distant points. In transporting them, all necessary changes in temperature should be made gradually. Changing to a lower temperature is safer than to a higher.

The small-mouthed black bass (*Micropterus dolomieu*) prefers clear running streams or clear, cold lakes

It is sometimes possible to procure the fry of bass and some other species from dealers, or they may be caught in neighboring lakes or streams with ordinary fishing-tackle. For transportation, a couple of milk cans of the pattern used by dairymen will be most convenient, and the can will be almost indispensable in handling the fish from the pond later on.

The fish need not be injured by the hook, if they are unhooked carefully, and they will stand the trip in wagon or baggage car very well, if they are not crowded, and if the temperature of the water is kept down with a little ice. A net over the top of the can is better than a close cover, unless the latter is well punctured. Ice must be used sparingly and should be placed on the net cover—not in the water.

If a fisherman who has a seine can be hired, so much the better for the fish. Beware of the common sunfish, which is usually too small to be worth saving and becomes a positive annoyance when one is angling for something larger. Other species which it is well to avoid are the pike and pickerel, on account of their voracity and destructiveness to other species.

In the natural pond, it is assumed that no arrangement can be made for drawing off the water. Its possibilities will therefore have to be considered separately. Its fish life, moreover, can never be brought under complete control.

If the character and abundance of the fish life in the pond are not known, it is desirable that it be ascertained as far as possible by fishing or netting. The extreme depth, midsummer temperature, plant life, and character of the bottom of the pond should all be ascertained.

A wide area of shallow water in a pond not well supplied by springs or rivulets usually means great warmth in summer. If such a pond can be temporarily lowered and deepened in places, its conditions for fish life would be greatly improved, as there is a decided difference in temperature between surface and bottom waters. Below six or eight feet the temperature decreases at the rate of about two degrees for each foot of depth. Increased depth would also give the fish an additional chance for life in winter when heavy ice diminishes their supply of air.

Too many large fish in the pond are detrimental, since they are consuming the food supply and are themselves going to waste. When such fish cannot be taken with the hook, as sometimes happens, they should be removed with a seine, if it is possible to do so, and marketed. It is important that the mature fish crop of a pond be utilized and the young of the year be given a chance to develop.

If a natural lake or pond is already stocked with carp which are not desired and cannot be entirely removed, their further increase may be checked to some extent by the introduction of black bass, which feed freely on young carp. Black bass will also keep other species in check by devouring their young, and will thrive amazingly in the process.

If the waters contain black bass, or other fish, which have become stunted by overcrowding and by the exhaustion of the natural food supply, it is important to reduce their number by any methods of fish catching that will prove effective, and to restore the food supply by introducing other species.

All ponds, whether natural or artificial, containing food fish should be stocked with brook-minnows, shiners, chub, roach, fresh-water killifish, and other small species, to constitute a food supply. These, it may be noticed in passing, are useful in small ornamental ponds to destroy the larvæ of mosquitoes.

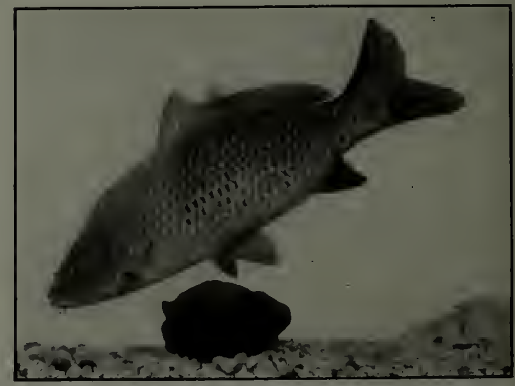
The full use of the fish crop of a large natural pond or lake can seldom be secured by ordinary fishing. It is necessary that seines and trap-nets be used. Experience has proven that such ponds usually contain many large fish which will not take the hook.

Owing to the customary preference for game fish, many excellent pond species, such as rock bass, calico bass, yellow perch, white perch, long-eared and blue-gilled sunfish and catfish, have been overlooked. Other kinds such as the warmouth or the white bass, inhabiting waters of the South or Middle West, are equally desirable. All of these increase rapidly, take the hook readily, and are good food. They will multiply in favorable waters with less care than probably any other native fish and, with the exception of the catfish, they will take the artificial fly and afford good sport. Nearly all of them are known to attain weights exceeding two pounds.

Ponds created by damming brooks should on no account be completed without the placing of drain pipes and penstocks, so that the water can be lowered and the fish life controlled. There are marketable fishes going to waste in ponds everywhere for lack of simple facilities for getting at them. The deepest portion of the pond should be at the lower end, where the fish will gather when the water is drained down. Ditches dug in the bottom of the pond, leading to the deep hole or "kettle," will greatly facilitate the concentration of the fish at that time.

Two or three ponds will be found to be much more satisfactory than one, since they will permit of the sorting of fish according to size. Angling or other fish catching would then naturally be confined to the pond containing the large ones. If properly managed, a series of fish-ponds will naturally yield a surplus for the market.

It is dangerous to construct a fish-pond in a narrow ravine, as the dam is likely to be broken during spring freshets or exceptionally heavy rains, and the pond will gradually fill up with silt. Also, it is difficult to screen it so that the fish will not escape. A safe plan is to make the pond at one side of the stream, by excavation and embankments, leading the water to it through a ditch, and damming the stream sufficiently at the ditch head to divert a portion of its flow. In case of freshets, the deep pool formed in the stream by the dam at the ditch head naturally receives the silt brought down stream, thus guarding against the filling up of the pond. The



The carp is the easiest of all fishes to raise, but is less palatable than our native species

Large-mouthed black bass. Conditions favorable for growth are abundant food and waters of warm or moderate temperature

ditch itself should be screened at both ends to prevent the ascent of fish to the stream and to keep floating drift out of the ditch.

If the pond can be excavated in marshy ground, so much the better. A layer of clay on the bottom will help to render it water-tight. The embankment should be broad, and before it is thrown up, all sod should be removed so that there will be no subsequent seepage caused by the decay of vegetable matter.

The embankment of the dam, if it is to be six feet high, should be ten or twelve feet wide at the base and four feet broad on top. The concrete overflow should be large enough to carry off the sarplus when the water is high, without danger to the dam, and the outlets in general should be screened with wire netting to prevent the escape of fish. The drain for drawing off the water should, of course, be put in place before the dam is thrown up.

If the drain, or bottom outlet, is built of concrete and is large enough to be conveniently cleared, it will be more effective in lowering a large area of water. The upper end of the drain should fit tightly into the foot of the upright penstock in the pond.

The penstock itself is merely an upright drain or sluice of planks or concrete, having about the same capacity as the drainpipe itself. It is fitted on one side with short water boards which slide in grooves and can be removed to permit the escape of the water. A heavy plank should connect the head of the penstock with the top of the dam, to afford ready access.

Before the new pond is filled, all roots, stumps, rocks, and everything else that would prevent the free sweep of a net along the hottom, should be removed.

With a series of ponds construtced at different levels, the overflow of the upper ponds will serve to feed those helow. The more fall there is to the water, the hetter will he its aëration—a matter of great importance to small ponds.

The water supply of the fish pond is the most important thing to he considered, and should be ahundant at all times. Ponds fed by strong springs are excellent and are not subject to the freshets to which stream-fed ponds are exposed. Their temperature is naturally more equable throughout the year and they are less likely to freeze heavily in winter. In warm weather and

Two water plants desirable for fish ponds are anacharis (left) and myriophyllum

in the winter time, pond fish avoid extreme temperature by frequenting the deeper portions or the vicinity of bottom springs. Spring water, however, contains less life available as fish food, and less air than that from brooks. Its value for pond supply will be improved if it can be led some distance as a rivulet, or still hetter, allowed to spread out over a small storage pond. Fish life in small ponds with limited water supply will suffer from heavy ice in winter. The ice should be hroken frequently.

A pond of an acre or more in extent, and with eight or ten feet of water in the deepest part, will, if properly managed, give excellent results. It may be necessary to make it less than a quarter of an acre in extent, but a small pond should have an extreme depth of not less than six feet, although it is quite possible, with a strong water supply, to raise fish in very small and shallow ponds. This, however, means active cultivation, with daily feeding, numerous ponds to permit of sorting, and all the details of a fish-cultural estahlishment. As a matter of fact, nearly all of the extensive fish hreeding carried on hy the national and state fish commissions has been done in ponds of rectangular shape, averaging perhaps less than a hundred feet in length and twenty-five in width, having depths of only three or four feet. Such ponds are worked in series, as nursery and rearing ponds.

Fish kept in restricted quarters require feeding, and the principal natural food of fish is *fish*. Among the fish foods used at the New York Aquarium are live minnows, live shrimps, chopped fish, heef, liver, and clams. It is a mistake to suppose that fish do not require an abundance of food. They may live for a time without it, but they cannot grow.

A part of the fish pond should be shallow and planted with pond weeds; suitable plants for the purpose may be found in most streams and ponds. Water plants are necessary as shelter for young fish, and greatly increase the various forms of small aquatic life required for their food. These also serve to aërate the water, which is most important in small and sluggish ponds. The slightly greater depths—from one to three feet—may be planted with water lilies, while the more extensive and still deeper portions should be kept clear of vegetation. If the vegetation becomes too thick it can usually be pulled out with a rake. Small, shallow ponds can be shaded in places by board shelters extended out to rocks or to wooden supports in the water.

Fish ponds should be supplied with spawning conditions suitable to the fish occupying them. Small-mouthed black bass, which make their nests in gravel, will require a gravelly bottom. Large-mouthed black bass, which nest among the roots of plants, will find the conditions that they require among the weeds of the pond. Yellow perch, which spawn among twigs under water, are easily accommodated by setting pieces of brush firmly in the bottom where the water is shallow. Rock bass and the various species of sunfish, which, like the small-mouthed black hass, make their nests in gravelly places, will absolutely require places of that character if they are expected to increase; a few cartloads of gravel dumped around the lake in water about two feet in depth will furnish the necessary conditions.

The yellow perch is one of our best, most widely known, and most abundant freshwater fishes

It is customary with professional fish-culturists to supply artificial spawning nests in ponds containing small-mouthed black hass. These are small, shallow boxes, six inches deep and about two feet square, filled with mixed gravel and sand, which early in the spring are placed in shallow water around the pond. They are at once appropriated by pairs of bass seeking spawning places.

Bass guard their nests for several days after the spawn has heen deposited, and it is the custom at fish-cultural establishments to place over the nest before the young fish leave it, a light, cylindrical frame of iron or stout wire netting covered with cheesecloth, one end of which protrudes above the water. This prevents the young fish from wandering away, and makes it possihle for them to he removed to nursery ponds with the dip net, where they are safe from their enemies and the cannibalistic tendencies of their parents.

In stocking waters it is not necessary to have a large numher of adult fish. For a pond of about an acre in extent, twenty pairs of hlack hass, and perhaps fifty pairs of any of the other kinds of fish mentioned, will he sufficient. When the conditions are right, the progeny of the first year will usually stock the pond to the limit of its natural food supply. It should be borne in mind that heavy stocking serves no useful purpose, unless it is the intention to catch some of the adults the first year. It is just as well to stock with two or three kinds of fish, and time will show which species are the best adapted to that particular body of water. Yellow perch may be placed with black bass with safety. They are remarkably prolific, and with a good start can usually take care of themselves. The same may be said of the catfish. It is harmless, since the bass and sunfish are active in guarding their own nests. The yellow perch and the catfish may also be introduced into ponds containing rock bass or calico bass. There is no reason why black bass, rock bass, and calico bass should not be kept together if the pond is of considerable size.

The rock bass is an excellent pond species. It increases rapidly and is a good food fish

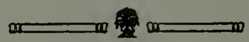
Calico bass are among the good small fishes for ponds. They prefer sluggish or still waters

HERE AND THERE

Lieutenant Henry Reuterdahl Under a photograph that we printed in our February issue appeared the following caption, "Henry Reuterdahl, whose one great trial is that his name and occupation of painting battleships constantly arouse the suspicion that he may be a German spy, likes his work because it keeps him out in the open air."

Just why any one should interpret these words as a reflection upon Mr. Reuterdahl is very hard to comprehend, but since they have been misunderstood in one or two instances, a word of explanation is in order. Mr. Reuterdahl was born in Sweden and his mother was a Scot. For more than eighteen years he has been in the forefront of the battle for a greater U. S. Navy, endeavoring through magazine contributions and his paintings of naval subjects to make America realize the need for developing to greater size and efficiency this vital arm of our national defense. He has designed various trophies for target practice and engineering achievements in the Navy, has accompanied our fleets on many cruises, and his paintings are to be found in most of the collections that naval men look to for a record of modern sea-craft history. Before we declared war last April, Mr. Reuterdahl volunteered for service with the Navy and his abilities have been put to good use.

It would be hard, therefore, to pick any one in this country whose record of achievement so unmistakably indicates his militant loyalty. Mr. Reuterdahl has just been commissioned Lieutenant in the Naval Reserve.



The Silver Lining "Every cloud has a silver lining," the copybooks used to tell us, and even in the lowering nimbus of war that hangs above us now, we can discern a possibility of future good. The farmers are likely to benefit immeasurably through our participation in the greatest conflict of history. We do not refer to any immediate pecuniary profit, as the thought of making money from what amounts on our part to an idealistic crusade, is repellent.

The lasting benefit to rural America is likely to come from a complete revision of its transportation problems. We enter the Great War with our railway system already hopelessly congested with the products of the last few months' intensive manufacturing activity. It is understood that plans have already been formulated to relieve some of the pressure on the railways by transferring the short-haul traffic, trips of 150 miles or less, to motor transport.

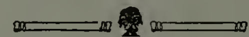
The change will be gradual, but if the war lasts for another year or more, the bulk of the short-haul work will be handled by motor trucks. Now, no class of American citizens is more vitally interested in short-haul traffic than the farmers. Nine tenths of our farm produce hauling comes under this classification. With motor truck lines reaching out into all parts of the country, as they inevitably will, the rural transportation problem is solved.

The American farmer will be in direct touch with his markets and will never again see a heavy proportion of his profits eaten up in transportation charges.

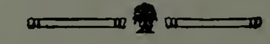
Discouraging The Busy Fly In some of the California cities the fly pest is combatted by officials paid by the municipality, and the duty of these fly catchers is to set traps along the curb of the main streets, bait them, and empty them at intervals. The photograph shows one of these streets in Redlands which has a large fly trap at twenty-foot intervals. That little city was the first to adopt the novel idea, and it was so successful in checking the fly that various towns followed the example, and many volunteers elsewhere secured big traps and made individual attacks on the dangerous little enemy of humanity. Millions of flies were destroyed by these traps, and as every one of the insects has the capacity to found a family of millions, the results were noticeable after the first season. Redlands, which installed the system in 1913, is almost devoid of the busy little pests to-day.

Showing how they combat the fly nuisance at Redlands, Cal. Large fly traps are placed at twenty-foot intervals along the outer edge of the sidewalk

Superhuman Tree Planting The planting of forest tree seedlings is a task that must be done cheaply, quickly, in a wholesale way, and yet efficiently and well. Hitherto, human limitations have made the setting of 1,200 to 1,500 trees per man a good day's work. The recent adaptation of a machine designed for setting cabbage and other plants to reforestation activities promises to increase this limit to from 10,000 to 15,000 seedlings per gang of three men and two horses, wherever ground conditions permit plowing and harrowing. Although detailed cost figures are not yet available, experiments with the machine in Wyoming County, New York, give reason to hope for excellent results and for a considerable extension of its use in conservation practices.



A Prophetic Farm Down on the eastern shore of Maryland, on one of the innumerable inlets of Chesapeake Bay, there is a farm that constitutes what amounts to a practical prophecy of what the farm of the future is going to be. The water supply of this extensive place is pumped from a notably fine spring, by a stationary gasolene motor. The electric lighting plant is powered by a gasolene engine. A gasolene tractor plants and harvests a large part of the crops. What used to be known as "chores," the odd jobs in which a farm is so prodigal—milking, cream separating, corn shelling, ensilage cutting, etc.—are all performed by means of power derived from a gasolene engine. And finally, this farm has its own commercial transportation system, consisting of two motor trucks, which carry all the produce raised to the railway or to the markets of the near-by cities and bring back the considerable supplies needed to maintain an extensive establishment of this kind. The owner has a little fleet of pleasure cars, ranging from a small runabout to a big limousine, and including a station 'bus to bring guests to the house. At the wharf belonging to the farm are moored two motor launches and a good sized motor yacht. About the only form of motor power that is not employed on this model farm is an airplane, and even this may come in time. The life of this country place is nearly autonomous. Few are the calls which must be made on outside coöperation in carrying on the commercial or social functions of the farm. And this is prophetic of what is going to happen all over the country, as soon as rural residents realize that by installing motor power, they may become practically independent of outside aid. The farmer is going to have all the labor-saving conveniences of the coöperative life of the cities, without the disadvantages inevitable in the latter. With rural life thus autonomous, the call of the land is going to be irresistible.



Fatal Food For the Fly To "swat the fly" is good; but to trap, poison, or otherwise indirectly cause its destruction, is no less effective and much more economical of energy. Wire traps, if rightly managed and carefully located, are especially useful, but housekeepers frequently try them, fail to get results, and immediately condemn them, when the real reason for the failure is the use of an inefficient bait, or even none at all. An unbaited trap offers very little attraction to a hungry fly, and even if an occasional insect contemplated suicide, it is doubtful whether it would be in the proper frame of mind to look for its inconspicuous entrance. Tests of different baits were made by the Alabama Experiment Station, which established the relative efficiency of a number of simple mixtures. The basis in all the most successful baits was bread; the liquids in which it was placed were buttermilk + 7 per cent. formaldehyde and a little syrup; equal parts whole milk and water + 5 per cent. formaldehyde and a little sugar; milk + 10 per cent. grain alcohol and a little sugar; and buttermilk, 3 per cent. alcohol, and syrup. All of these can be left in the bait pan for several days until they become excessively thick or distinctly dry. Even if a trap is not available, a small amount of formalin (commercial formaldehyde), say a tablespoonful, added to a saucer of milk and water containing a piece of bread and a little sugar, will poison flies that taste it.

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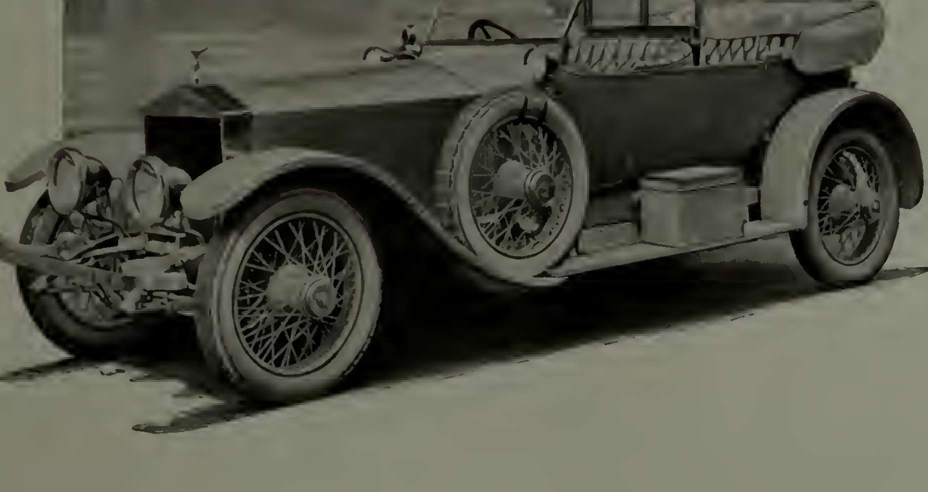

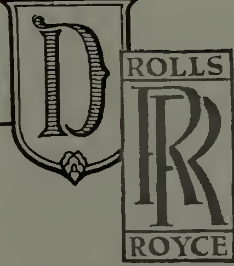

American-made scrutoire of Virginia walnut, with wooden handles and ball feet. About 1700

A frame-bottom scrutoire of American make. It is of pine, and dates from about 1700 to 1725

Ball-foot scrutoire, about 1700-1710, veenered with burr walnut. The handles are the early drop form

SCRUTOIRES

By WALTER A. DYER

Photographs, with one exception, from the Metropolitan Museum of Art and others

THE modern French word is *écritoire*, but there was an old French spelling, *escritoire*, which was adopted by the English and shortened to scrutoire. Webster sanctions both escritoire and scrutoire as English words. But our ancestors were not always careful of their spelling, and I have seen the word given also as scrutoir, screetore, scretore, screwtore, scriptoire, scrittore, scriptory, etc.

Scrutoire is sufficiently authentic, but however you choose to modify the spelling, you are dealing with one of the finest pieces of old furniture to be found—the slant-top desk of the eighteenth century.

The old Bible box and small desk was first placed upon legs and then upon a chest of drawers, and thus the scrutoire was evolved. Desks of this character were made as early as 1660, but they were not common till about 1700. They were popular for just about one hundred years, and were made chiefly in the Queen Anne and Georgian styles.

By way of brief description, the scrutoire is a writing desk built on a chest of drawers. It was made with a sloping front which opened outward on hinges, forming a level surface for writing. The front was held in position sometimes by quadrants or chains, and in some early examples it rested on two small drawers, one on each side, that could be pulled out when needed. In the majority of cases, however, the front rested on wooden slides. Inside the desk portion were small drawers, pigeonholes, and often a small cupboard or two. The lower portion consisted of a chest of three or four drawers resting on short feet, the form of which varied in accordance with the period. Phillips's "New World of Words" published in 1696, contained this definition: "Scrutoire, a sort of long Cabinet, with several Boxes, and a place for Pen, Ink, and Paper, the Door of which, opening downward and resting upon Frames that are to be drawn out and put back, serves for a Table to write on."

The older examples are extremely rare, but scrutoires of various types built between 1690 and 1710 are occasionally to be found. The first ones that resemble those of a later date were

A cherry scrutoire of 1740-50, standing on short cabriole legs with Dutch feet

Another scrutoire of American make. It is of maple, with bracket feet, and dates about 1740-50

Mahogany, with bracket feet. Date, 1740-50

Walnut scrutoire with ogee bracket feet and Hepplewhite drawer pulls; 1750-75. Owned by Mr. C. M. Jones

Rhode Island style of block-front scrutoire, in mahogany, with ball-and-claw feet. 1750-75

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made about 1700. They had the slant top resting on slides, the chest of large drawers, and the small drawers and pigeonholes inside the desk. Their chief distinguishing feature was the ball foot. They were made largely of maple, oak, walnut, and whitewood, sometimes with panels of birds-eye maple or walnut veneer on the faces of the slant top and drawers. One early Queen Anne type, made soon after 1700, was a slant-top desk with one large drawer underneath, resting on four turned legs with underbraces, instead of the complete chest of drawers.

In the English development of the scrutoire, Dutch elements appeared during the first quarter of the eighteenth century. The cabriole leg with the round Dutch foot became the distinguishing

Another mahogany block-front scrutoire with ball and-claw feet. It is 39 inches high and dates about 1750-75 Owned by Mrs. W. L. Hyde

Serpentine-front scrutoire in mahogany, with ball-and-claw feet. 1765-80

feature of the period. Some of these pieces were very graceful, especially a type that resembled a desk set upon a Queen Anne lowboy. The lower portion consisted of cabriole legs, with one or two drawers and a scalloped apron beneath. A sloping front opened on hinges and rested on slides, and within were the usual pigeonholes and small drawers. Walnut was the common wood for this.

The typical scrutoire of the period of 1725, however, consisted of the slant-top desk resting on a chest of drawers, with very short cabriole or bandy legs, and round Dutch feet. About 1750 the short cabriole leg with ball-and-claw foot appeared, and also the ogee or bracket foot. In other particulars the scrutoire changed but little until the block-front and serpentine styles came into vogue. Brass drop handles were commonly used on all the Georgian scrutoires.

By 1750 the scrutoire had become an important part of the furnishing of the household, and pieces of the last half of the century are less difficult to obtain. Mahogany, cedar, cherry, apple, walnut, and other woods were employed, both solid and veneered.

Though straight-front scrutoires continued to be made after 1750, the block-front became the fashionable thing, both in scrutoires and in bookcase desks. The drawer fronts were carved out

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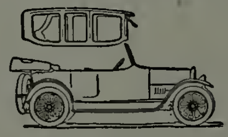

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HODGSON *Portable* HOUSES

of solid blocks of wood, usually mahogany, in a form shown in the illustrations. They were more costly than the straight-front scrutoires, and are the most highly valued by collectors to-day. The serpentine front, which was also cut out of solid blocks of wood, and which flourished between 1765 and 1780, was never quite as popular as the block front. Another type of the last half of the century was the knee-hole scrutoire, with a recess for the writer's knees, and with drawers placed in tiers on each side of it.

In many instances, the bureau desks, bookcase desks, and secretaries of the period resembled slant-top scrutoires with a cabinet or bookcase on top.

Perhaps the most fascinating thing about these scrutoires is the arrangement of pigeonholes, little drawers, and small cupboards inside the desk, often ornamental and seldom exactly alike

Knee-hole scrutoire of mahogany, with block front and flat top. 1750-75

in any two pieces. They often included ingeniously fashioned secret drawers and receptacles for valuable papers.

Strangely enough, the designs of Chippendale, Hepplewhite, and Sheraton do not include scrutoires of this sort. They were made by other cabinetmakers in England and America. Hepplewhite may have made some, but he did not include the designs in his books. The introduction of the serpentine front has been credited to Thomas Shearer, Hepplewhite's associate. Sheraton's scrutoires are of a different type—chiefly ladies' writing tables.

By 1710 American cabinetmakers were building scrutoires, chiefly of cherry, and occasionally of walnut, maple, and apple wood. The early ones were quite plain and simple in form, with a desk resting on a chest of three or four drawers, and with unornamented pigeonholes. After 1725 the styles here were improved, and by 1750 we were making scrutoires that compared favorably with those made in England, using mahogany, both solid and veneered, as well as the other woods mentioned. Excellent examples of the block-front scrutoire were made here, particularly in Rhode Island.

Because of its intrinsic beauty of proportion and its eminent usefulness, the old scrutoire is as desirable a piece of antique furniture as one can well secure. Genuine old scrutoires have been valued as high as $200 to $300, but the market prices are generally less. The plainer bracket-foot types are worth about $100; those with more elaborate interior arrangements, with ball-and-claw feet, would bring perhaps $150. The block fronts, of English or American make, are considered the most valuable, and are worth $200 or more, according to ornament and condition. So if you can pick one up for $25, as a friend of mine did recently, you are lucky.

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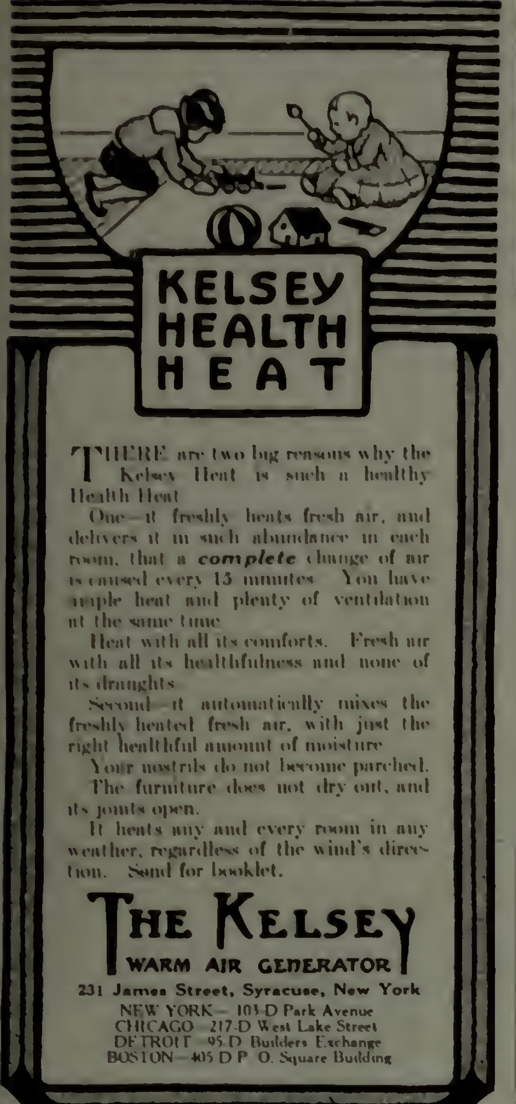
HE rear axle of the average American motor car is somewhat of a mechanical miracle. No other part of the car performs such diverse and strenuous service as the rear axle, and yet derangement in this unit is not common. When it does come, rear axle failure, for any cause whatever, is one of the



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saddest troubles with which the motor car owner is called upon to wrestle. For the unmechanical owner to try to cope with trouble of this sort is to invite disaster. However, by studying the construction of this part, the ordinary man will get an understanding of the principles involved and their practical application, with a realization of the care that such a piece of mechanism will naturally need, which will enable him largely to avoid trouble by preventing it.

To begin with, it is important that he should thoroughly understand the function of the rear axle, or rather the varying functions of the different types. As every motorist knows, the power which drives the car is generated in the engine and is then passed back through the transmission and by the propeller shaft to the rear axle, which transmits it to the rear wheels—the driving wheels. In addition to this function of power transmission, the rear axle has a passive function as a support for part of the car's weight. Furthermore, it is, from its position in the mechanism, forced to withstand the vibrations and shocks incident to travel over indifferently smooth surfaces; and finally, it must absorb the inevitable torsional stresses, the side thrusts. It may be gathered, then, that the rear axle leads a rather busy life. It is a distinct tribute to the mettle of the American motor car industry that failures in this much tried unit are so infrequent.

Mechanically speaking, rear axle units may be divided into two definite classes: dead and live. A dead axle is one that does not turn. In this class fall the axle units of cars having double chain drives, which are now confined almost exclusively to motor trucks. In this type of final drive the chain runs from a jackshaft to a sprocket on the wheel, which turns on the stationary axle.

Live axles must be subdivided again into three types or classes, called respectively, floating, semi-floating, and three quarters floating. In outward construction all three of these types are much the same and comprise an elongated sphere, from the sides of which project two metal tubes. The sphere is the housing for the differential unit, and the tubes are the shaft housing. From the differential unit two shafts project, known as the drive shafts, to the ends of which the wheels are attached. The subdivisional names, floating, semi-floating, and three quarters floating, are derived from the varying functions of the drive shafts.

In an axle of the floating type the drive shaft, in a manner of speaking, does float. Its sole duty is to drive the wheels and possibly take a certain amount of side stress. The wheel bearing is outside the axle tube, and the wheel actually rests on the housing. One of the great advantages of this construction is that the drive shafts may be removed without disturbing the wheels, a flexible connection being all that attaches the shaft to the wheel.

In the semi-floating axle the bearings are inside the tube, so that the shaft perforce takes up and carries a certain amount of the load, at the same time that it bears a portion of the torsional driving stresses.

The three quarters floating variety of axle has the bearings inside the tube and there is a rigid connection made between the shaft and the wheel. This type of axle bears a certain amount of the weight of the car and also takes up torsional stresses. The principal disadvantage of the semi- and three quarters constructions is the difficulty of shaft replacement as compared with the convenience of the floating axle in this respect. All three of these classes of axles are in general use on pleasure motor vehicles at the present time, and all of them seem to give remarkably satisfactory service.

In buying a new car it would profit the ordinary purchaser very little to know what type of axle the vehicle embodied. As a matter of fact, few automobile manufacturers build their own rear axle units, preferring to purchase them from some of the specialists who devote all their energy to producing these parts. But even so, it would do the purchaser little good to know which rear axle specialist produced the unit used in the car he purposes buying, unless he possessed some special knowledge of the parts industry. What he can do, however, is to make sure that the manufacturer from whom he is buying his car is thoroughly responsible and has a reputation to maintain. He may be sure then that the builder of the car has patronized a responsible axle maker of established reputation, who turns out a dependable part and who will stand behind his

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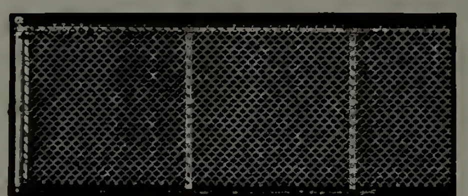

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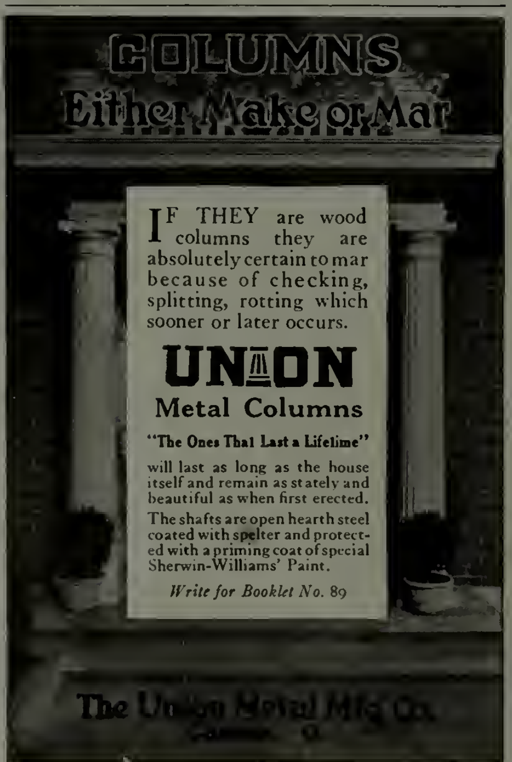


product. This is a vitally important proviso in relation to a part where failure causes such serious trouble.

It might seem that we have classified rear axles as minutely as division of this sort may profitably be carried, but in reality there is a further subdivision to be made on the basis of the type of gearing employed for final drive. These subdivisions, are straight and spiral bevel, worm, internal gear, and two-speed bevel. Of these varieties only three—bevel, spiral, and two-speed bevel—are employed in the construction of pleasure cars. Builders of commercial motor vehicles utilize all the various types.

Up to within the past year or so the straight bevel was the ordinary form of gearing in use on passenger cars, but the tendency to-day seems to be to use the spiral bevel, which has distinct advantages in quietness of operation. It is estimated that 80 per cent. of the 1917 pleasure motor cars use spiral bevel gears, and has been predicted that in the near future this type will be practically universal in this field.

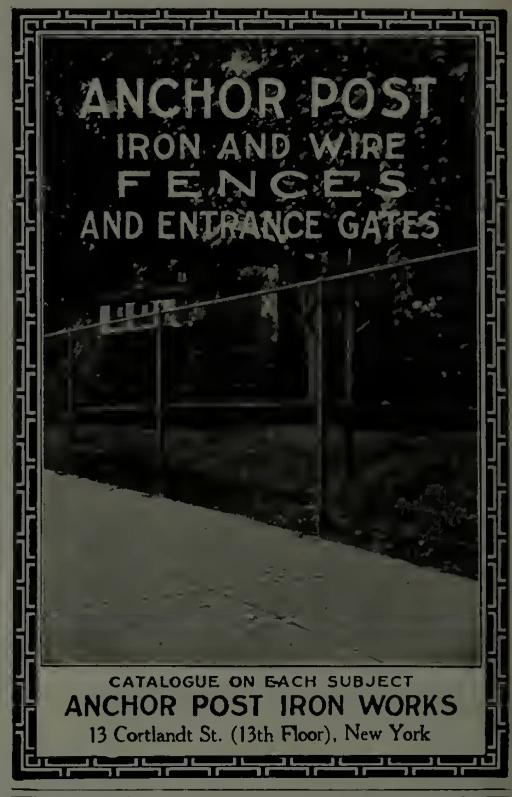
While worm gears and internal gears are not now used on pleasure cars, it may not be without interest briefly to note just what the terms mean. The worm drive operates on the same principle as the bevel, except that a worm gear and worm wheel constitute the parts. Internal gear drives are radically different. In this type there are practically two axles, one live and the other dead. The live axle turns the wheels, which are fitted with internal gears, while the dead axle is simply used to support the load. Whether these types will ever become at all popular in the pleasure car field may be doubted, because their inherent virtues are not those demanded in a vehicle intended for speed and flexibility.

In the rear axle assembly also is located the differential, which is important enough to be considered in some detail, although there are many motor car owners who do not suspect the existence of such a part on their vehicles. It will be evident, on consideration, that under certain conditions, as in making a turn, one wheel of the car, that on the outer arc of the circle, must move faster than the wheel which is practically acting as a pivot. It is to enable one wheel to turn faster than the other that the differential is installed. The inner end of each axle shaft terminates in a bevel gear. Meshing with this is the main bevel-driven gear, which is actuated by the driving pinion turned by the propeller shaft. This is mounted independently of the axles, but is coupled to them by small bevel pinions, so located that they will drive the gears on the axle shafts. When the resistance against the driving wheels varies, that is, when one wheel travels faster than the other as in turning a corner, the differential pinions not only turn around on their studs, but also travel around the circumference of the gears on the axle shafts. The reason for this is that the bevel-driven gear carries the studs on which the differential pinions revolve. In this way, as long as the wheels are running at the same speed the differential pinions remain stationary, forming a driving connection between the two axle shafts, but just as soon as the wheels begin traveling at different rates of speed, so that varying resistances are set up, the differential pinions turn on their studs and one shaft may revolve at a much greater rate of speed than the other. This sounds rather complex, but in reality the differential is direct and efficient in action, and trouble in this part is rare.

Having described the various types of rear axle units in all the detail necessary, we may now proceed to expound the obvious rules for maintenance. The car owner who has suffered with rear axle trouble will need no prompting to take the utmost care to avoid it for the future.

To begin with, lubrication of the rear axle must be carefully and systematically carried out. Proper lubrication lessens wear in any part of the mechanism where there is friction of metal on metal. In the rear axle, however, lubrication is not the whole battle. In addition to friction, this part has to support considerable weight and has also to bear torsional stresses or twist, which involves heavy strains. Obviously then, if the rear axle is not made with an ample margin of strength, it is going to fail under the strenuous conditions of actual service.

Axle shafts have been known to break in service as cleanly as if they had been cut with a saw; they also on occasion have been known to twist as if they had been heated and turned by powerful machinery. Again the wheel bearings sometimes crush, and the differential gears and driving



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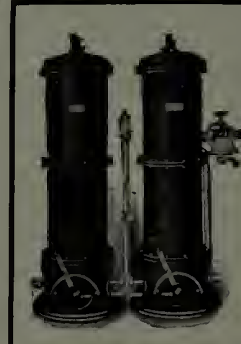

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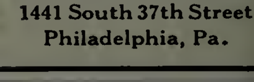

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pinion and even the ring gear are ground to pieces before their time. When any of these accidents happen, the car owner would better call in the services of an expert, for in all probability certain of the parts have been twisted out of alignment and mere replacment of the parts is not going to obviate the trouble. The first thing to do, therefore, is to have the axle tested for alignment, and this is a task for an expert.

Short of actual failure, the surest sign of misalignment in the rear axle is a dull grumbling noise coming from the part when it is in motion. This is often referred to as a "humming sound," which is a fairly accurate description, excepting that to one who knows, there is lacking the factor of cheerfulness. Appearance of this symptom of trouble ought to be the signal for the car owner to get his vehicle into the hands of the expert at his service station to ascertain the cause and apply the remedy. Differential adjustments are work for the expert. The humming referred to may be caused by the fact that the gears are out of alignment, or they may actually be injured or broken. At any rate, the best mechanic in the service station will have his hands full in making repairs.

Repairs in cases where misalignment has occurred in the rear axle assembly usually mean that the whole unit must be moved over either to the right or to the left, to force the driving pinion and the ring gear into proper mesh again. Collars are provided for locking the differential unit in place, and by loosening these the assembly may be moved.

The ordinary care demanded by the rear axle is a flushing out with kerosene at intervals of about 5,000 miles of running. After this operation the unit should be refilled with oil. The exact grade of lubricant is best left to the judgment of the manufacturer of the car, who has learned by exhaustive tests just which grade will enable his vehicle to make the best showing. The fact that even in the smoothest running gears a certain accumulation of metallic powder is ground off in the process of operation, renders the periodic flushing with kerosene a vital necessity in preventing further wear.

A word of caution in regard to filling the axle housing with too much lubricant. This is a common failing with car owners who try to follow the excellent advice so frequently given in regard to copious lubrication of the mechanism. The trouble in this instance is that the excess oil works its way along the axle housing and into the brake drums, thereby cutting down the efficiency of the brakes to an extent sometimes fatal. On the axle designs of a few years ago no provision was made for meeting this condition, and the only thing for the motorist to do was to fit felt washers in the axle ends to keep the oil in its proper bailiwick. In modern axles there is usually a small hole at the end of the tube, which allows any excess oil to make its escape. In other present-day axles there is installed means for preventing the passage of the oil beyond a certain point in the tube. The car owner who has been troubled by a habitual leakage of oil into the brake drums is recommended to try installing felt washers on the axle ends, refilling the housing to the proper level. Should this fail to cure the leakage, he may try the expedient of drilling a small hole in the housing near the spring seat. This will act as a drain and permit the excess oil to escape.

If the rear axle has an oscillating spring support on the rear, this part should have regular lubrication.

This just about ends the list of attentions that the car owner can give his rear axle system. After all, the biggest part of the efficiency or failure of this unit rests with its builder. If it is strong enough for the work it is called upon to do, if the material is sound and the design correct, the car owner will have little trouble with it. But he must not fail to give it the minor attentions it demands, and he must remember to call in expert advice on the first appearance of trouble.

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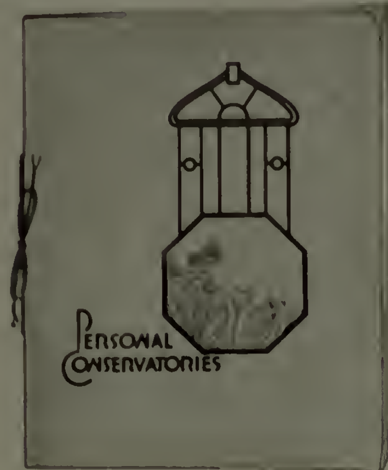

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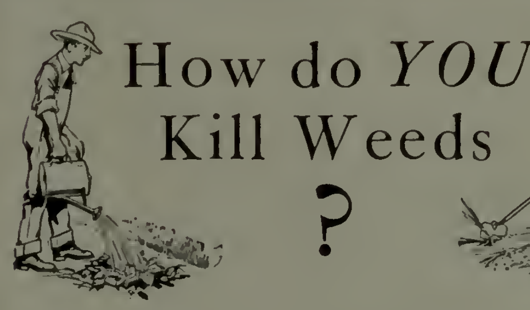

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an emergency which is nothing less than a world shortage in food. They are promised capital, seed, farm machinery, fertilizer, and fertile land. They could make good use of all of these if the promise included one other asset, *the* asset, lack of which has impoverished agricultural activity for a generation and more—a supply of competent and willing labor.

"If there had been no European War and in consequence no unusual demand on this country for its produce; if there had been no cessation of immigration, no extraordinary absorption of labor in manufacture, there would have been, as there has been for many years, a disaffection of labor in agriculture. That is, the great farm problem is no more acute for the farmer than it has been. The change in the situation is the interest of the country in the problem, which the farmer up to now has been forced to meet, or endure without meeting, alone.

"In the midst of preparation for war the chances are that the country will 'put over' a solution on paper without meeting the situation. The situation is chronic rather than acute—no ready-made solution will meet it. All solutions must take into account the reasons for the disaffection and the particular problems of the farmers.

REASONS OF EXODUS FROM FARMS

"Among the primary causes of exodus of workers from the farms are desire for: greater variety in social experiences than the farm offers; shorter hours of labor—that is, more free time than is allowed for in the organization of farm work; the separation of the employee's home or personal life from the farmer's; and a wage rate that would make an independent personal life possible.

THE POSITION OF THE FARMER

"Against the ability of the city to meet more nearly than the farm the desires of workers the farmers are helpless. They can not transfer farms from regions isolated or comparatively so, to urban districts; they cannot shorten hours where stock must be cared for and fed; they cannot raise the rates of wages and continue to do business.

"*How can this impassé be met?*

CONSCRIPTION OF FARM LABOR

"Conscription will not meet it; if labor were conscripted for farms and placed under the conditions which have caused the great disaffection from the farms, crops might be gathered, but at the price of widening seriously the breach between agriculture and labor. Conscription for farm labor under such circumstances would require a policing of farms, and imprisonment of deserters; it would greatly intensify the present dislike for farming. It could not accomplish, in the emergency of a summer, what it undertook, and would complicate the problem as it now stands a thousandfold for the years immediately ahead.

VOLUNTARY ENLISTMENT

"Voluntary enlistment in the service must be depended upon. But voluntary enlistment and a desire to answer the call for service do not in themselves meet the problem of the farmer and the worker. They do, however, furnish a solution and one in which the value of the service of each is recognized by the country. The present opportunity is to translate this value, which is sentimental, into reality for the farmers and the workers.

CITY BOYS ON FARMS

"As military conscription will deplete still further adult enlistment in farm service, the proposition to turn over city boys under military age to the farmers has received attention as wide as it is vague. The bare proposition disregards the antagonism of interests of the farmers and city boys. It depends on the sentimentality in the situation to get farm chores done and crops harvested. The greatest patriotism will not stand the strain.

"But propositions have come from private sources, from agriculturists, from state officials for the use of city boys on farms, which regard the needs of the farmers and the desires of the boys.

LABOR SUPPLY CAMPS

"One proposition is to institute labor supply camps in farm districts where boy labor could be used by neighboring farmers. In these camps,

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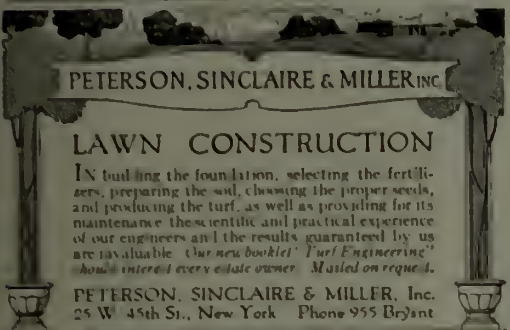

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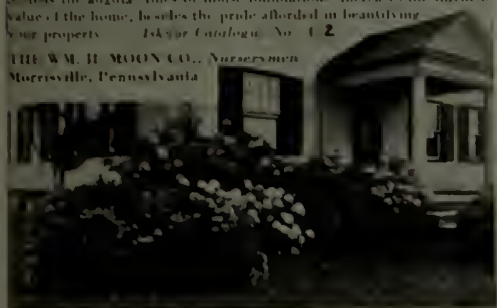

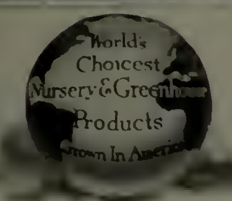

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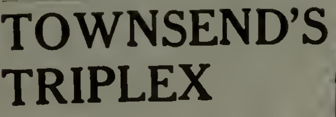

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boys from sixteen to nineteen years will live and go to the farms for their day's work.

"This will relieve the farmer of the care of the boys' housing and board, a serious matter in the farm household. It will give the boys the companionship they crave, and insure their personal independence of the farmer.

"The camps will be under the care of Leaders who have had experience with boys. The work of the Leaders will be to place boys on farms and transfer them according to the demands of the farmers and the needs of the boys.

"It will be the duty of the Leader to make the camp experience of the boys healthful and enjoyable and their agricultural work an educational opportunity. For educational purposes the Leader will encourage the boys to discuss their work of the day and induce farmers on rainy days or in slack seasons to explain farm processes in which the boys are engaged and other processes on which they do not work but which relate to their work. The Leader will collect so far as possible the facts in regard to the general agricultural work of the district and its distribution, the cost of production, and the price of the product. He will institute conferences at which the scientific agriculturists of the state are invited to talk and use the moving picture films of the farm institutes. He will develop the educational features so that the boys in the camp will have the opportunity of using their intensive experience on the farms as a basis for an extensive interest.

"The boys will work on the farms in two shifts of seven or eight hours each. This will insure the farmer the long day without entailing the enmity of the boys.

"As the work of these boys will require supervision and as it will not be worth to the farmer what adult labor is, their wage should be lower than the regular wage for a day's work. The camp experience should be sufficiently valuable to the boys to make it worth their while to give their work at a lower rate. As the boys become able to meet the needs of the farmers, the wage for the work of two boys should equal the regular wage of the district paid for a day's work. It might be advisable to place the boys on the farms for the first week without a wage and arrange to have their wage increase at regular and stated intervals. The district in which the camp is located and the rate of wages of the district should determine the rate, and it would be the duty of the Leader before taking his boys to camp to decide on what basis to arrange the wage scale.

TRAINING CAMPS

"Another proposition which is supplementary to the Boy Farm Supply Camp is the organization of farm training camps for juvenile service on farms, or the use of agricultural schools or colleges during the vacation period to train the boys. It is not proposed that any of these training courses should cover much ground. They should undertake merely to break the boy in—to familiarize him with the essentials of farm chores. The period of instruction would vary according to the boy's facility to learn, but as a rule boys who were capable and adjustable to farm work would be turned over to the supply camps after a month or six weeks.

"The above plans for the use of boys on farms take into consideration the difficulties of the farmers and the objections of the boys to farm life. They are put forth with the hope that out of present necessities may come permanent institutions that shall relate the youth of our cities to the great life-giving experiences of the soil, institutions that shall also make the farm life richer for the young boys of the country. An equality in urban and rural wage rates would not solve the problem of farm labor. Agriculture must furnish an intellectual and social life as well as an economic opportunity."

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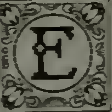

ECONOMY aside (if such heresy can get by the censor), it does seem a pity that home wine-making has so fallen into disuse. It is pleasant work and suggestive of simple ways and quiet living.

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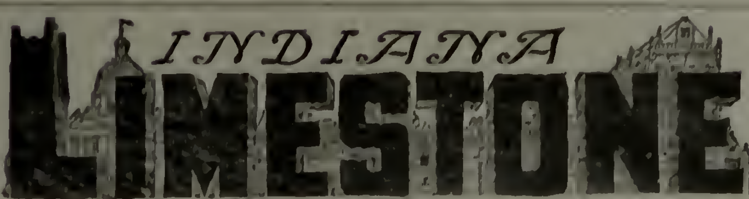

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just swaying slightly in the sunset wind? Half a year later, that clear gold in the rock-crystal glass is summer, a lovely memory, full of the "nameless pathos" of summers past.

At the "old house" they used to make quantities of currant wine. Then the currant worms arrived and for a while no one knew how to deal with the new pest. I have heard my mother say that the year after they came she managed to find on the poor stripped bushes enough currants for just one glass of jelly! The currant wine recipe is from a still older Newport house and is endorsed, "Copied from memory for my beloved daughter, 12 mo. 23, 1869," with my grandfather's initials.

Currant wine. Pick the currants when fully ripe, and free from leaves—the stems do no harm. Mash thoroughly between two boards made for the purpose, over a tub. Measure and add an equal quantity of water. Strain and to every gallon add three pounds of sugar. Set away to ferment. The cask or demijohn should be full, and some of the must should be reserved to fill it twice a day as it runs over during fermentation. When fermentation is over, draw from the lees, bottle, and cork tight. This is much like a very good Rhine wine.

An excellent cider wine is made as follows:

One pound brown sugar to each gallon of perfectly sweet cider. Mix thoroughly in a keg for a day or so, let stand about three days more with the bung loose, then bung tightly and leave a year.

This Alabama recipe for blackberry wine I have never tried, reasons being much more plentiful than blackberries in my part of the country, but I give it on the authority of the family epicure.

Press the berries, adding a very little water to expedite the process. Strain and fill a keg or jug with the juice. To every gallon of juice add two and three fourths pounds of sugar. Let ferment and keep the keg full so that all impurities may run out at the bunghole. For this purpose you must have a gallon or more of juice than is needed to fill the keg. As soon as fermentation is over, bung tightly, but look each week for a while to see if the keg is full. It must be full to the bung to keep out the air. If you have no more juice, use well-washed quartz pebbles. The following January or February draw off and bottle.

Rhubarb wine is delicious. To each gallon of juice add one of soft water in which seven pounds of brown sugar have been dissolved. Fill a keg with this proportion, leaving the bung out. As it works over, fill up with sweetened water till it runs clear. Then "bung down" or bottle, as preferred.

Of Lowell's "dear, common flower" is made a very good dandelion wine:

Four solid quarts of blossoms picked while the sun is shining, so that they will be fully open. Put in a stone jar and pour over them three gallons of boiling water. Leave in a cool place three days, stirring down occasionally. Then put in a porcelain-lined kettle with the finely grated rind of three oranges and one lemon. Boil fifteen minutes. Strain and add three pounds of sugar and the pulp of the fruit. When tepid, add one half cake of yeast and let stand one week in a warm place. Strain again, keep in a jug till it stops fermenting—this will take several weeks—then bottle.

Elder-flower wine. Boil nine pounds of granulated sugar and three gallons of water with the well-beaten white of an egg to clear it. Strain and add one solid quart of sweet elder blossoms picked from the stems. When nearly cold add the juice of three lemons and three-quarters of a cake of compressed yeast. Put in stone jars in a cool place, cover with a piece of cheesecloth tied down carefully and stir down the floating blossoms every day for nine days. Strain through a thin cloth into stone jugs and add three pounds of stoned raisins. Keep in a cool place. It will be ready for use in six months, when it should be strained and bottled.

This wine has a beautiful color and a delicious, flowery aroma. The color deepens with age, and wine two years old must be taken with discretion as it is very heady. It is rather sweet for some tastes, but we are fond of it not only for its own sake but because it makes us think of things—Mistress Jean and the Laird of Cockpen, and "the white-flowered elder thicket from the field," that Godiva was so glad to see "gleam through the Gothic archway in the wall."

F. M. Seymour.

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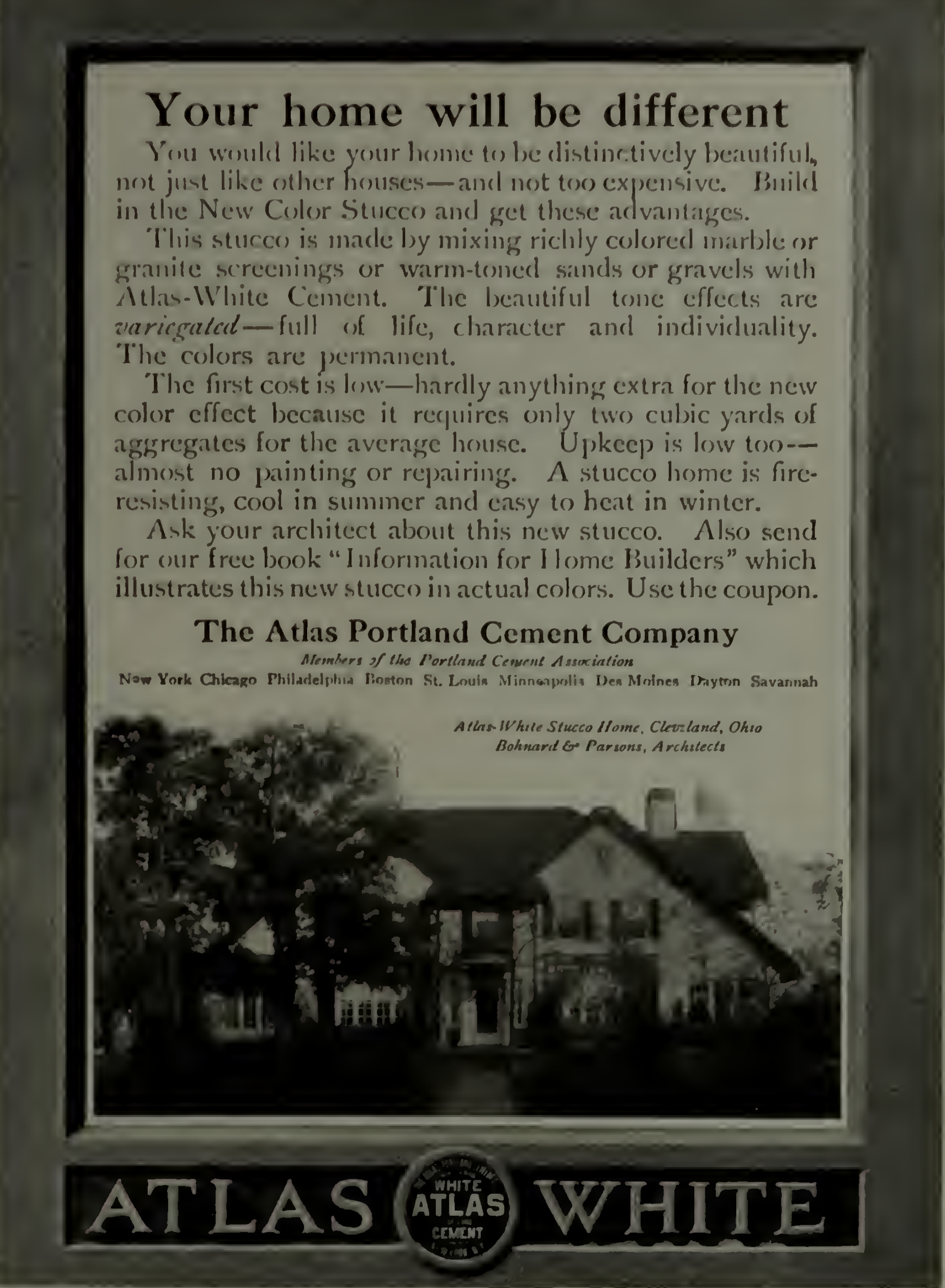

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PROLONGING THE LIFE OF CUT FLOWERS

IF A few simple rules are followed, many of the garden flowers can be made to last when cut much longer than usually is the case. Different flowers, however, require different treatment.

If peonies are cut just before they open, and immediately put in water, they will be brighter in color and will keep much better than if allowed to open out of doors. If wanted for some special occasion, they can be kept fresh for several days in a cool, dark cellar. Florists often keep peony buds on ice for a full month before offering them for sale.

The best time to cut gladioli is late in the afternoon, choosing stalks on which only one or two flowers have opened. A slanting cut is best, and it should be made with a sharp knife. If the flowers are then allowed to lie in the sun for fifteen or twenty minutes, they will undergo what is called the softening process and will last especially well when placed in water.

Although dahlias often prove a disappointment as cut flowers, they can be kept a long time if the stems are stripped bare at the bottom, and then thrust into water as hot as the hand can bear. They should be left there until the water cools, and then kept in the dark for at least twelve hours.

Sweet peas, cut when the dew is on them, will hold their color better than if cut when exposed to the hot sun in the garden. The same is true of iris, which should always be cut just before the buds open, and allowed to unfold in the house.

Poppies are usually classed among flowers having but little value for cutting. If, however, the stems are charred until they are crisp (not merely singed) as soon as the flowers are brought into the house, the blossoms will last surprisingly well. A candle flame or gas jet will answer.

If morning glories are cut at just the right stage, they will open before the eyes of the family at the breakfast table, if breakfast is not delayed too long. This is a very interesting plan to try.

One way to keep violets is to tie them lightly in little bunches of eight or ten, and thrust them in moss, with which a low receptacle has been filled. Of course, the moss must be kept moist. Violets may be revived by placing them in a pitcher of water, and covering them with tissue paper, which is also tied around the neck of the pitcher. The same result is obtained, however, by wrapping them in damp newspaper, as they take their moisture through their petals. They will keep their perfume much better when handled in this way than if immersed in water.

Roses which have become wilted are best revived by immersing the entire length of the stems in water. If the stems happen to be long, it is not a bad plan to fill the bath tub, and let the flowers stay in it all night. Another way to revive roses and other hard-stemmed flowers is to scrape down the stems with a knife, and then place them in a pail or pitcher of very hot water. This, however, is a method to be adopted only as a last resort, and it is always a good plan to protect the blossoms and foliage by wrapping tissue paper or squares of cloth around them, leaving several inches of the stems exposed.

When the long stems of flowers rest on the bottom of a vase or holder it is desirable to make a slanting cut at the ends. Otherwise the stems may be sealed against the glass or pottery, and naturally the flowers will soon fade.

Sometimes it is necessary to keep bouquets several hours after they have been made up before they are to be worn. Secure a thin box with a tight-fitting lid; cover the bottom with wet moss from the florist's shop or the woods, and lay the flowers on it, a little more moss being added after the flowers have been sprinkled lightly. Then with the lid in place, the bouquets will keep fresh a long time.

Of course, no flowers will last after being cut if they are jammed into the mouth of a vase so closely that no air can be admitted. They will very quickly perish from lack of oxygen. It helps prolong the life of most cut flowers to take them out of a warm room at night, setting them on the floor, but first supplying fresh water. If one has a narrow vase the water should be changed twice a day, as it quickly becomes warm. It is advisable to cut an inch from the stems of the flowers every day, and to keep them out of the sun.

E. I. Farrington.

...place of an equal amount of the whole wheat flour, and let it stand to scald a few minutes.

WAR BREAD

Measure the flour before sifting, then sift into a bowl, setting aside one cup to be used in kneading the bread later on. Add the sugar and salt to the flour, dissolve the yeast in a little of the water, and pour it and the rest of the water into the bowl. Lastly add the butter, melted. Beat the dough vigorously, with a spoon, and when it is smooth and light sprinkle the board with some of the flour reserved, turn out the dough upon it, and knead it for twenty minutes.

Return the dough to the bowl and set it to rise overnight. This will take six or eight hours if the bread is started in the morning. When the dough is light turn it out upon the board, divide it into two loaves, mold them smooth, place in well-greased pans and set in a warm place. When the loaves have doubled in size bake for one hour.

Proceed with the second recipe as with any white bread sponge.

As bread is the staff of life, it is the staple food of the poor and should be omitted upon the tables of those who can afford the more perishable foods that have the same value in nourishment. Flour, cereals, and corn can be shipped in bulk to our starving Allies. The darker bread, such as the whole wheat and rye, may be conserved for our own tables. The perishable fruits and vegetables are well within the reach of the country dweller. Strawberries may be done in a hundred alluring ways. Asparagus, may be put up so attractively that it will be relished all the year round.

This will leave such articles of food as parsnips and turnips and carrots for those who cannot buy the more delicate vegetables and fruits. A young housekeeper said quite rightly: "If the rich buy rice and carrots and adhere strictly to the meatless days, and the very poor are fed on the same rice and carrot diet, where do the middle wage-earners come in? They must buy the high-priced food that the very rich and the very poor refuse. Let the very rich live carefully as they must, but let their living be normal."

Here are a few menus she suggests for the non-workers. Are there any to-day, may I add?

MENUS FOR MEATLESS DAYS

Breakfast

Berries and Cream
Graham Mush and Honey
Coffee

Luncheon

Lettuce and Egg Salad
Whole Wheat Bread and Butter
Crackers and Marmalade

Dinner

Cream of Corn Soup
Cheese Soufflé and Rice Croquettes
Asparagus Peas

Another dinner menu for a meatless day is:

Vegetable Pie
Lettuce and Egg Salad
Rice Pudding
Coffee

The manner of making a vegetable pie is simple, but it should be watched very carefully and cooked evenly. The following is a good recipe:

VEGETABLE PIE

Peel and cut into small pieces four medium-sized potatoes, four carrots, three white turnips, and a small head of cabbage thinly sliced. Add three sliced onions and two cloves of garlic. Cover all with boiling water and cook until tender, seasoning with salt, a dash of pepper, a little nutmeg and a teaspoon of sugar. Have ready a deep pie plate lined with good pie crust which has been sprinkled with grated cheese and rolled; this is repeated three times before it is ready for use. Line the pie dish with the crust, put in the vegetables, add a cup of rich cream, put on the top crust and bake.

Spanish rice is another appetizing dish for wartime or any time.

SPANISH RICE

Slice one large Spanish onion, one ripe red pepper, and two buds of garlic, and place them in a steel frying pan with three quarters of a cup of olive oil. Add a tablespoon (level) of sugar, a saltspoon of pepper, and a half teaspoon of salt. Cover the pan and let cook gently until all are cooked through. Meantime, put three cups of water to boil, adding a teaspoon of salt and a half teaspoon of butter or lard. Wash one cup of rice several times; then when the water boils add it slowly, so as not to stop the boiling, until it is all in. Then boil slowly, partly covered, for fifteen minutes. Remove the cover, drain and let the rice dry off until it shakes into individual grains. Now add it to the cooking vegetables, stir thoroughly to allow it to color, and season evenly all through. It is then ready to serve.

A salad made of green peas is delicious and if the following recipe is adhered to, it will be most successful.

SALAD OF GREEN PEAS

For a delicious green pea salad take one cupful of canned French peas, or the fresh cooked ones may be used. Drain, wash in cold water, again drain and dry. When ready to make the salad add to the peas half a head of crisp lettuce, finely shredded, and one scant tablespoon of minced mint leaves. Sprinkle very lightly with salt, blend with a French dressing and heap in a mound on a platter. Surround with a border of tiny lettuce leaves and sprinkle thickly with chopped hard-boiled egg.

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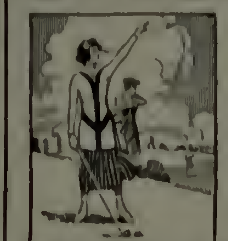

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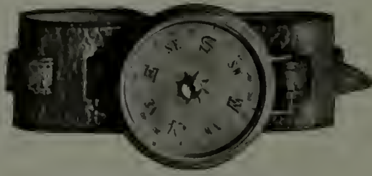

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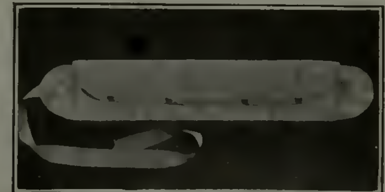
The regulation field glass combines the minimum of size with maximum of efficiency

his toilet, which is religiously observed unless the man is stationed in a "trench Garrison."

A khaki colored, sleeveless sweater of knitted wool is one of the most useful gifts, as the rains, even in summer, leave the soldier chilled.



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The army canteen is especially adapted to rough usage

and keep him dry in the September downpour, and so, as Billy Sunday says, brighten the little corner where he is.

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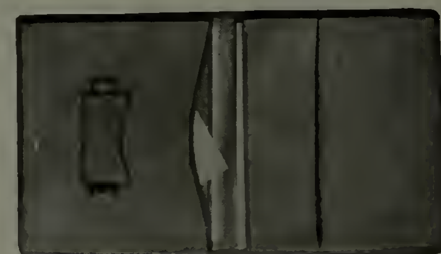

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A money-belt is a small and inexpensive gift, but a comfort to a stranger in a strange land.

A medicine kit is indispensable, even to the stalwart hero, who is even in the field beset with some of the ills human flesh is heir to.

Regulation khaki handkerchiefs are new. The darker color saves the laundry bill.

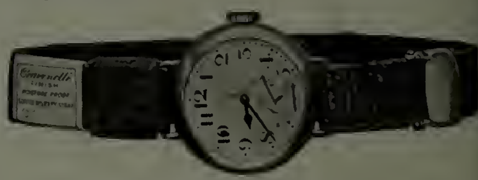
Wrist watches with luminous hands and numbers are another luxury the new army enjoys. It makes finding the proper time at night a question of seconds—they are handsome and useful as gifts. A most valuable innovation in wrist-watches is one with the wrist-band of khaki, Cravenetted to resist moisture.

A steel mirror which comes in a small case is an innovation which will be popular with even the recruits, as heretofore hardly a man or officer had a whole looking-glass in the camp outfit. The steel mirror is safe and unbreakable and always ready, as a soldier must shave, even at war.

MINOR GIFTS FOR ROOKIE OR TAR

A toilet kit, weighing 18 ounces, which contains a steel shaving mirror, a brush in ebony, an aluminum comb, a nail file, tooth brush, soap and wash cloth, a razor and shaving soap.

A radium dial watch which may be a bed-side watch with stand, or worn in a leather strap as a wrist watch.



The new wrist watch having arm band of khaki Cravenetted to resist moisture

A combination knife which has two large blades, a bottle opener and leather punch. It has a ring which fastens to a steel chain, which again is

A carefully arranged and well made dressing case

fastened to the belt—a boon to a man on a long hike.

The swagger stick is part of the uniform and

A pneumatic pillow is a source of comfort well worth its small compass and weight when folded

improves the soldier's appearance. These sticks have a silver head and may have either the initials of the owner or the insignia of his regiment upon it—a gift which pleases even an old campaigner.

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To begin with, it is the oldest of ceramic arts; its 2,000-year long ancestry disappears in prehistoric dust. From its known beginning it has been good, and while Europe was crusading forth from hovel and rush-strewn castle this work was being pursued as a fine art.

In what regard the Chinese themselves held it is best seen in their writings. Centuries ago one Wang Ting Yii wrote: "There are poems like the choicest embroidery in their beauty which can be recognized at a glance, and there are works in porcelain not less choice; let this fact be admitted." Throughout their literature one continually finds references to porcelain, and it frequently forms a theme of some exquisite fragment of verse. Indeed, here opens for lovers of Chinese porcelain a never ending path of delight.

Aside from its technical perfection, there is something intensely individual, almost personal, about a Chinese vase; a feeling sensed and expressed by Chinese writers in their frequent comparisons of porcelain to objects vividly alive. Chang Ching Yi's "caught the colors of swift flying clouds," and Yii Chi Hsim's "they are as unlimited in their beauty and perfection as the breeze and the running stream" are indicative of this to a refreshing degree.

Beneath this poetic symbolism lies something deeper that stirs one's imagination to wonder about these people who 200 years before Christ knew the secret glazes and used them successfully on their funeral urns and vases.

This was in what is now called the Han period, which lasted until 220 A.D. Primitive as were the vessels of this time as compared with those of later centuries, the specimens remaining to-day show the potters of Han to have been of no mean rank. In the Metropolitan Museum there is a fine ewer of this era, whose green lead glaze, made iridescent by age and burial, is worth careful study.

The glories of the K'ang-Hsi ceramics are highly exemplified in these three vases

There is an hiatus in the history of porcelain making between this time and the beginning of the seventh century, when the Tang Emperors carried it on to the really great work of the Sung-Yuan dynasties dating 960-1367 A.D. Examples are occasionally found which experts say belong to this lost time. However, the fact that the Sung dynasty saw a tremendous artistic advance, in which good pottery became fine porcelain and glazes were brought to a superlative excellence, is sufficient proof that the art was growing.

The sapphire blue field of this hawthorn urn is splendidly executed

For those interested it should be remembered that in the Sung period no painting was done, but there was wonderful glazing; at least six different varieties have been assigned to this time—single, color, crackled, uncrackled, flambé glaze, soufflé glaze, and several color glazes.

Following this time of fine growth came the Ming period, 1368-1643 A.D., wherein painting on glaze under glaze, up to five colors, painting on both upper and under glaze, and painting designs on a single color ground, were done. Here too the medallion decoration first appeared, as well as the marvelous blues and varicolored enamels. Always patronized by their rulers, the porcelain factories were now not only able continually to improve their work but to turn out quantities of it. Some idea of the amount may be gained by quoting a part of an order given by the first Ming Emperor in the year 1554, viz: "26,350 bowls with 30,500 saucers to match, 6,000 ewers, 6,900 wine cups and 680 large garden fish bowls."

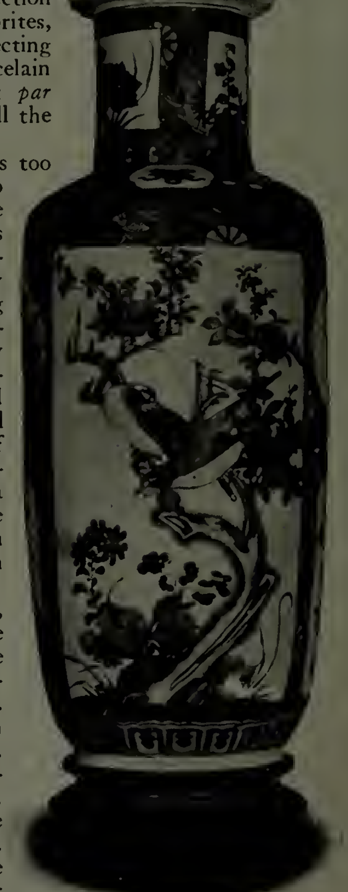
The Chinese artists did as able work in carving semi-precious stones as in making porcelain, as this piece of white jade fully testifies

Glorious as was this period of Chinese ceramic art, the K'ang-Hsi period, 1662-1723 A.D., which followed immediately, saw it full blown. So finished is the work of this time that one feels in comparing it with the Ming that while the latter is perfect, the K'ang-Hsi wares disclose a freedom of expression that comes only from an absolute selfassurance of the artist. There is, however, in the Ming an aloofness, a benignity of expression not felt in the porcelains of other periods, a quality which must endear it to collectors, for on such delicate foundations are hobbies built; when one realizes that he can assemble a thousand pieces without finding two alike it is not hard to realize the joy of collecting Chinese porcelain.

"Interest never flags in the search," says Mr. M. Paris-Watson, who is an expert on these matters, "when once it is begun. Nearly every one goes through the primary stages of mistakes. Perhaps he is interested only in a general way, but usually the collector, spurred by some 'find,' concentrates on some particular kind—it may be *claire de lune*, which the Chinese poet describes as 'like bright moons cunningly carved and dyed with spring water,' or possibly the splendid powder blue which attracts many, or one of the marvelous *sang de boeuf*, or *peau de pêche* glazes; he assembles his collection with loving care, now and then adding a treasure and occasionally weeding out one not quite up to the mark. Always changing, always bettering, and always hoping for a complete collection of one's favorites, makes the collecting of Chinese porcelain the pursuit *par excellence* of all the arts."

Space here is too limited to go further with the various periods that follow, except to say that the Yung Ching, 1723-1736, saw many fine reproductions of old designs as well as the origin of the famous egg-shell china which became so popular in the Western world. The Kien Lung, 1736-1776, time witnessed the climax of Chinese ceramic art. Thenceforth was decadence.

All the porcelains pictured here are the K'ang-Hsi. The black piece is one of a pair of square vases, with cylindrical


A museum piece, this vase is one of a pair noted in history and literature

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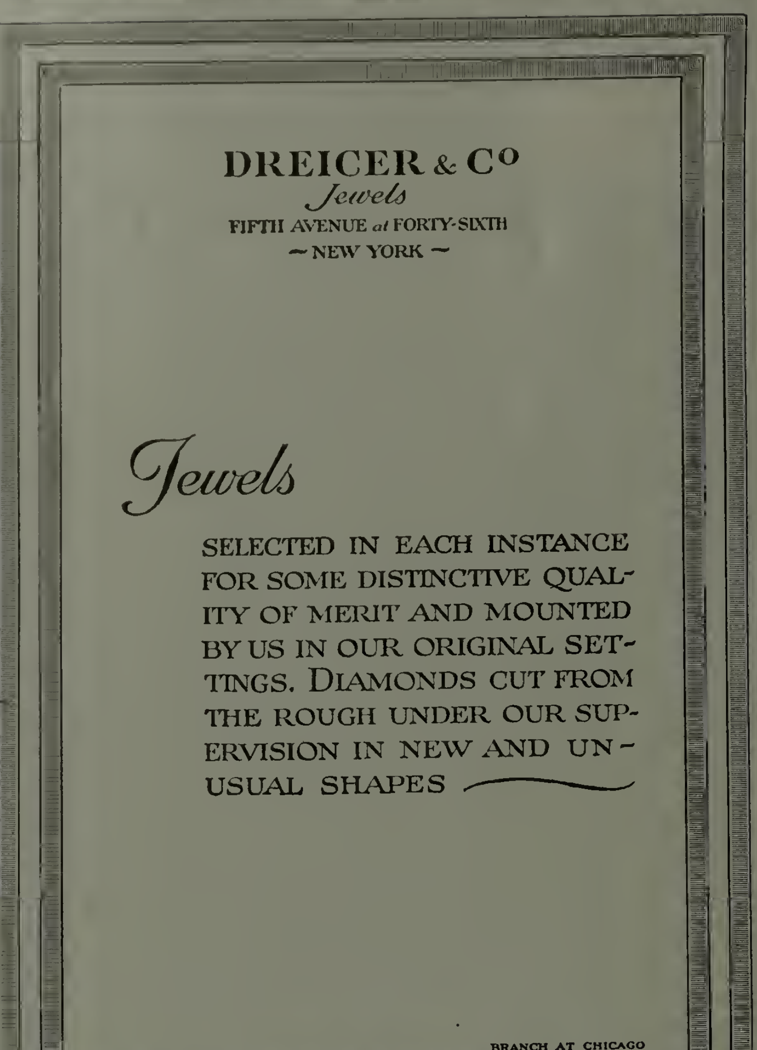

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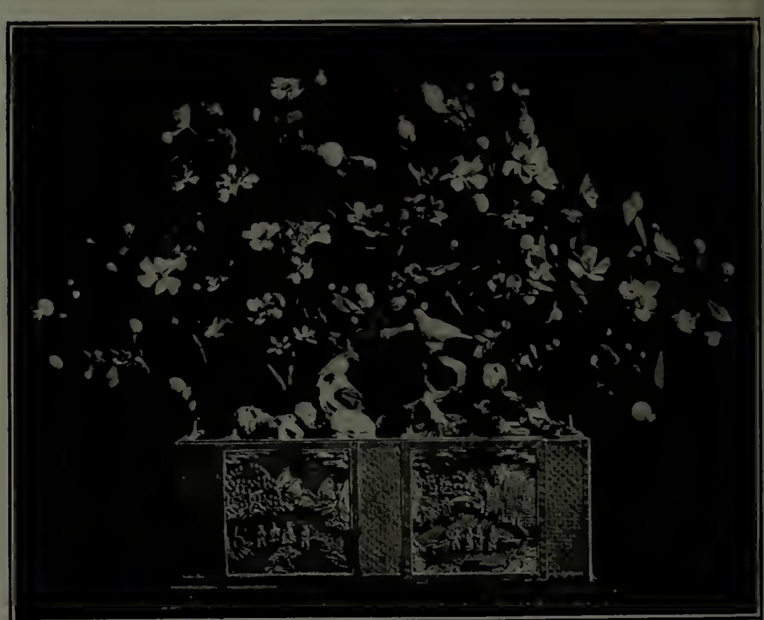
necks and flaring mouths. Each side forms a panel upon which are represented the flowers of the four seasons; the prunus for winter, the peony for spring, the lotus for summer, and the chrysanthemum for autumn. These flowers are drawn in brilliant green, yellow, and aubergine enamels upon a deep, lustrous black ground.

The apple-green glazes appeal to every lover of Chinese porcelains, and these examples of it are very superior, the one at the left being the peer of them all in the matter of shape, color, crackle, and finish.

The cylindrical vase on the right, of extraordinary quality, is ornamented with large panels containing birds amongst flowering trees and plants, which are enameled in rich greens, *aubergines, rouge de fer*, yellow, etc., on a pure white ground. Dividing these panels there is on either side one oblong panel and one leaf shaped, the former containing in one a bird and branch of a tree, and in the other a landscape. These are richly enameled on a white ground. All these panels are relieved by a background of enameled flowers on a brilliant stippled green. Around the foot is an archaic band in green, yellow, and *rouge de fer*. From a broad diaper band on the shoulder, which is relieved by four small panels containing sacred emblems on a white ground, is a band of Joey heads going over the body of the vase. On the neck are two oblong panels containing branches of trees with birds. The mate to this vase was in the celebrated collection of Richard Bennett, Esq., and is illustrated in "Chinese Porcelains and Hard Stones," by Edward Gorer and J. F. Blacker.

In the upper centre is a very rare blue and white hawthorn jar with original dome-shaped cover. The decoration consists of ascending and descending sprays of prunus blossoms on a ground of deep, brilliant, transparent sapphire blue. This blue, laid on very unevenly in graduated washes, is covered with a network of black lines giving the effect of sheets of broken ice.

In China the New Year came in February, and by that time the plum trees were in blossom at the mouth of the rivers. As the cakes of ice floated down they often carried with them blossoms or sprays of the plum tossed there by the spring winds, so to the Chinese this combination became symbolic of the breaking up of winter and the coming of spring, and these beautiful jars filled with sweets were exchanged by mandarins of high rank as appropriate expressions of good wishes for the coming year.



Not content with reproducing Nature's colors on porcelain, the Chinese artists copied her most fragile blossoms in jewel work that stands alone in the field of art. This marvelous example is mounted in a finely carved red cinnabar box on a table of the same material

Very beautiful too are the three K'ang-Hsi green glaze bottles shown above, the left one being the finest. Of fine, hard paste of dense texture, the brilliant glaze at first glance suggests the vase as one of the apple greens, but it is really that of the *fei-ts'ui* jade of delicate quality, soft and uniform except where on the shoulder a deepening of the flow intensifies the hue; and everywhere is the characteristic crackle of the apple greens. The greater part of it in brown, but near the shoulder almost colorless. The interior of the neck and underpart of the foot is glazed grayish white with a *café-au-lait* crackle. Falling somewhat short of the perfections of this lovely piece, its companions are themselves very superior in shape, texture, color, crackle, and quality of glaze, fully deserving the poetic description "like the color of distant hills."

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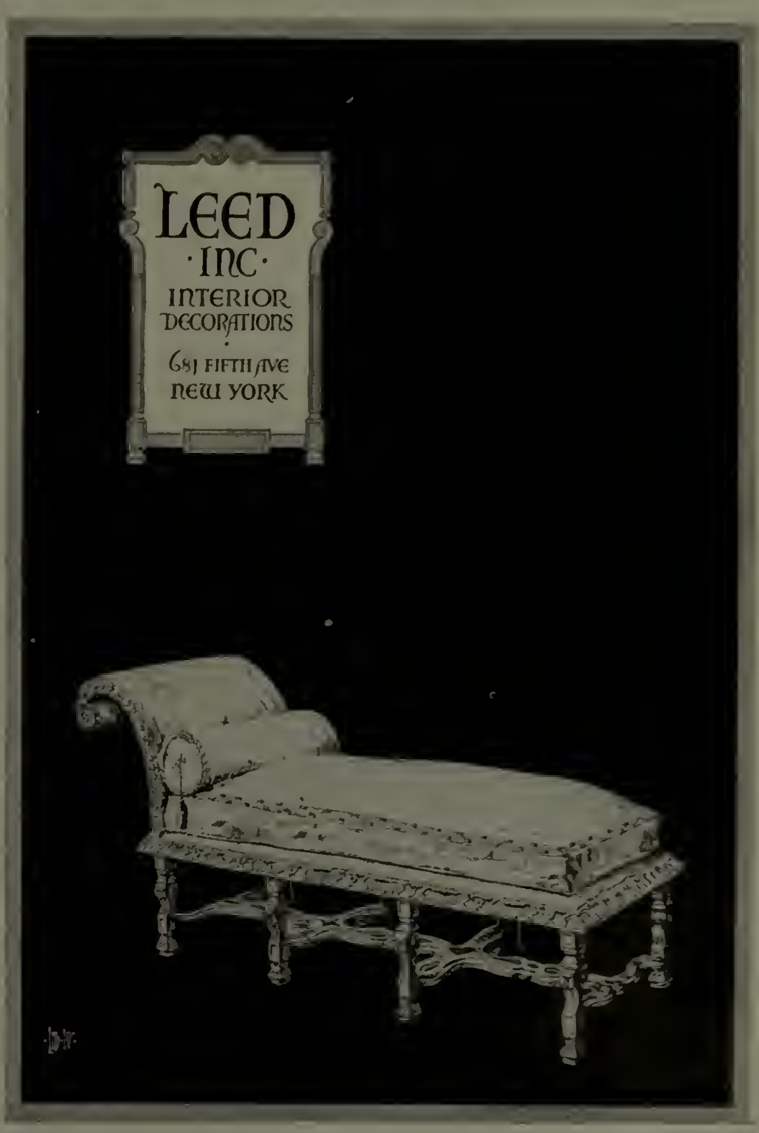

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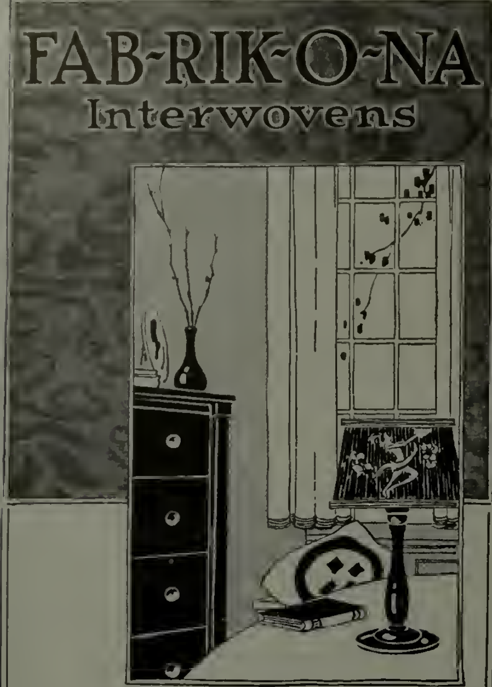

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HOW A WATCH MAY BE USED AS A COMPASS

FEW people realize how easy it is to find out the points of the compass from a watch. The only two conditions needful are that the sun be shining and that the watch tells about the correct time.

This is how the idea is carried out. Hold the watch horizontally, that is, with its face looking up at the sky. Now take a slender stick, such as a grass stalk or a match, and place this against the edge of the glass of the watch in such a way that its shadow falls exactly along the hour hand. This means that the hour hand is pointing just at that part of the horizon which comes immediately under the sun. The south will always be midway between that point and the figure 12 on the face of the watch. Supposing when we follow this plan that it is eight o'clock in the morning. After we have placed the watch in such a position that the shadow falls along the hour hand, as described, the south will be just in a line with the figure 10. If it is ten o'clock when the experiment is tried, the south will be opposite the figure 11.

In the afternoon exactly the same rule applies, only in this case we have to go *backward* toward 12 instead of forward. Thus if it is two o'clock, the line which indicates the south runs through the figure 1; if the time is four, the south is opposite the figure 2. For the sake of simplicity we have given the exact hours, though, as a matter of fact, any intermediate periods could be worked out in the same way. The only thing to bear in mind is that the south is always in a line with the point half way between the shadow falling on the hour hand and the figure 12.

Once the position of the south is determined, it is easy to find the other points. Thus, standing with one's back to the south, the north will, of course, be in front; the west on the left hand side, and the east on the right.

It is interesting to consider the explanation of the plan for using a watch as a compass. The sun is always exactly in the south every day at noon. It thus takes twenty-four hours to complete its apparent journey round the earth. The hour hand of the watch takes twelve hours to get around the dial, and thus it moves twice as fast as the sun. If, at noon, the watch is held with the hour hand pointing to the sun, evidently the figure 12 will be in a line with the south. At any other time, say four o'clock in the afternoon, the hour hand of the watch will have journeyed twice as far past the figure 12 as the sun will have moved beyond the south. Thus, if we still have the hour pointing at the sun we must go half way back to 12 to get to the south. This would be the figure 2, and in a line with this is the south.

In the same manner if the hour is eight in the morning, the hour hand will journey twice as far before noon as the sun will go before it reaches the south.

Leonard Bastin.

WATER FOR THE BEES

BEES require a large amount of water, although that fact is often overlooked. If some natural source of water is not available, shallow pans should be placed in the apiary, sticks being allowed to float in the water for the bees to alight upon. In a large bee yard it may be advisable to arrange a barrel so that the water will constantly drip into a pan.

If plenty of water is not close at hand, the bees will seek the dew on the leaves of the trees early in the morning. In New England, and doubtless in other sections, very heavy losses have been suffered because of this, owing to the fact that the street trees as well as the fruit trees are annually sprayed with arsenate of lead to kill insect pests. Enough of the poison is taken up by the bees in the dew which they drink to kill them.

It was sometime before this condition was understood, large numbers of dead bees being found in front of the hives, although there was nothing wrong with the hives themselves. Then it was discovered that where the bees had plenty of water close at hand, this trouble was seldom experienced.

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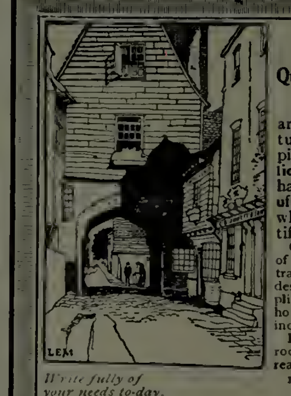

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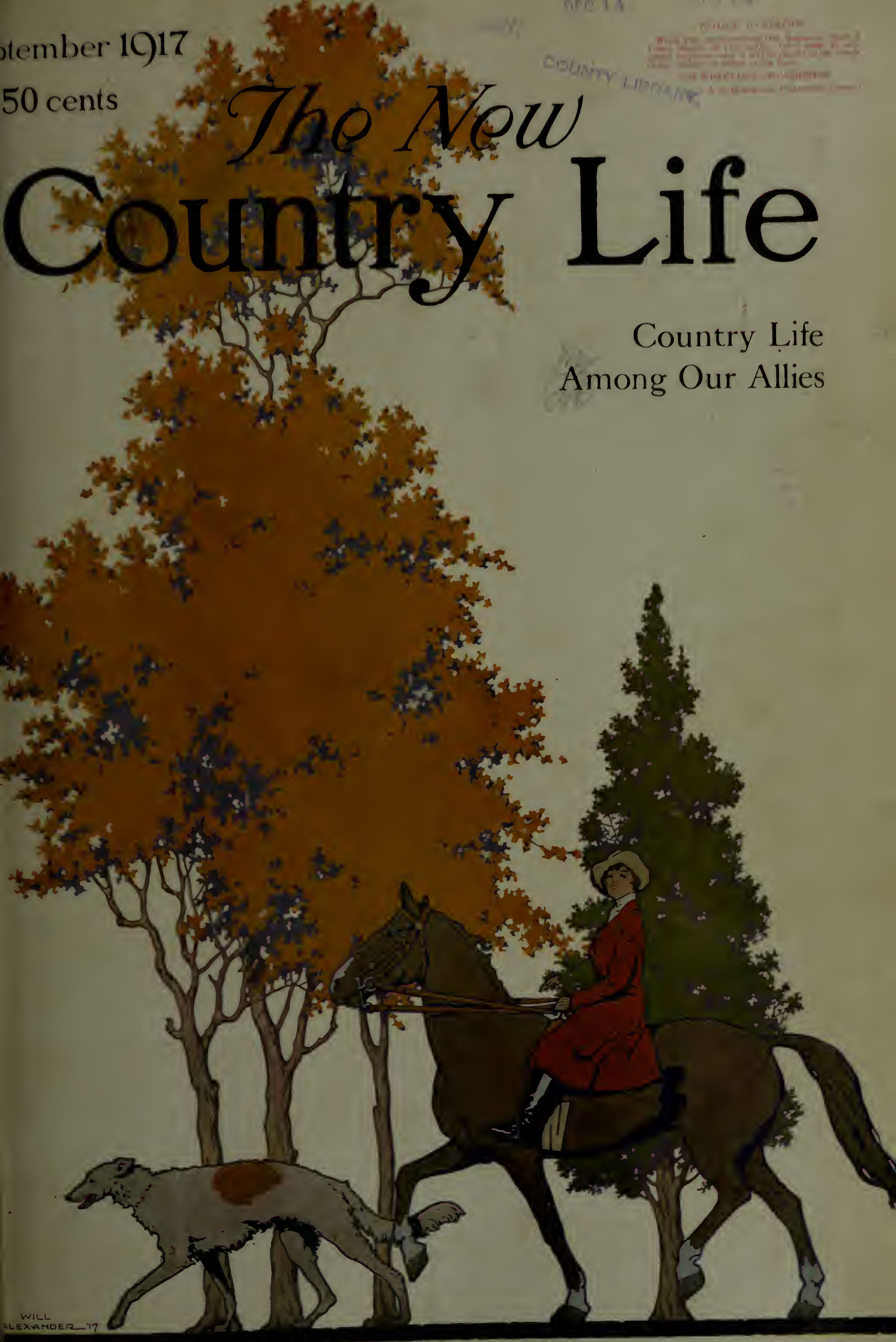

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NEWS *of the* BREEDS *and the* BREEDERS

AMONG the many big men who are interested in the producing, consuming, and distributing phases of the food supply problem is Thomas E. Wilson, president of the packing concern bearing his name. On his Ednel Farm near Lake Forest, Ill., he is not only practising the national doctrine of "grow more crops," but also carrying out well laid plans for an increased supply of meat products, too. He has a growing herd of fine Shorthorn cattle, headed by an imported bull formerly owned by Sir Arthur Balfour; he is raising Hampshire hogs under conditions of exemplary cleanliness; his poultry yard contains White Orpington fowl of excellent breeding, and Mallard ducks as well. And what is no less interesting and even more significant, he expects to produce enough on his farm to feed all this stock as well as his family and, probably, a goodly number of friends.

BREEDERS from several states attended the Brown Swiss Consignment Sale at Pottstown, Pa., on June 26th. The thirty-six head provided by prominent Eastern farms averaged $300 apiece, which low price is partly accounted for by the fact that the sale was the first of its kind to be held by Brown Swiss men. The highest price—$1,550—was paid by Walhalla Farm of Middleburgh, N. Y., for the bull Milton K., consigned by C. D. Marshall of Pottstown. Iola, one of the noted cows of the breed, with a record of 16,844 pounds of milk, 685 of fat, formerly owned by Walhalla Farm, went to E. H. Krauss of Michigan for the bargain price of $665.

THE work horse equipment of Mr. F. H. Crane's Flintstone Farm at Dalton, Mass., now includes only registered Belgian mares. The stud was increased early in the summer by three mares and a stallion purchased in Iowa and all rich in some of the best blood here or in Belgium. The pure bred Berkshire pigs, many of them sired by Sensational Lord Premier 2d, were recently found to be gaining a pound a day on grass alone. The average monthly milk production of the Milking Shorthorn herd for which Flintstone Farm is especially noted is about 1,388 pounds, and its butter fat test 4.06 per cent. An event of interest was the birth of an eighty-four pound heifer calf, sired by Waterloo Clay, to Glenside Lady Doris, daughter of the world's record cow of the breed.

THE first show ever held in America solely in the interests of the ancient Maltese dog, is scheduled for November 30, 1917, and will be held in New York City. Mrs. James G. Rossman of Plainfield, N. J., Secretary of the National Maltese Dog Club, can supply further information.

IN VIEW of U-boat activities, it is interesting to learn that on July 16th, there were released from quarantine at Athenia, N. J., forty head of Ayrshires newly imported by F. S. Peer of Cranford, N. J., who is holding nine heifers. Others for whom the cattle were brought over were John Sherwin of Ohio, Wendover Farm of N. J., and Adam Seitz of Wisconsin. Another importation consigned to Mr. Peer and H. J. Chisholm of New York was expected soon after.

WILLOWMOOR Farm, Redmond, Wash., shipped the young Ayrshire bull Willowmoore Robin Hood 8th to Japan early in July. The buyer was Y. Kawamure Makomanai, who had already brought another bull of the same breed from the same herd.

THE New York State Food Commission and Agricultural Society are combining forces in urging the conservation of heifer calves. It has been found that there are in the state some 78,000 calves less than there were in 1916, a shortage of 26 per cent. Consumers have already felt in increased prices an indirect effect of this shortage of milk producers; farmers are bound to feel it no less keenly if it is allowed to continue.

MR. JOHN R. VALENTINE, of Bryn Mawr, Pa., prominent horseman and breeder of Ayrshire cattle, and for several terms President of the American Ayrshire Cattle Club, has been commissioned Captain in the Remount Division of the Army. His work will involve the inspection of horses offered for Government service and will probably keep him largely in the West.

A RECENTLY formed but promising bull association is that at Grove City, Pa., where four Jersey bulls have been purchased coöperatively from Hood Farm of Lowell, Mass. The territory covered by the association is divided into four breeding blocks; a sire will be kept near the centre of each. At the end of each two-year period the bulls will be changed from one breeding district to another until each bull has made the entire circuit covered by the association. Each member will thus get the use of a pure bred sire for eight years at a cost of only $5 per cow bred. The bulls carry the same blood and family lines that have produced such excellent results at Hood Farm; in fact, the Hood Farm breeding system as a whole will be continued at Grove City, but on a community scale.

Baron's Successor 197499, Hood Farm's Berkshire boar which won the Grand Championship at the 1916 International. Weighing 860 pounds in breeding condition, and with vigor, type, and quality to correspond, he has several times been pronounced the finest boar of his breed

The Seer's Alberta 2nd, winner of the Grand Championship gold medal for 1916, offered by the American Jersey Cattle Club. Her yield was 16,872.7 pounds of milk, 881.66 pounds of fat. Owned by E. T. Bedford, Esq., Greens Farms, Conn.

THE National Duroc Jersey Record Association reports the organization of the Faulkner County (Arkansas) Association, of which the President is J. S. Crook, of Conway, and the Secretary T. C. Watson, of Mt. Vernon. The new organization, though young, is planning a Duroc Jersey show for the coming fall, and has already set out on a vigorous advertising campaign in the interests of the breed.

THE Eastern American Berkshire Congress Show is to be held October 12-20 at Springfield, Mass., as a part of the Eastern States Exposition. Cash prizes amounting to $1,100 are offered. The General Manager of the Exposition or Secretary F. S. Springer of the American Berkshire Association, Springfield, Ill., can supply detailed information.

ONE of the most interesting of the number of typical, progressive country gentlemen whose interests centre about Peoria, Ill., is Mr. J. B. Bartholomew, President of the Avery Tractor Co., and officer or director of half a dozen other thriving concerns and financial institutions. Perhaps none of his many activities is nearer his heart than his farming, which involves 522 acres of only moderately good land that he is bringing, however, to a high state of productivity. Yalehurst, as the farm is called, is only about half tillable land, but it is supporting a business herd of Aberdeen Angus beef cattle, a small dairy herd of Jerseys, Duroc Jersey hogs to the number of 100 or 150 a year, a small flock of Hampshire sheep, White Leghorn fowl, and guinea hens. The old-time buildings have been repaired and put in thoroughly efficient shape, a number of labor saving devices and systems have been installed, and the general plan for the development of the farm is certainly making good. While all the departments receive equal consideration and attention, the hog raising phase seems to appeal especially to Mr. Bartholomew and his son, to the extent that he has become an interesting and convincing enthusiast for his favorite animal and his preferred breed.

BREEDERS of show horses are returning to first principles. For upward of twenty-five years experts have been demanding excessive quality and fascinating beauty in prize winners. They are now acknowledging their mistake and admitting that young stock has become too finely drawn. General usefulness and ruggedness of character, coupled with all-around action, as distinguished from up-and-down-sensational action, are to-day the characteristics which appeal. This has been plainly demonstrated recently in this country, by the selection of the stoutly built, heavily boned stallion Towthorpe Cricket, 15.2 hands, and weighing more than 1,000 pounds, shown by Mr. Alfred Clements of Willisden Farm, Devon, Pa., in preference to several stallions of lighter make-up; and, in England, by judges' choice of the lusty and substantial stallion Whitegate Commander, 15.3½ hands high, bred by Lord Ashtown in Galway, Ireland, and closely approximating coaching character. Both are Hackneys, and their selection distinctly indicates that greater weight in proportion to height is the desideratum. The change has long been expected by advocates of the Hackney for crossing on lighter breeds.

COMPARING horses adapted for sport and light driving with those used for heavy draft, it appears that a census of trotting-bred horses would list about 100,000, including some 69,000 registered or eligible to registration. Percheron draft horses' come next with 56,000 registered and unregistered. Closely related to these are 16,000 heavy horses of French extraction. From statements based on observation at farms and in the markets, it appears that Percheron stallions are nearly ten times as plentiful in this country as Shires, and fifteen times more plentiful than Clydesdales. There are 11,500 registered and unregistered saddle horses, upward of 10,000 thoroughbreds, including foals and starters in races, and more than 2,000 Hackneys and Morgans registered and either eligible to record or closely inbred.

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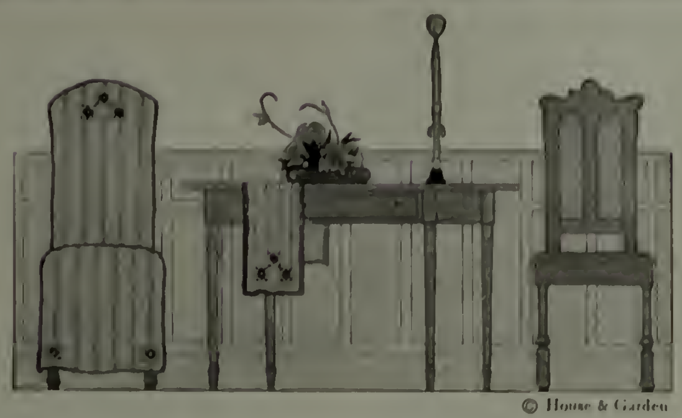

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JERSEYS

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Brookwood Farms
Jerseys
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A. J. C. C. 145762

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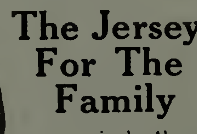

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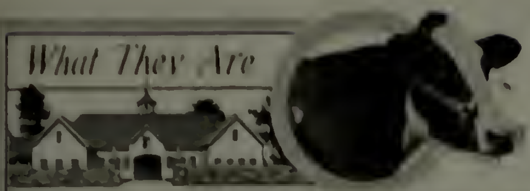

HOLSTEINS

The Holstein-Friesian breeders represented on this page are recommended by Country Life. For information concerning the Holstein breed address

Country Life Readers' Service Department
Garden City New York

Progressive Dairymen Of the Great American Desert

"A nine weeks' tour of a number of the National Reclamation Projects," writes a correspondent, "supplied abundant evidence that the dairymen of the Great American Desert are wide awake to the importance of building up the quality of their herds. And, further, that they are doing this by introducing some of the very best strains in the shape of animals of proven merit. The Middle Western States and even the Eastern dairy centres, as far east as New York, are being carefully scrutinized

Sir College Cornucopia, the outstanding sire at the head of the West Kota herd

by their critical eyes for blue-ribbon winners. Already the additions to Far Western herds include famous sires and cows and heifers whose breeding qualifies them for association with the best in the world, already from such stock there are coming 'out of the West' herds that readily enter the Register of Merit classes."

A notable example of such a herd is the collection of Holsteins on West Kota Farm of Belle Fourche, N. D., owned by Mr. M. J. Smiley.

Duchess Lucy Mercedes, also of the West Kota herd, whose record of 16.811 pounds of butter in seven days is the third highest in the world, at this writing

At this writing there are in the world twenty cows that have made more than forty pounds of butter in seven days; of these, three belong to this herd. Of the five cows that have weekly records of more than forty-six pounds, three are owned by West Kota Farm.

Among the meritorious individuals that make up this remarkable herd are: Sir College Cornucopia 97,432, Grand Champion, South Dakota State Fair in 1916, and sire of seven A. R. O. daughters (all that have freshened to date) each with a record of twenty pounds or more of butter; Hester Aaltze Korndyke, 133,222, with a record of 46.786 pounds of butter in seven days and 1,076 pounds in seven months (test still on); Duchess Lucy Mercedes, with a record of 46.841 pounds, the third highest in the world, and winner in 1915-16 of the Holstein Association prize for four-year-olds; and Star Farm Belle Mercedes 142,539, holder of all records for a cow with but three quarters of an udder—namely 533.7 pounds of milk and 38.362 of butter in seven days, 2,244.1 pounds of milk and 153.5 of butter in thirty days, and 4,587.9 pounds of milk and 292.5 of butter in sixty days.

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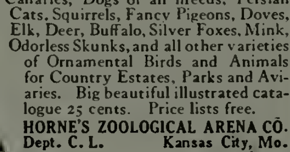

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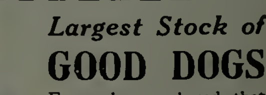

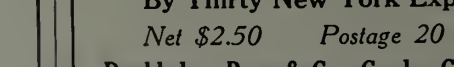

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HORSES FOR ARMY PURPOSES

HE consensus among horse breeders catering to sport, competitive exhibition, and general utility seems to be that all concerned in buying, distributing, or using horses in any way, should combine with producers and, if necessary, pool interests, to the end that U. S. Government agents can count upon an adequate supply of horses of the several grades adaptable for cavalry use as well as light and heavy transport service.

Well known men, whose views carry weight in the fields of endeavor indicated, have outlined plans calculated to assure continuity of product along improved lines. A few have offered the free use of stallions to be placed in districts that may be designated officially, while others have offered to turn over their breeding establishments to the Government, regardless of compensation.

Realizing the vital necessity that compels wholesale retrenchment, readjustment of values, elimination of expensive methods of preparation and training, as well as non-reservation of much young material of prize-winning brand, Hackney breeders, at the suggestion of Mr. Reginald C. Vanderbilt, president of the American Hackney Horse Breeding Society, have agreed to increase their output and exhibit wherever possible, also to work together for the general distribution of stallions and mares so that the breed shall become more widely recognized as suitable for general purposes and army use, as distinguished from competitive exhibition as high-steppers in show rings.

All this can be done without too drastic drain upon high-class foundation stock at the leading establishments. The idea is to get groups of well bred young horses scattered over the country and into the hands of small farmers who should be, and under ordinary circumstances are, the only persons (outside of Western ranch owners) who can raise horses economically, since they grow the feed and can make the young horses earn part of what they consume. Also on farms brood mares, instead of being turned the year round, as on large breeding establishments, are invariably worked close up to and soon after foaling.

It is thoroughly understood that small farmers cannot undertake the production of army horses, in addition to the heavy draft stock they now raise, without substantial encouragement. They must have mares of appropriate kinds free of cost, as well as the use of stallions; be assured a market for the stock raised to four years old that may be suitable for army purposes, and be given authority to retain and train for their own use or commercial purposes such stock as (at one to two years' growth) may be deemed unsuitable to prepare for military work, nominal stallion service fees to be paid on stock so retained.

There is little, if any, profit to be derived from army horse breeding on small farms, at the Government's set price of $150 for three-year-olds. The breeding of big drafters that bring from $250 to $350 at auction is more attractive. The offers of French buyers of $120 for green young stock to make into cavalry mounts, and $160 for artillery horses; and those of British buyers of $175 for geldings, green and second-hand from four to fourteen years old, largely range bred or nondescripts do not appeal to small farmers.

The recent suspension of purchases by foreign buyers and the sudden cancellation of U. S. War Department orders for proposals have had a stagnating effect upon Western markets. The U. S. Government is expected to make another call, which will be the signal for renewed activity. A standard price is to be fixed, instead of the competitive bidding system on the part of contractors; proper security is to be demanded from contractors, and a portion of the purchase money is to be withheld until horses are delivered. Geldings only are to be specified; light, medium and heavy weights are to range respectively from (1) 1,100 to 1,250 pounds and $15\frac{1}{2}$ to $16\frac{1}{4}$ hands; (2) 1,200 to 1,400 pounds, $15\frac{1}{2}$ to $16\frac{1}{2}$ hands, six to ten years old; (3) 1,400 to 1,700 pounds, 16 to 17 hands. Pack and riding mules are to be $14\frac{1}{2}$ to $15\frac{1}{2}$ hands and to weigh from 950 to 1,150 pounds.

Prices must range much higher than heretofore for army horses if small farmers are to be expected to breed them, and Government agents must deal with the farmers direct, or a reasonable

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margin of profit must be allowed to collectors. Inspectors' insistence on special types must be modified and rugged horses of the desired weight and serviceably sound must be acceptable.

Inasmuch as wealthy horse breeders and owners have indicated a desire to help along the lines suggested, it would seem as though steps might be taken by the U. S. Government to take a census of stock available and arrange for its distribution to small farms, using horse show and fair grounds as collection centres, and extending financial aid to farmers through federal or state subsidies.

The "writing on the wall" is plain. Horses in large numbers are needed for cavalry and transport. If they are not forthcoming under present conditions or as a result of methods suggested, the Government will demand seasoned horses from the cities as well as farming districts. The whole question simmers down to a test of horse breeders' and horse owners' patriotism. They must devise means to cope with the situation before the War Department undertakes to do so.

REGARDLESS of the call to arms, which will take hundreds of young horsemen out of the show ring and away from town and country stables, the consensus here seems to follow the line of argument that actuates English breeders who are continuing horse racing and exhibiting in spite of the war and the contingent depression.

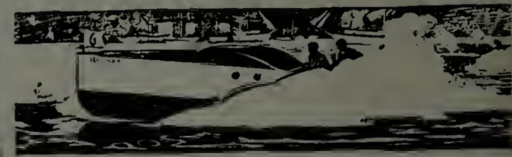
The abnormal demand for cavalry, artillery, and general utility horses makes it imperative that horse breeding shall not be interrupted. Inasmuch as the production of race horses and horses adapted to hunting, park and road riding and driving, timber-topping, and high-stepping at shows, etc., is acknowledged to have a beneficial influence upon the output of ordinary material, owners on this side of the Atlantic are being urged to enter their speed candidates and show types for competitive trial more liberally than heretofore.

The curtailment of thoroughbred racing in England for the period of the war is an economic necessity. No such situation exists in the United States. On the other hand, much English breeding material has been brought over here in order to conserve the blood and, incidentally, reinfuse old foundation strains. It has been authoritatively stated that sport on this continent will be unusually gratifying this season, particularly in the division for three-year-old horses. As the tendency is to retire young stallions and mares to stud earlier than formerly, all other branches of horse breeding that feel the influence of racing strains will derive additional benefit.

THE news that the London (Olympia) International Horse Show is to reopen this season, for the purpose of exploiting the horses of several European countries, the United States, Canada, the Argentine, etc., and to greet the officers of the allied armies, will give renewed zest to competition and serve as a glorious reunion. It goes without saying that officers from this country and the New York National Show directors will invite their European brothers in arms to take part in our show at Madison Square Garden. All who can obtain furlough will gladly come over, as they will undoubtedly be assured even greater hospitality than was accorded to the military representatives of European governments, whose remarkable horses lent spectacular and educational value to our hunting classes in 1911, 1912, and 1913, when entries aggregated 998, 804, and 689, respectively.

The connection of horse shows with the great agricultural interests of the country, the Clydesdale, Percheron, Belgian, Norman, and Shire heavy draft types put forward at the New York National and suburban meetings, has demonstrated their pronounced character, quality, and great intrinsic value. Men of large means and owners of country estates have indicated appreciation of the several breeds, both for work on the land, and for the improvement of near-by draft material.

A. H. Godfrey.



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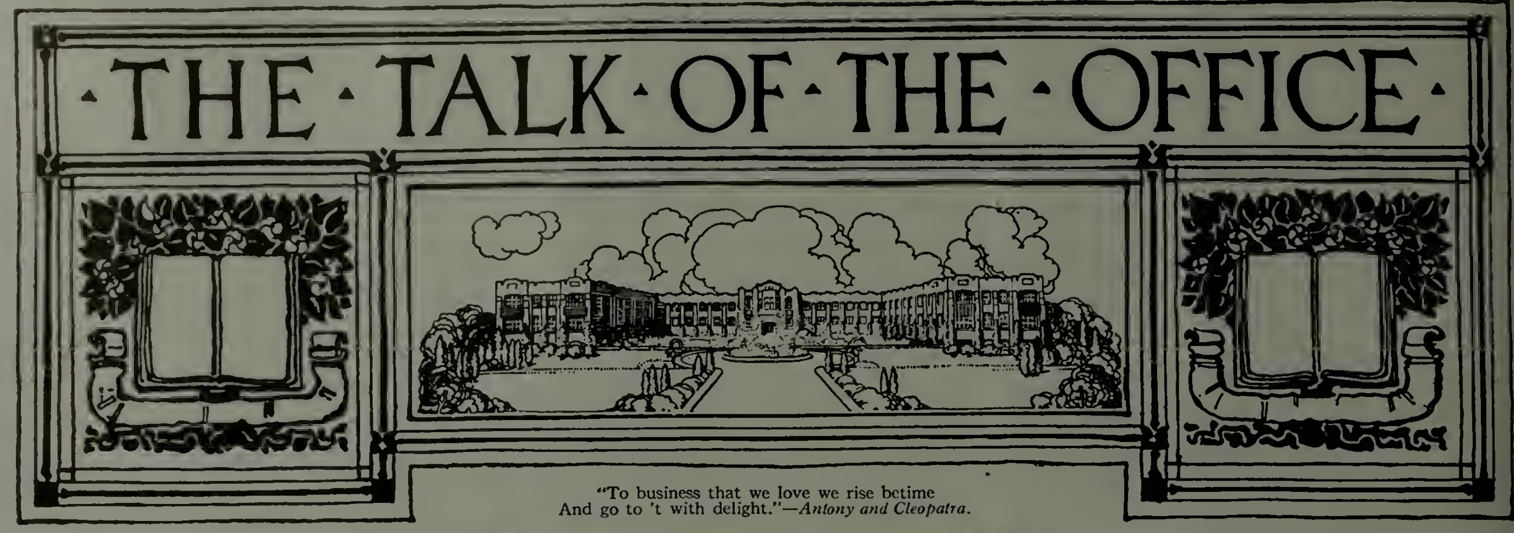

"To business that we love we rise betime
And go to 't with delight."—*Antony and Cleopatra.*

THE WHISTLING MOTHER

If we had a friend whose boy was to go off to war (and we have many such), and who had a tendency to make it harder for the gallant young fellow by tears and repinings, there's a book we should give him (or her). And that book is Mrs. Grace S. Richmond's "The Whistling Mother."

"Your boy, if he is the right kind of a boy," says Mrs. Richmond, "has work to do through a long life. Nothing will happen to him. 'A man is immortal till his work is done.' There are exceptions to this rule, as to all others, but this is still the rule."

"The Whistling Mother" is a little story of a boy who had a great work to do in the holy cause of civilization, and how his mother made things easier for him to break off the old ties. Of course she cared as much as the mothers of the other fellows who were weeping and making every one uncomfortable, but for the sake of the boy and the nation she bore up, whistling throughout. It is a little book, but one to inspire. You will feel a thrill as you hear the mother's call: "Are you coming, Jacky dear?" and the boy's reply: "Yes, I'm here, never fear!"

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is called "Martie the Unconquered." We think it the great woman's book of the year.

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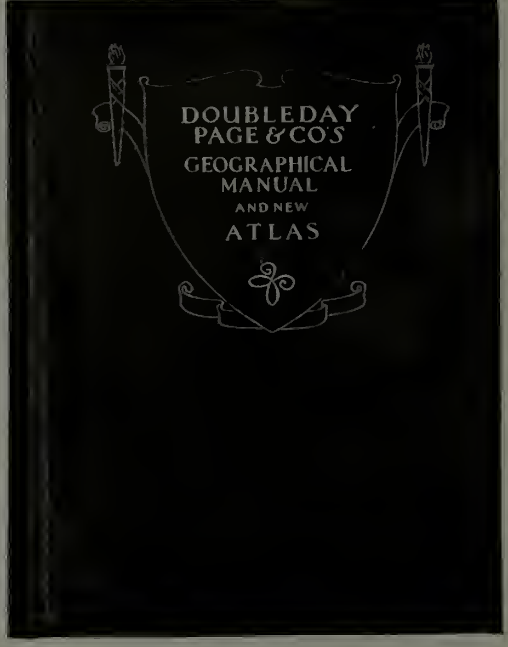
WILLIAM ALLEN WHITE

has written a piece in his paper, the Emporia *Gazette*, of Kansas, which pleases us. The habit that some papers have of reprinting complimentary notices seems to us bad and immodest; but Mr. White expresses the idea we wish to advance so much better than we could that we copy a paragraph, with apologies:

"We know more about the flowers and the birds and the trees than we knew a generation ago, when only the modest little old-fashioned garden by the pump or the well decked the homes built by the pioneers on these prairies. And we should know still more. For the land is full of beautiful garden books and tree books and bird books. For a few dollars a year one may have the most exquisitely beautiful and accurately informing magazines devoted to gardening. And every house should have its garden magazines and its bird books and flower books as it has its other literature of life. The publishing house which does the out-of-door



thing most tastefully and most valuably is Doubleday, Page & Company, of Garden City, Long Island. Their *Country Life in America* was a pioneer, and it is easily the world leader in garden magazines, while the Doubleday-Page nature books are splendidly simple and comprehensive."

He goes on to praise "The Worth Knowing Series," four volumes devoted to Trees, Butterflies, Birds, and Wild Flowers, the best books of their kind we have ever made. But we will not yield to temptation, though we must take a few words from what he says about what we regard (and Rudyard Kipling, who writes the preface, testifies to this fact) as a great book—M. Chevrillon's masterful work, "England and the War":

"A book such as Mr. Chevrillon has written," says Mr. William Allen White, "is worth many times its price to every American student of the war—for the purpose of comparison between the United States and England, if for no other. England and America have much in common in the new business of fighting. Before England could effectively prepare for war, traditions growing out of a national policy of preparing for peace had to be overcome. The same is true of the United States. England has learned the science of making war by costly experience. Will the United States profit by the experience of England? Will the American conscience or intellect help in organizing the United States for victory, which all but seems assured, in the opinion of Mr. Chevrillon, by the rise of England?"

It is a great regret to us that such a book should not be distributed and read like a popular novel. Its price is $1.60, but we should be willing to supply it for next to nothing if some large-minded body of citizens would undertake a campaign to have people who need to read it do so. We cannot always be book merchants; occasionally we are lifted to ambition for service by such a book as this.

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HENRY H. SAYLOR, EDITOR

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AMONG THE "STATELY HOMES OF ENGLAND" WHICH GIVE POINT TO THAT PHRASE IS STOKESAY COURT, IN HEREFORD. IT DATES FROM THE THIRTEENTH CENTURY AND IS SAID TO BE ONE OF THE FINEST CASTELLATED MANSIONS IN ENGLAND

The New
Country Life

Volume XXXII — September, 1917 — Number 5

COUNTRY LIFE AMONG OUR ALLIES

An arm-chair journey through countries beyond the seas over which the shadows of war have settled down to a deadlier gray

THIS magazine has been like this nation of ours, in one way; it has interested itself in our own home gardens, our own sport, our own varied activities of country life. These things have occupied most of our attention and have left us little opportunity to concern ourselves with what was going on out in the world. The nation has changed. It is developing a habit of international thought, observation, and interest. The magazine must do likewise. It must continue to represent the country life of America, but in its broadened form. We dropped the limiting words from the title some months ago; the pages immediately following epitomize the broadening of our interests. This does not mean that we shall attempt to be a magazine of travel or of international affairs or of anything else that is outside the field indicated by our title. Naturally the greater part of our pages will deal with the things nearest our own homes and our own lives, but when we find these things elsewhere, of interest and help to all of us, we shall feel free to tell you of them in word and picture.

Lake Windermere, the heart of England's lake country, and a never failing source of inspiration to the poets of many ages. Wray Castle is seen at the left on the point of land

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Photograph by Underwood & Underwood

A present-day garden party at Lady Cowdray's town house, Carlton House Terrace, London

Edinburgh Castle the ancient seat of the Scottish kings, from the West Princes Street Gardens

The topiary garden at Brockenhurst Park, England. Topiary work figures more largely in English gardens than it does with us in America

One of the show places of the lake country in England is Muncaster Castle, Cumberland

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A familiar feature of the English countryside which remains unmolested by the exigencies of war

[So]cial activities in London now include [pr]actical drilling in garden work at the [R]oyal Botanical Gardens

Photograph by Underwood & Underwood

Chargers being trained by Mr Gordon Withers and assistants "somewhere in England"

Dorothy Vernon's walk at Haddon Hall, one of England's most famous show places, and an ideal specimen of the old English baronial mansion

Sherfield Manor, the country seat of J. Liddell, Esq., near the village of Basingstoke

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The beauty of English gardens in Maytime is proverbial. Here is a glimpse of one of them

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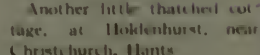
The village of Minstead, Hants, in the New Forest. This tract, about 100 miles square, contains some of the most characteristic woodland scenery in England

Home Place, Limpsfield, Surrey, on the way from London to Brighton

Below is the beautiful gateway to Swallowfield Park, Lady Russell's country home near Reading, Berks. At the left, an old half-timbered cottage in Salop

One of England's most picturesque and characteristic features is her thatched cottages, which seem to belong to the mellow atmosphere of her old time gardens



Another little thatched cottage, at Holdenhurst, near Christchurch, Hants

Looking into the fruit and kitchen garden at Fox Hill, the country seat of Rufus Isaacs, Esq., Reading, England. At right is the lodge at Hazeley Heath, Bramshill

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A tea house and garden at Miyanoshita, one of the popular mountain resorts to which the residents of Yokohama flee from sea-level conditions. It has its view of Fuji-san, of course

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One of the links that bind us to Japan is the fact that her glorious wistaria was named in honor of an American, Caspar Wistar

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In the famous Deer Park of Nara, wherein are several historic Shinto shrines and Buddhist temples

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The Kinkaku-ji, or Golden Pavilion, near Kyoto. The garden in which it stands rivals the Imperial summer gardens of Katsura and Shugaku-in

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An avenue of cryptomeria, some of them centuries old, leading to the tomb of Ilyasu at Nikko

Copyright by H. C. White Co.

A Japanese gentleman feeding his gold carp in the pond in his garden

Wherever one goes in Japan there is the tea ceremony usually in beautiful garden settings but rarely in such a magnificent one as here

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A characteristic picture of Japan, on Hiroshima Bay looking out from the little island of Miyajima. The big vermilion torii, heralding a Shinto shrine, is reminiscent of the gorgeous pylons of Egypt

The hotel garden on Miyajima. Formerly births and deaths were alike forbidden on the island

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The Japanese garden maker does all his work with consummate skill but when he utilizes both his wistaria and his genius for achieving reflections we marvel

Picturesque as all Japanese architecture is, it is the roof that defies analysis and reproduction

A primitive bridge of bamboo over the Haya-gawa, *gawa* being the termination meaning river

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Photograph from Underwood & Underwood

Harvesting wheat in the Riverenia district, New South Wales. Australia is giving of her great resources with both hands in answer to war's need for men and supplies

Photograph from Underwood & Underwood

One of the methods by which Australia encourages stock breeding is the holding of country shows where breeders can compete. The photograph shows a parade of fine stock at one of these gatherings in New South Wales

Photograph from Underwood & Underwood

Australia's plan for providing universal service is worthy of emulation elsewhere. It obliges all boys from fourteen to eighteen years of age to take a course of training prescribed by law, from which they graduate into the citizen force

Photograph from Underwood & Underwood

Dairying is a profitable industry in Australia. The photograph shows one of the big dairy farms near Casino, New South Wales

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The fountains as seen from the erstwhile Imperial Palace, Peterhof, Russia

Photograph from Underwood & Underwood

Orphans at a Russian convent, harvesting under direction of the nuns

The Russian country home of the late Count Leo Tolstoy

Copyright by Underwood & Underwood

Russian women gathering tea in the Caucasus, near Batoum

Copyright by Underwood & Underwood

Russian villagers and a typical village house. The absence of a chimney gives rise to painful speculation as to heating facilities

Photograph by Robert W. Wheelwright

We may weep over Rheims and the desolation of northern France, but there remain to the world the gardens of Italy

Once a flat and barren rock, with a church and a few cottages, Isola Bella was transformed by Count Borromeo, who laid out the garden and built a palace upon the island about 1650

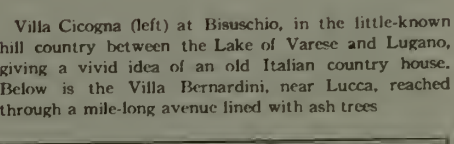
A little villa at Setignano, some four miles to the east of Florence and overlooking the valley of the Arno. At the right a garden at Bordighera, a town that is famous for its floriculture and particularly for its large trade in palm-branches

Photograph by Robert W. Wheelwright

No representation of Italy would be complete without the Villa d'Este at Tivoli, formerly the property of Archduke Francis Ferdinand but now reclaimed by Italy

In the gardens of the Villa Bernardini, shown below to the right, one of the many little-known gardens of Italy that in this country would be the object of gardeners' pilgrimages

Photograph by Robert W. Wheelwright



Villa Cicogna (left) at Bisuschio, in the little-known hill country between the Lake of Varese and Lugano, giving a vivid idea of an old Italian country house. Below is the Villa Bernardini, near Lucca, reached through a mile-long avenue lined with ash trees

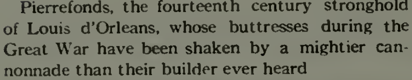
Photograph by Robert W. Wheelwright

Copyright by Underwood & Underwood

A typical Norman cottage. The whole world is to be congratulated that there are portions of France which have not felt the blight of German "Kultur"

Courtesy of Charles Scribner's Sons

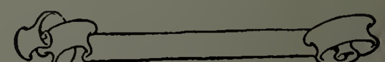
The ruins of Chateau Gaillard from the Seine. This was an English fortress erected as a stronghold by Richard Cœur de Lion, and destroyed by Henry IV in 1603



Pierrefonds, the fourteenth century stronghold of Louis d'Orleans, whose buttresses during the Great War have been shaken by a mightier cannonnade than their builder ever heard

Courtesy of Charles Scribner's Sons

The *cabanon* of southern France is a Provençal substitute for a bungalow. It is built of stone, white, pink, or blue lime-washed, and roofed with red, yellow, or green tiles



Courtesy of Charles Scribner's Sons

The Chateau D'O near Mortree, showing the north-east corner of the broad moat which still surrounds its walls, though built in 1505. It has suffered from vandalism of every kind in several centuries

At the confluence of the Sevres and the Moine lie the village of Clisson and the ruins of the Chateau, both of which were destroyed in 1794

Another of the famous houses of France is Serrant, about ten miles from Angers, built by the family of Brie in 1546. The photograph shows the old bridge from the west

The Gothic fortress of Azay le Rideau, which is now preserved by the French nation as a relic of feudal times. It was built by Gilles Berthelot some time between 1513 and 1524

Courtesy of Charles Scribner's Sons

Chateau d'Usse, one of the most interesting of the great houses in the famous valley of the Loire. It is situated on the hills that confine the rivers Loire and Indre, and has dwelt there in comparative peace and quiet since the sixteenth century

The CHEERFUL BOND BUYER

HE Federal Reserve Bank has asked Country Life, and we suppose every other publication, to help spread the idea that every one in the United States must help win the war by buying Liberty Bonds, because before this fight is over the people of this country will very likely have to buy and pay for some fifteen billion dollars' worth.

This is nothing to be downhearted about; in fact, one wonders how the United States can look itself in the face while, at this time of horrors beyond conception in Europe, we prosper.

We have had a few, and a very few, thoughtless people speak as though it were a hardship to buy United States bonds. Compare for a moment the sacrifice that England and France, for example, not to mention other lands, are making in the financial sense alone to carry on this war. The billions of dollars' worth of bonds that the English and French are buying represent money which is going out of the country —and mostly to this country—and this has been so for nearly three years. If they ever get this money back, it will only be done by excessive pain and labor through trading in the world market.

It is difficult for us to know how to be grateful enough for what we are spared in this orgy of blood as compared with our Allies. If we can give of our man power, how quickly and cheerfully should we buy bonds, thankful that we have the money to make so splendid an investment.

LANDSCAPE LINES *and* GARDENING

By WALTER PRICHARD EATON

THERE are certain lines, or compositions of lines, in nature which have a definite effect on the spirit of man, inducing a definite mood, recognizing this, man has often made conscious use of them in his architectural structures. There is, for instance, a pronounced difference between the spiritual effect of a vertical and a horizontal line, when they are stressed sufficiently to dominate the scene or the structure. The long horizontal is a symbol of peace, the soaring vertical, of aspiration. It is easy to see why this should be so, the one remaining plodding and pedestrian, on the comfortable level, the other leaving the ground and making for the stars.

Nothing is more peaceful, more soothing to the spirit, than a canal. Brimming and level, without flow or current, it lays its watery highway through the flat fields, and life would seem leisurely as you strolled beside it even if you were unaware that traffic upon its bosom is actually leisurely. A canal is the apotheosis of the horizontal, the trees which march by its bank falling into misty green procession like a perspective of level house tops, the barge lying horizontal on its flood, even the driver and the mules and the cable falling into a level line as you see them through a haze of rain, perhaps, or the morning fog. There was once an unhappy time in my life when I fought the demon insomnia, and when my nerves were at the breaking point I used to take a train to Princeton, and idle in a canoe up the canal there, with the dreaming towers of the college rising above the trees on the distant hill, and presently, a sight of the quaint little whitewashed lock house with its window boxes of gay geraniums. That canal was better than medicine for me—soothing, tranquil, sleepy.

But how different an effect is wrought by even so short a vertical as a ten-foot dam or natural waterfall. Though the stream is descending, the eye takes an upward tilt, catching on the rocks at the side, or on the smooth, gleaming columns of the water, and seeing in imagination the higher level above. One views such a cataract as Niagara, of course, with a confusion of emotions, half stunned by its roar and overwhelmed by the volume of its waters. Yet when you stand under Niagara itself and look up, you feel distinctly the mood of aspiration; you are less aware of a descending deluge than of a beautiful upward-soaring line ending in a suave, glittering curve that springs out of sight into the sun and spray. One of the most perfect examples of the vertical line in nature, perhaps, is furnished by a pine grove on the shore of a lake, where each tall, straight trunk stands up companioning its fellow, in stately silhouette against the sunlit water beyond. Our eyes may not seek the branches above, the mere passage across the vision of those upright columns being enough to evoke the mood—a grave, solemn cathedral mood. I have often wondered if it was not such a grove of trees which gave to the sculptor of the Parthenon frieze his idea for the procession of vertical draperies which add such grave stateliness to that composition.

Man's use of the vertical in his buildings, of course, reaches its most characteristic expression in Gothic architecture. The mood

Photograph by Amasa Day Chaffee

"Nothing is more peaceful, more soothing to the spirit, than a canal, ... It is the apotheosis of the horizontal, the trees which march by its bank falling into misty, green procession like a perspective of level housetops"

Photograph by Paul L. Anderson

"Of all the individual lines that mountains achieve, probably the most beautiful and potent is the dome. It evokes a mood of grave, calm acceptance of infinity . . . . Curiously enough, it is most often the doming summit that we hold in affection, too—perhaps because of its benignity"

of aspiration, so closely associated with all religions, is directly appealed to alike by the Moslem minaret and the Christian spire, but it was in the Gothic style that it reached its flower, and the soaring uprights sprang unbroken into the dim tracery of sky-born vaults, the innermost skeleton structure of the cathedrals revealing itself in verticals. One of the chief reasons why an English cathedral never gives you quite the stirring effect of Amiens or Chartres is because horizontals have been introduced. Curiously enough, it was not until Cass Gilbert applied Gothic to our modern skyscrapers (in the West Street building and the Woolworth Tower, particularly), that they justified their height esthetically. If you look attentively at the ordinary skyscraper, you will see that the various stories are clearly marked by horizontal rows of windows; the building is a layer cake of horizontals, a scheme which obviously does not comport with its extraordinary proportions. But by stressing the spaces between the windows into unbroken piers and thus throwing the windows back and relating each one not to those on either side, but to those below and above on the same vertical line, an entirely new effect is achieved. The mood of the upright is evoked, as befits so tall and narrow a structure, and a true and fitting beauty is achieved.

We naturally think of mountains as something vertical, but they are seldom vertical, as a matter of fact; they have a vast variety of line and of mood. The Berkshire Hills, for example, run in two parallel ranges east and west of a sweet green valley, with level tops like the crest of an advancing wave, and the scenery among them is most often spoken of as "peaceful." It is the peace of the horizontal; the peace, almost, of the slow canal or the long, green marshes bordering the sea—or would be, were it not for the pleasant contrast of sloping shoulders.

It is only the sharp peak or the towering pyramid which has the true vertical aspiration, such a peak as the Matterhorn, or Chief Mountain in northern Montana (which stands out sharp and precipitous from the wall of the Great Divide, sentineling the prairie), or the white-capped cone of Fujiyama, used over and over in their prints by Hokusai or Hiroshige, like a religious motive. Mountains, indeed, are rather more frequently disturbing on a near view, because of their broken lines, their half uprights and shattered horizontals, with the emphasis now on one, now on the other. Such complete chaos of lines breeds restlessness, and on a dull day which takes out the color, actual depression. One of the most miserable days I ever spent was under a cloud in the pocket cañon which holds Cracker Lake, in Glacier Park. The Divide soared upward into the creeping gray roof with a tremendous, an overwhelming, vertical magnificence, but all around its base were vast shale slides at an angle half way between vertical and horizontal, pitching into the flat lake; and behind, through the cañon mouth, was every conceivable tilt and angle of rock and shale and forest. No line predominated, since the top of the Divide was buried in scud and could not take the eye up to the blue above. You felt yourself in the heart of upheaved chaos.

Of all the individual lines that mountains achieve, probably the most beautiful and potent is the dome. It evokes a mood of grave, calm acceptance of infinity, and that corresponding sense of mystery and wonder. Curiously enough, it is most often the doming summit that we hold in affection, too—perhaps because of its benignity. It has such amplitude of base, such easy lines of ascent, such an aspect of monumental solidity, and such sheer beauty in its sweeping curves, that it is almost invariably our favorite among its fellows. At least, that is the case with me. Moosilauke is my best loved mountain in the White Hills of New Hampshire, and always seems to me a more impressive as well as a more beautiful pile than Mount Washington, which out-tops it by 1,500 feet. In my own Berkshire Hills, Mount Everett (or the

Dome, as it is popularly called), in the southwestern corner of Massachusetts, is nearly a thousand feet lower than Graylock, in the northwestern, yet as you view it from the plain below it seems far more like a major mountain, it actually suggests size and dignity and eternal solidity to a much greater extent, because it rises in a beautiful and perfect dome out of the long rampart of the range and lays a majestic curve against the western sky, a curve as sweet as a woman's breast, as infinite as the sea rim.

Man, of course, has used the dome in his structures since the days of the Romans, undaunted by its difficulties, Brunelleschi, Michael Angelo, Wren, all wrestled with its problems in later times; and to-day it is a symbol of the enduring solidity of the State. Man's domes are sprung more sharply than nature's, however, and the long, sweet curve of infinity is almost lost in them. Oddly enough, where that curve is most happily caught in an architectural structure is in the span of the old Brooklyn Bridge, springing out of the flank of lower Manhattan, the most architecturally chaotic section of the globe! The newer bridges upstream have missed it, but the air-flung boulevard of the first great suspension structure rises and hovers and dips with the alluring, solemn, and lovely span of the infinite.

There is one more line in nature which must not be forgotten—the circle. Whether you stand upon a mountain top or on the deck of a ship or in the centre of the Newark marshes ringed by crawling freight trains and smoking chimney stacks, you have only to glimpse the horizon in a circle all about you to feel at once a sudden awareness of the great dome of the sky overhead, Omar's inverted bowl, and to sense yourself at the exact centre of the universe, directly beneath the zenith. If a plumb line were dropped from the zenith, it would, you feel sure, pierce your hat—or your head, for at such a time you remove your hat to feel the sun, as you fill your lungs deep with air. The sensation is decidedly pleasant, with distinct motor reactions of expansion. Here the sunshine seems concentrated, here is the focal point of its rays, the pivot of the bright, blue day.

I am not a landscape architect, nor even a skilled horticulturist, but in thinking over some of these moods I have tried to describe, evoked more or less directly by the lines and contours in nature, and in reflecting how such lines are similarly employed in building construction, I have come to wonder if the natural landscape does not hold lessons for our garden makers which at present they have not always scanned. To be sure, it is pretty well recognized to-day, or so I gather from the gardens I visit, that a chaos of lines in the ground plan, whether in beds, walks, or tree specimens, creates restlessness and is quite at variance with the peace of a long horizontal of lawn or path, or a flat, unbroken surface. But it has also seemed to me that our gardens are somewhat overgiven to the horizontal, that they are too often ironed out into a peaceful, flat enclosure, and too little effort made to catch from nature some of her loveliest landscape moods and overtones.

The Lombardy poplar, for instance, is a columnar tree, and eminently adapted to carry the eye straight up, to evoke aspiration like a spire. But to plant such trees in groups, or in rows, is to throw away this effect. That is like building a whole street of churches, each spire killing its neighbor. In his book "What England Can Teach Us About Gardening," Wilhelm Miller prints a picture of the proper use of this tree, in Kew Gardens, by the lake shore. Here a single specimen rises out of the lower foliage, as Ruskin said a cathedral spire should rise, "dreaming over the purple crowd of humble roofs." Even in the photograph, it strikes the note of aspiration. In some of the old Italian gardens a similar note is struck with columnar evergreens; certain of our cedars or arbor-vitaes strike it with unpremeditated stateliness on a rocky hillside. But the trees cannot be grouped, nor planted in rows. They must be set with a sparing hand, and in distinct relation to lower masses.

Again, how few gardens one ever sees which employ pines as nature employs them, to throw a screen of aspiring uprights against a lake or a sunny field or a sunset glow of rose and gold. Here again, the spaced row is fatal, though for a different reason—the careless composition of nature would be lost. I have in mind a pine grove at the end of a large and formal garden, set out at great expense many years ago and now perhaps thirty feet high. The trees are spaced as rigidly as line and rule could plant them, and they do not make a screen, moreover, but a solid mass. Their lower branches were never trimmed out to make smooth, aspiring uprights, and the grove is but a poor and formal imitation of a bit of uninteresting young forest, with rhododendrons growing peakedly underneath, by the paths, instead of our native, hardy wood flowers. As this garden is on a hillside (but flattened out into artificial terraces), with a lovely prospect of the lower valley and the sunset over the blue hills beyond, the opportunity for some fine and imaginative use of pines was great—and it has been utterly muffed. Yet this estate cost its owner thousands upon thousands of dollars.

Not long ago I was passing the home of one of America's leading sculptors, whose garden is chiefly the native hemlock forest which he permits to march down the hill upon his studio, and he was in his shirt sleeves at the foot of his lawn, superintending the construction of a ha-ha wall. He seemed chiefly concerned with the line on which the wall was to be laid, which he had carefully staked out,

Photograph by Arthur D. Chapman

Our best architectural example of the long, sweet curve of infinity which characterizes nature's domes is the old Brooklyn Bridge, "springing out of the flank of lower Manhattan, the most architecturally chaotic section of the globe!"

following a gentle undulation of the slope and swinging in an open arc to its upper base. Here was a man who could appreciate pure line! A year later I passed again, purposely to see the effect. The sod above now grew down and covered the top of the wall, so that from the house you were aware only of the natural undulations. But from below, or from the road, the line of the wall was visible, a sweet, gracious curve that might have been sculptured by a full-flooded river, a line that was nature's own and subtly removed the taint of formality and tampering. Similarly, the sweep of trees and shrubbery by a lawn-side, so often now either a matter of ruled perspective or jagged, broken capes and promontories, might be planned to a sweeter curve, alike on its ground and its summit lines, and new emotional values be secured. In such a border, for example, sharp-topped trees would be out of place, but a swell and dip and swell again of round headed foliage, with some great umbrella elm as the Moosilauke of the range, would give a skyline of perpetual allure, with a hint of the mountain mystery in its green bulwark. It is a good deal to have cleared out from so many of our estates the specimen trees which used to dot the lawns and slopes like abandoned lunch boxes on the beach at Coney Island. But need our conscious planning stop with the opened vista? We have cleared the valley, but we can still arrange the walls.

The mood of the circle is the mood we should feel, it seems to me, when we stand by a sun-dial. That is the instinct of most people, I fancy, for dials are most often placed where the garden rings them, and they are at the focus. A dial huddled up against a wall, or set at the end of the enclosure, never seems quite right. After all, it has no utilitarian use to-day; it is a symbol of our tribute to the sun, and it should be where the sunshine seems to concentrate, so that, standing beside it, we may remove our hat, fill our lungs, and feel that delicious sensation of warm expansion. In my ideal garden, I would wish to glimpse from the dial a vista of the horizon to the four points of the compass, certainly to east and west, that I might be aware of the world rim and of the great inverted dome of the sky, with its blue intensity and its lazy cloud flotillas riding to the zenith directly over the crown of my head. Then, though my garden be set in lowly places, I would know for an instant the mood of the peak!

The natural landscape, of course, is seldom a matter of one line exclusively. Only at the base of a precipice or on the naked prairie is the vertical or the horizontal supreme. The earth's contours are full of broken lines, of curves and swells, which give contrast and variety, and because they are physiographically so interrelated, they flow one into the other. Even the precipice meets the valley floor not with a right angle but the lovely curve of débris. To a certain extent nature looks after our gardens to achieve the same effect, even when we are neglectful, tending always, for instance, to throw out a débris-curve of shrubbery and grasses from a group of trees. But in the gardens that I have visited (and the more elaborate they are the greater the extent of this tampering) I find a widespread tendency to iron out natural irregularities of ground, to make a flat floor wherever possible, to terrace a beautifully sloping hillside, and build a wall or a rose arbor across a gracious curve. It seems to me that the loveliest garden is the better if somewhere in it there is a rise or dip, untampered with, maintaining its natural flow of line, to suggest the variety and contrast and stimulating irregularity of nature. How otherwise shall we escape monotony of mood? I may be quite wrong in assuming that the best gardens, like the best literature, ought to seem spontaneous and natural, a bit of selected reality. But if I am right, what some of our gardeners need are fewer drag scrapers and more imagination.

Perhaps that is why, too, the older fashion of bedding out plants is becoming distasteful. Any flower bed in which the earth shows between mathematically spaced plants, or in which there is no artless massing, no banking of lower bloom like a débris-curve to carry the eye to the taller plants, violates nature, and loses something precious. Notice the planting that nature does on the concave side of a river bend, stepping up from pickerel weed through wild water pepper, Joe-pye-weed, red osier dogwood, and the stately willows, and you will see how the lines of nature, even in the formal border, have a loveliness and a dignity that man can equal only by imitating.

Wise is the man who buildeth his garden upon a hill, or near it, for it may be that by some happy planning he can achieve a lovely curve of lawn, or spray-crest of rock and columbine to cut the blue sky, or an inverted curve to slide into a ferny hollow, and thus know the mystery and the stimulation of the natural prospect, where peace and aspiration, quietude and wonder, dwell side by side.

Lombardy poplars are eminently adapted to carry the eye up, to evoke aspiration like a spire, but they must be set with a sparing hand and in distinct relation to lower masses

Winning team in the first annual All Alaska Sweepstakes. Since the discovery of gold on the beach at Nome, no other event has caused so much interest there as did this race

The ALASKA DOG DERBY

By L. L. LANE

THE history of the Alaska Derby must necessarily commence with a consideration of the circumstances leading up to and giving birth to what is now the racing classic of the far north—the All Alaska Sweepstakes.

Prior to 1908, dog races run under the auspices of any organized body, with strict regulations as to age, weight, breed, and entry of teams, were unknown. Writers of fiction have frequently described pulling and racing contests held in Alaska, but, up to 1908, dogs were rarely ever matched in races that had their inception in the love for sport alone.

Occasionally disputant team owners, after racing their dogs a hundred miles or more—around the base-burning stoves of their club rooms—would post small wagers, and immediately, without a thought as to the condition of the dogs, start on a "mush" of from ten to fifty miles. Usually these races proved nothing as to the proper racing age, weight, and condition of the dogs—in fact, they settled none of the questions raised.

The Marathon Dog Race Cup presented to the Nome Kennel Club by Mr John Borden in 1916. Three yearly winnings of the small cup entitle a team to this trophy

This was all done away with, however, when Albert Fink, Esq., then an attorney in Nome, undertook the task of uniting the dog-loving and dog-owning people of the camp into a society for the promotion of dog racing and breeding in Alaska, and for this purpose organized, in the winter of 1907, the Nome Kennel Club. This Club was founded on the same principles as jockey clubs. Officers were elected, racing rules promulgated, and a purse of more than $15,000 was made up, to be given to the winners of the All Alaska Sweepstakes, under which title the race has been held each spring since 1908.

Since the discovery of gold on the beach at Nome, no other event has caused the popular interest that this first race did. The subject was the sole topic of conversation for weeks in advance, and during the actual running of the race, stores, offices, and banks were deserted, and even the District Court was adjourned, owing to the non-appearance of witnesses, jurors, and attorneys. Thousands of dollars were wagered on the dogs and on the men who were driving, and excitement was kept at a high pitch, as first one team and then another would take the lead.

It is not an uncommon thing, in this treeless, windswept country, for dogs to freeze, and several of the racers have brought in dogs frozen to death. Neither is it an unusual thing to see as many dogs riding as a twenty-four-pound skeleton sleigh can accommodate, with the intrepid driver in harness helping to bring back to the starting point the dogs that accident or sickness has rendered unable to travel.

It must be here explained that to lose a dog on the trail is as disastrous as to fail to finish, for the rules of the Kennel Club provide that each team must come back to the starting point in its entirety, after having been certified to at Candle, the turning point. This does not mean that a dog must be in harness, but that the team must be there intact.

Many dogs were carried to the finish in that first race. The severest weather conditions prevailed at the time of the race, and a team of malamutes, owned by Albert Fink and driven by John Hegness, were first to finish, making the course from Nome, on the shore of Bering Sea, to Candle, across Seward Peninsula, a distance of 205 miles and back, or a total of 410 miles, in 119 hours, 15 minutes, 22 seconds. The winning team was closely followed by one driven by "Scotty" Allen, which made the course in 120 hours, 7 minutes, 52 seconds. The third team arrived three hours later.

It was this narrow winning margin of minutes, in a race taking days to finish, and the great uncertainty as to the winner, up to the very end, that made the event a fixture, and from this race sprang the desire of owners to put into practice and try out the various theories of conditioning, training, and breeding, which up to this time had been only a matter of talk.

The purse of $15,000 for this race—which was awarded in the sum of $10,000 to the winner, $3,000 to the second team, and $2,000 to the one finishing third—was intended to be large enough to tempt dog owners to become dog fanciers, and to induce the importation and breeding of faster and better dogs. It was inadequate, however, to reimburse the owner for the expense of assembling, training, feeding and conditioning his team, for which purpose was spent a sum in excess of the total purse.

The personnel of the owners qualifying for the second race demonstrated that not only were the wealthy dog fanciers factors in the staging of long-distance racing in Alaska, but that miners, fur traders, the first delegate to Congress, as well as mail carriers and professional "mushers," were contenders, and all to be reckoned with in the finals.

For the second race they developed a much lighter bodied and a longer legged animal, and lowered the time to 82 hours, 2 minutes, 42 seconds, a cut of 37 hours from the first race, with "Scotty" Allen driver and winner.

The first man to profit by these races was not an Alaskan, but a tenderfoot, one Fox Ramsey, brother of the Earl of Dalhousie. Ramsey entered a team of malamutes in the second race, and, like a true sport, drove them himself, though he was a *Cheechaco* and unused to the ways of the trail and the handling of dogs. His entry

Leonard Seppala and his Siberians, winners in 1915 and 1916 of the eighth and

was the source of much amusement to the local "mushers," and that it was not unjustified was proven, when, several weeks after the race was over, Ramsey pulled up to the finishing post and good-humoredly notified the judges that his team had arrived.

He was not to be a failure, however, and the same bulldog grit that now places him at the front "somewhere in France" placed him aboard a chartered schooner bound for Siberia, from which place he returned with Siberian huskies howling from every porthole of the schooner. When landed and led to the kennels they furnished the crowd as much amusement as did his racing team of the previous year.

No interest was shown by the general public in the training of these dogs, and in April, at the start of the third race, the Siberians were the long shot on the boards, being quoted at 100 to 1. The results of the race, in which Ramsey took first and second money in the record breaking and making time of 74 hours, 14 minutes, 22 seconds, changed all the amusement to admiration, and revolutionized existing ideas as to breeds best fitted for such long-distance running.

It is the fond hope of every fancier to perfect a breed that will lower the time record of the Siberian dogs and demonstrate beyond a doubt that the descendants of the wolf are better adapted to the country. There is a new breed which is receiving much attention, the stag- and fox-hound, which is supreme for speed in the short races but which has failed in strength for the gruelling test of the Sweepstakes.

One of the latest experiments is with the Russian wolfhound, which bids fair to revolutionize all former ideas. These dogs are being matured and conditioned for the coming winter. They command instant admiration, but only the test of running can decide their unknown and most necessary quality—courage.

Since the time of the third race, the Derby has been a contest between those who believe in the superiority of the foxhound, bird dog, and malamute cross, and those whose faith, money, and hopes are pinned to the pure blooded Siberians.

The records of the different races since 1910 show that the Siberian "rats," as they are fondly called by their supporters, have a slight advantage, both in running time and number of contests won, yet there is still a great difference of opinion as to the relative merits of the various breeds, even as much as existed before the coming of the imported dog.

A word in regard to the conditioning and training necessary for the entry of a racing team may not come amiss. The food consists of dog salmon, corn and oatmeal mush, boiled rice, and bacon; this is later changed to a more strengthening diet of chopped beef, mutton, and eggs.

The kennels where the dogs are kept would astonish any one from the States who had never been to Alaska. In fact, most people would doubt that the human inhabitants were as well housed as are these dogs that run the Derby. A large retinue of trainers, drivers, and helpers are necessary to get a team in fit condition for a race. The driver who is to pilot the first team of a kennel devotes his time and attention to the choice few of some twenty or thirty dogs, and the helpers and second string driver keep the remainder in fit condition, so as to develop and gait material to act as substitutes or to replace any animal which proves wanting in speed, soundness, or courage to qualify for the kennel's racing entry. Dogs have developed from the second string in this manner, whose fame as sweepstakers has spread all over Alaska and the Outside—as the United States is known to all Alaskans. Such a dog was Baldy. Rejected at first as not being of sufficient calibre for the first team, he won his way from wheel of the second team up to leader of the first string of the Allen and Darling entry. The sagacity, courage, and strength of Baldy have won for him a place in the hearts of the people of Alaska that is approached by no other canine, unless it be the redoubtable Dubby. Dubby was the first loose leader ever worked in Alaska, and the best. Running free from the tow-line, he took his place at the head of the team and would obey the spoken commands, "Gee" and "Haw," as perfectly as though under restraint of tow and lash. From his position of command at the head of the team he would at all times encourage his mates by playful antics and by incessant yelping; at the same time he punished laggards by running back and nipping them until the offenders were only too glad to resume their duties and gait.

Among other dogs winning fame in the Derby is the majestic, fierce, and powerful Jack McMillan, a Fink leader; the pacing Rex; the two Blatchford Blues, thoroughbred Llewellyn setters, wonders for speed and intelligence; and Kolma, the beautiful black-coated, white-eyed Siberian and the most lasting campaigner of them all.

The drivers of these animals were men versed in dog lore, imbued with theories of training as varied as the breeds of dogs, inured to the hardships of the trail, fleet of foot, and gifted with physical endurance and courage of the rarest.

Dubby, "Scotty" Allen's most famous loose leader

weepstakes, at Nome, and of the Ruby Derby, at Ruby, Alaska, in 1916

The best known of all dog drivers is "Scotty" Allen, who has been in every race except the last one, with a team of his own or one owned by himself and Mrs. C. E. Darling, President of the Nome Kennel Club. "Scotty," as he is known to every man, woman, and child on Seward Peninsula, developed and owns the leaders Baldy and Dubby, and the renown of all three is coextensive.

The French government entrusted to him the responsibility of choosing and transporting to France more than a hundred of the Sweepstakes dogs, for carrying ammunition and supplies in the mountains, and it was while on this mission that he missed entering his first race since the beginning of the Derby. It is to be regretted that he will also be unable to enter the next race, for the reason that he has been elected to the Alaska Legislature, which is in session at the same time that the Derby is held.

Among other drivers of note are the Johnson boys and Leonard Seppala, who have made good winnings, but less spectacular, as they have driven docile Siberians in a long string of from fifteen to nineteen dogs to the team.

Wonderful records of endurance have been made by these men. Probably the most notable was the 130 miles made by Peter Berg, without a stop for food or rest, the last 30 miles being made on snowshoes and in harness with what was left of his badly used up team. After hauling part of his frost-bitten and exhausted dogs to the finishing post, he found that he had been beaten to third money by a man who had ridden most of the 400 miles behind his untiring Siberians.

It was hoped in the staging of the All Alaska Sweepstakes, as the name would indicate, to have this race develop into an intersectional affair, but it was necessary to hold the race in April, just before the spring break-up, in order to have all winter for the training and conditioning of the dogs, and the advantage of the hard spring trail and better weather. This prevented team owners from Fairbanks, Iditarod, and other Alaskan towns from competing, owing to the fact that they could not very well leave spring clean-ups and take a chance of the trail disappearing in early thaws before they were able to return home.

Nearly all of the Alaskan towns have small organizations and they are all wide awake to the real sport of dog racing, though the interest shown has never approached that taken in the Nome races, either in spirit, purses, or development of fine dogs. Lovers of sport on the Outside are taking great interest in the All Alaska Sweepstakes, and each year sees contributions to the purse sent to the Nome Kennel Club; and trophies for the different races, consisting of cups, are nearly all of them furnished by devotees of the sport in the States who are unable to attend or participate in the Derby but who take this means of encouraging and helping the event.

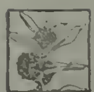
Perhaps the most eagerly sought after cup this year will be the one sent to the Nome Kennel Club by John Borden, Esq., a Chicago sportsman, who joined the Club last summer while in Nome. This cup is for a new contest—extreme speed. The course to be over 26 miles, 300 yards, and must be run under perfect climatic conditions, it being the desire of both the Club and the donor to learn how fast a team of dogs can actually travel. The winner each year will be given a small cup and the big trophy must be won three times by the same team owner, before it becomes his property.

Another race of interest will be the Ladies' Amateur Race, for which a beautiful bronze and silver cup was given by Norris H. Bokum, Esq., of Chicago, who spent a part of last summer cruising in Alaskan waters.

There is no other sport that has resulted in so much good to Alaska as has the Derby—in fact, no other sport has ever so benefited any country, for in Alaska the sledge dog is the vital element of winter communication and transportation. He carries the mail into regions that but for him would be closed to the outside world for many months of the year. His importance in the life of the North can hardly be overestimated. Naturally anything looking to his improvement must of necessity benefit the community as a whole. Not only has the Derby developed a superior breed of animals for local use, but it has materially bettered the condition of all Northern working dogs.

The old rule of feeding an overworked team "buckskin soup" no longer applies, and very few men have the temerity to abuse a dog. Drivers have proven beyond a doubt that better results are obtained by kindness and care than were ever possible by neglect and brutal treatment. The dog has come into his own and rules supreme over a kingdom of devoted subjects from the first fall of snow until the breaking up of ice in the spring. May his reign be a lasting one, and result in much good to the Northland for many years to come.

Close-up of Mr. Seppala and three of his Siberian leaders

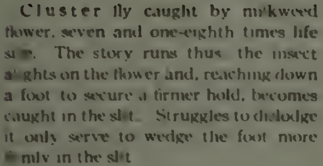


A colony of milkweed, *Asclepias syriaca*, at the edge of a field. This is our most familiar variety of milkweed, which grows everywhere. It is known by its pinkish flower clusters, its milky juice, and its delightful fragrance

The COMMON MILKWEED and *its* GRIM PLAN *for* PERPETUATING *itself*

The blossoms (three fourths life size) in which the story of life and tragedy lies. The calyx is five parted and bent down, while stamens attached to the five-parted corolla bend up and over, enclosing the pistil in a protective tube

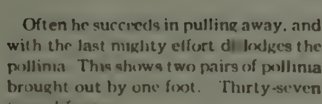
The cluster fly (*Pollinia rudis*) seven and a half times life size, and milkweed flower with one section of the corolla cut away to show the slits through which the insect's feet enter to reach the pollen masses



Cluster fly caught by milkweed flower, seven and one-eighth times life size. The story runs thus: the insect alights on the flower and, reaching down a foot to secure a firmer hold, becomes caught in the slit. Struggles to dislodge it only serve to wedge the foot more firmly in the slit

Perhaps in agony at being caught, the fly reaches out to another flower and entangles a foot in that. If he is not strong he cannot pull away, and so dies

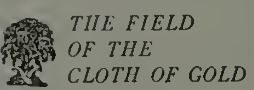
Photographs by
Arthur G. Eldredge



Often he succeeds in pulling away, and with the last mighty effort dislodges the pollinia. This shows two pairs of pollinia brought out by one foot. Thirty-seven times life size

Showing just how the feet are caught and embedded in the pollinia. The two dark lines at 2 are the edges of the slit where the claw enters; at 1 the claw is securely embedded; 3 shows pollen masses. One hundred and twenty-two times life size

FROM A COUNTRY WINDOW



THE FIELD OF THE CLOTH OF GOLD

DURING THESE WEARY DAYS of waiting, the happiest thing that anybody can do is to play the game of counting the unconscious blessings that have come with the War: the lesson of thrift, for instance; the place that women are taking; and so you can go on. Besides, for me, there are the smaller, personal by-products that I am daily experiencing. I can be shabby and unashamed; it is the first year that we have ever been able to plant the front yard to potatoes without criticism and with the resulting benefit of a green, stretching lawn. Why, even my patriotic project of keeping hens is being applauded by the neighborhood, and that I had never hoped for in my most optimistic imaginings. But there is just a wee little cloud threatening my horizon. The lovely meadow directly opposite us—long ago we dubbed it "The Field of the Cloth of Gold"—has been ploughed and planted and lies in long, brown furrows before my eyes, and even though I do not regret the reason for its use I cannot help but mourn its lost charms. Somebody hereabouts in distant days, it is said, experimented with cultivated dandelions, and the seeds, blown about by summer winds, lighted on this field of ours, and made the flowers larger and more golden than I have ever seen them anywhere else—great, gorgeous things that need only rarity to make them prized; a valiant, blazoned cloth fringed with emerald. Later, when they had gone by, gray little ghosts of gay little flowers, they were still as lovely, for at dusk the fireflies, silver phantoms too, came and flitted among them. Daisies blossomed next, seas of them, brightened with splashes of buttercups, humming with busy insects all day; and at night, when a round bubble moon made white stars of them, a whippoorwill, somewhere in the wood, flew out and sang to their beauty. Bees and more bees and butterflies, all the warm, quivering ecstasy of summer, came with the purple clover, and, if you divided the deep grasses and looked carefully, you found beds of fragrant wild strawberries. For years that field has been part of our lives, and we care for it very greatly, you see. It has helped us to bring up our three children—I can shut my eyes and see them now, wading, breast-deep, in its waves—and it has taught them the gentle lessons of flowers and of small, fluttering winged things, the kindly tasks of the everydayness of existence. Shall we ever, do you suppose, learn to love the blossoming tops of a potato patch anywhere nearly so well? I'm sure I shan't, and it is a cloud certainly, but in complaining thus on paper I find that I have discovered a silver lining. It is memory.

THE PICKING OF BERRIES

IT IS CONCEIVABLE that such genial philosophers as John Burroughs and Dallas Lore Sharp, who find sermons in bean fields, books in buzzing bees, and good in everything, might deal with the berry patch in idyllic prose. But to me, only a sometime picker of berries, it is a theme to be chanted in a vindictive hymn of hate.

I can see the old berry patch now—a great splotch of tangled green in the early, blistering sunshine of those innumerable July mornings, its blurred, scratchy rows stretching endlessly up the hillside east of the house. The milk pails gleam in ominous emptiness on the side porch. Viola, the nagging hired girl, is donning her gingham sunbonnet and pulling on her long, black picking mitts, while mother begins to wonder where "that boy" is. He doubtless is very busy helping hitch the team to the hay wagon, hoping against his better judgment that father may for once decide that he needs him to drive on the load.

"Come, Buddy. That's your mother calling. Run and help Viola pick berries." "Run and help"——"just skip down and tell—" Why do grown-ups think that injecting the element of speed into a request assuages its bitterness?

The doom is pronounced. Heartsick with disappointment, I drag heavy feet—so eager for service at a man's job—toward the detestable berry patch and the equally detestable Viola.

The most discouraging fact about picking berries is that you are never through. They ripen with marvelous rapidity behind you. Of course, it rained at infrequent intervals—oh, blissful remembrance—yet these occasional rains brought dire consequences in a doubled yield. While it seems now that most of the summers of my boyhood were marked by long, unbroken droughts that were an unmixed evil, there was one joyous dry spell that shriveled the berries on their stalks, thus putting an end to all picking for that season.

To you who may think of berry picking as one of the farm delights of which the poets sing, where one sallies forth under broad-brimmed hat in the dancing sunlight to the gleaming field of shrubbery, there to pluck luscious berries from long, graceful shoots bending low with ripened fruit, let me drop a disillusioning hint. No farm to my knowledge ever had such a berry patch. In fact, I doubt if berries would do well without an environment of nettles and mosquitoes.

Yet when the painful picking is finally done, and the berries, freed from ants, bits of leaves, and small green worms, rest invitingly in a big bowl by mother's plate, with plenty of sugar and rich yellow cream at hand, we may come to feel that after all the real proof of the picking is found in the joy of the eating.

OLD MOSS ON NEW STONES

IF THERE IS ANYTHING in nature more unqualifiedly raw than a new stone wall we shall welcome any evidence, horrible as it must needs be, appertaining thereto. If there is anything in nature more thoroughly and contentedly at home in its surroundings and at peace with the world than an *old* stone wall, we dare you to name it.

We have just built a new stone wall along one side of our garden and are now spending an astonishing amount of energy in the effort to look at something else in the wide sector of landscape into which that wall raises its ugly head. In more energetic moments we are planting that wall—filling chink and cranny with stonecrops and mosses and all the host of exquisite alpines. We might have known, we suppose, that a vertical garden would require *n* times as many plants as its innocent appearing area on the garden plan—*n* representing the wall's height in feet. However, we didn't. A nice little row of wiggledy lines on the plan meant "stone wall," but it surely never conveyed anything like an adequate impression of the hungry maw that now stands there and fairly yaps for more plants and still more plants. When those wiggledy little lines were set down upon that garden plan they were shorthand for one of those beautiful pictures in Miss Jekyll's book on wall and water gardens—a luxuriant, soft, mellow wall garden in which a mere stone dared only here and there to show its face. To make the comparison quite clear in a mathematical way, let us say that our rock wall is to Miss Jekyll's wall garden as a new born and very bald baby is to Rabindranath Tagore.

And yet there is a ray of hope in our heart. That rock wall is not so bad as it might be, if we had, say, used cement in all the joints, or built it neatly of cement blocks, rock-faced. We know it is not bad, for we have had a sign. This morning as we came out into the garden, fully braced for one more blow in the face from that horrendous vista, we saw the sign and were filled with peace. A tiny chipmunk had moved into that wall and adopted it as his home.

WROUGHT METAL WORK *by* HUNT DIEDERICH

From an Exhibition in the Studio of Miss Swift, New York

Photographs by THE SELBY STUDIO and F. A. WALTER

One of a pair of shelf brackets representing two playful goats

A pair of book ends owned by Mrs. William H. Bliss. They are of brass, chemically treated to give the metal the delightful bloom of age

A pair of lamp brackets depicting a contest between a goat and a wolf—with odds on the goat

African savages in a fire dance furnishes the motive for this fire screen. The flames from the hearth fire show through the screen with realistic effect

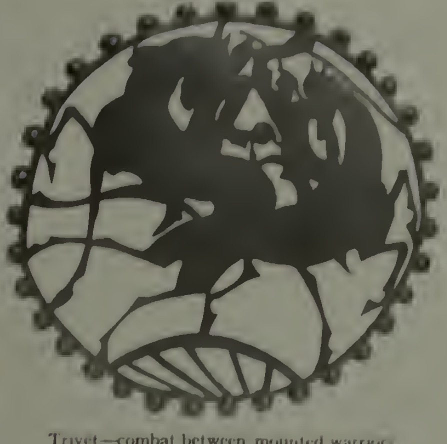
Iron chimney - pot and weather - vane combined, representing a cat which has been pursued up the chimney by a dog

Door knocker in green bronze. The handle is the tail of the squirrel, which appears to have been interrupted in the act of running down the door

Andirons showing mounted men in armor. The hinged tops may be bent down to keep dishes warm over the fire

Trivet representing two horses fighting

Trivets are used to put hot plates or dishes on. This shows wounded fox and hounds

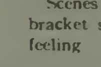


Trivet—combat between mounted warriors

One of a pair of book ends, the other of which is shown on opposite side of page

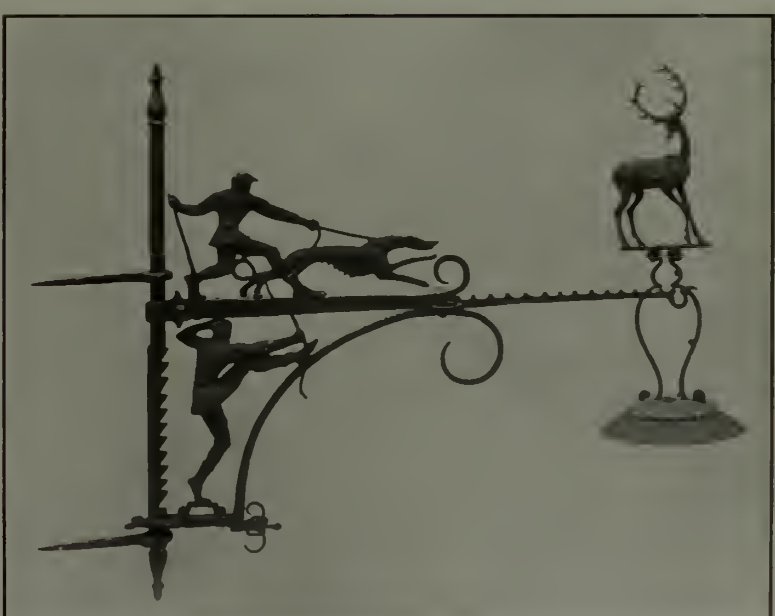
The other one of the pair, showing the hounds of the man in armor entering the castle gates

Footscraper—hound and hare



The rooster and mouse weather vane—a whimsically humorous conceit

Scenes from the chase—iron lamp bracket showing medieval German feeling



PREPARE NOW *for* BIGGER CROPS NEXT YEAR

By F. F. ROCKWELL

THE problems which the growers of the country had to face last spring, when called upon to produce the biggest crops the country could possibly grow, will in all probability be more acute next season than they were this. Anything that can be done now—and there is much that can be done—to meet the situation in advance merits the attention of every one who is directly or indirectly an agricultural producer; and this applies especially to those non-commissioned officers of the Army of Food Supply, the owners and operators of estates and large farms.

Among the most serious of the producer's problems have been the matter of high prices for, and low supplies of, seed, fertilizer, labor, and machinery, and there is little or no relief in sight. The world's reserve supplies not only of food, but of raw materials of all kinds, are practically exhausted, and the titanic work of reconstruction which must follow immediately on the cessation of hostilities will cause a demand for these things almost as imperative as that effected by the War itself. And if the War shall continue beyond the next planting season, these problems will be much more critical than they have been this year; they will constitute a crisis as grave as can well be imagined.

While the problems looming up ahead are of course of too broad a gauge to be settled by individual action, threatening as they do the whole structure of industrial and political organization, nevertheless there are certain definite constructive things which every large landowner can do that will have a concrete effect on next season's food production; things which should be done *now*, and which will help to relieve the pressure of the situation next spring. The estate owner in particular is in a position to take advantage of these opportunities, and thus not only better his own work, but indirectly help out those who, though they may realize the things which ought to be done, have not the time or the money to do them.

To get down to specific terms and suggestions, there are some half dozen different lines for attacking this one big problem of maintaining or increasing, if possible, our rate of production for the coming year. They are:

Building up fertility for next season's use.

Doing work ahead to conserve man and horse power hours for the busy spring season.

Making plans for coöperation, in work and in buying.

Revising the usual schedule of operations to cut down on labor requirements.

RAISING WHEAT IN NEW YORK

A CAMPAIGN is on foot to turn a million acres of old meadows, pastures, and other land in New York State into winter wheat fields this fall. According to ten-year figures, the state can average twenty bushels per acre, worth perhaps $30 and costing about $17.50 to produce. This means a great boost to the nation's wheat supply, a generous profit for farmers who can and will raise the crop by modern, economical methods, and a beneficial stirring and refitting of a lot of "hide-bound" land. The whole plan, originated by the New York State Agricultural Society, is now in the hands of a committee of which Ex-Commissioner of Agriculture, C. J. Huson, is Chairman. Field men are being engaged and every possible step will be taken to assist farmers who join in the campaign. Start now, find out how many acres of winter wheat you can plant, and get in touch with the Committee for any information or materials that you may need. Incidentally, some such plan as this might profitably be adopted elsewhere in the East.

Employing more machinery, and making more effective use of that already employed.

Utilizing better varieties and strains, and selecting and testing seed more carefully.

Of these, the first demands most immediate attention. What is the prospect for 100 per cent. crops next season, when for three years conditions have been so upset that normal crop systems and rotations have been interrupted, and all fertilizer materials have been unprecedentedly high, and in some cases not obtainable at any price? It will pay to pause a moment to recall some of the elementary facts about soil fertility, so that we can get our bearings straight for attacking this phase of the problem.

The important elements in the various plant foods purchased, either in the form of ready-mixed fertilizers, or in the various fertilizer raw materials, are nitrogen, phosphoric acid, and potash. Nitrate of soda, sulphate of ammonia, and similar materials, formerly used as the chief sources of agricultural nitrogen, are in such great demand for making explosives and use in other manufacturing processes that they are practically out of the market for many farming purposes. The potash salts, such as muriate of potash, sulphate of potash, and kainite, with which Germany formerly supplied the world, are no longer obtainable, and other potash materials are in demand for war purposes. Sulphuric acid, which is one of the chief items of expense in the manufacture of acid phosphate, the main source of available phosphoric acid for agriculture, is in unprecedented demand for war manufacturing.

With the continued displacement of the horse by the gas motor, not only for road and city hauling, but on the farm itself, the manure supply is becoming yearly less adequate.

That is the four-fold snag in the way of feeding the crops to feed the soldiers to do our fighting. The usual methods of maintaining the fertility of the fields cannot be followed; they are either impossible or too expensive. In the face of this situation, and the urgent necessity for increasing our acreage of planted crops, what can be done?

There has not yet appeared, nor is it likely that there will, any new sword with which to cut this Gordian knot. We must make use of things already known to us, but more effective use than ever before. These things are cover cropping, green manuring, the use of lime and legumes, of deep plowing, and of extra thorough pulverization of the soil. All this is an old story? Yes, but we must make a new story out of it! We must adapt the old knowledge to the new conditions, and in so doing make a new thing out of it.

Let us take first the problem of the nitrogen supply. While we are waiting for Congress to provide a Government air-nitrogen plant big enough to supply our agricultural as well as our military needs, there are three ways in which we can help ourselves to a considerable extent. First, by seeing that every acre possible is provided with a growing crop for late fall, winter, and early spring. This will help provide nitrogen for next year's needs by saving and storing up, in the form of organic matter, much available nitrogen that would otherwise be lost through the winter months; and also by forwarding the process of nitrification in the soil, through which some of the non-available soil nitrogen will become available, and also be stored up in the plants grown. Then, wherever possible, one or more of the legumes, or nitrogen gathering plants, such as vetch, or crimson clover, should be used, to add directly to the supply of nitrogen in the soil by fixing nitrogen from the air.

And what of the needed potash? One good effect of the war may be to make us learn to rely more upon the potash in our own farms, and not so entirely upon the potash mines of Germany. In most soils there is an abundance of potash for all crop needs, but it is locked up. What will unlock it? Lime, thoroughly fining and breaking up the soil, and the roots of growing plants, foraging for it far and deep. Scientific investigators have found roots of rye reaching several feet below the surface, within a few weeks after planting!

When it comes to phosphoric acid, the situation is not quite so bad. It can still be obtained at a price which, while considerably above the normal, still leaves it within reach of the practical farmer. But if you are going to need to buy acid phosphate, don't wait until next spring. Obtain

Take off this year's crop, whatever it may be—grain, corn, last crop of hay, or potatoes—as soon as it is ready to harvest

Don't let the cleared ground lie idle, to bake and lose moisture. Concentrate the plow fire on each field as it is available, and plow deep

it now, and then have it used all the fall and winter as an absorbent in your stables. It will save much of the free ammonia from liquid sources, that would otherwise go to waste, and will go on to the land with the manure in the spring. These methods for drawing on the reserve supplies of nitrogen and of potash in the soil will also help to augment the supply of available phosphoric acid in the soil.

There is no startling discovery of a solution of the serious problem of plant food shortage in the above facts. They may have a familiar ring in the ears of the average farm owner, but the point is that now he must make every possible effort to take advantage of those facts to the fullest extent, because the other alternative is no longer available. Shortly after war was declared, and the public was beginning to realize the impending food crisis, I asked Mr. Vrooman, the Assistant Secretary of Agriculture, what advice the Department was giving in regard to certain problems, and he replied that they were giving the same advice as for several years past—only now the farmers were actually beginning to act on it!

Then bring up the light horse, as many units as can be commanded, so as not to lose valuable time and risk a counter attack from bad weather. The harrows should work close on the heels of the plows

It is the same here. The important point is not only to understand what may be done, and why, but to *get action!* It may be upsetting the even tenor of the old routine a little to make the farm manager or foreman understand that every crop removed now is not the end of the season's work on that field, but rather the signal for redoubled activity, to get it fitted and planted for the winter campaign in search of plant food for next season's crop. The plows or the disking harrows should be at work before the last load of produce is on its way to the barns or the root pit, and every available unit of man, horse, and machine should be pressed into service for the all-important work of planting the winter crop that will gather and store food, producing not only a mass of humus so beneficial to all soils—and especially to large fields which do not get heavily manured—but the much wanted food supplies that will become available as rapidly as the plowed-under crop decays.

The cover crops sown now will make considerable growth before freezing weather, and be ready for plowing under early in the spring, for such crops as potatoes, oats, spring wheat, etc.; while those put in later, even if they do little more than germinate this fall, will be ready to begin growth with the first warm days of spring, weeks before any planting can be done, and will be ready to plow under for the later things, such as corn, root crops, and late potatoes. A mixture of rye, vetch, and crimson clover, using about a third of the amount usually sown alone, makes an unsurpassed seeding for this purpose. The rye and vetch can safely go in up to freezing weather. For later sowings or in the more northern states, the crimson clover should be omitted. Use a third to a half more seed than if sowing for a crop to mature, so that a thick mat of vegetation may be formed quickly. Have the seed ready to put on before the ground has a chance to dry after the harrows or the roller, and your fields will be green again within a few days after the season's crop has been removed.

The work described above should be given precedence over all other preparatory measures, but there is much that can be done when this is finished. If there is any pasture land or stubble that will be wanted for use next spring, make every effort to get it plowed now, unless it is so situated that there would be serious danger of washing. The lime should go on now. Unless it is a porous, leachy soil, there will be little loss in putting manure on now for plowing under. There are many cleaning up jobs generally done in the spring that can be attended to before snow flies, including work on the house grounds, light pruning, edging walks and drives, etc. Manure, of course, should be drawn out during fall and winter, and stacked convenient for the spreaders to distribute it in the early spring, without wasting time going to the pit or sheds. The method of distributing it daily as it is made is best under some circumstances.

Remember that during the present crisis everything you can do to help your neighbor or acquaintance to produce bigger crops, even though you may have enjoyed trying to beat each other in normal times, is no less a patriotic duty than is growing the biggest crops you can yourself. And if you use fertilizers, lime, feed, etc., in large enough lots to save on prices and freight rates, let some of your small-farm neighbors, who may not be using enough to get favorable prices, have the advantage of your purchasing power. Or better still, lend your influence to the starting of a local farmers' association, which will enable them to offset in part the rising costs of all the required things which they have been purchasing individually.

Usually the plan or schedule for next year's crops is arranged at least tentatively as the harvesting draws to a close. Study your plans more carefully than ordinarily this year, and see if they cannot be adjusted either to cut down your man power, to include more acres in cultivated crops, first by cutting out the personal or show projects, and second, by taking up some of your pasture land or breaking into some of your grass land ahead of the regular rotation. If half of this extra acreage can be put into corn or quick-growing annual hay crops, you can still keep as many animals from it, and have the extra land for war products, such as wheat, corn, or potatoes.

Make it your business this fall to bring your place up to date as far as machinery is concerned. Here again it may be possible to coöperate on such things as corn huskers and shredders, or a threshing outfit in some locality where wheat is coming back after many years' absence. And be a little more free than you would under ordinary circumstances to help out any neighbor who might be able to save a good deal of labor by using some machine of yours.

And last, but of great importance, too, investigate carefully to be sure that you are growing the best varieties or strains of grains and vegetables that are to be had for your section. Don't stick to something just because you have been growing it; and if you are saving your own corn, or potatoes, or grains for seed, take more particular pains than usual to have careful selecting done, and good care taken of the seed afterward. If you have extra good stuff that can be used for seed, don't let it go to the general market, but get in touch with your county agent, and let him help you place it where it will do some good in the neighborhood.

Finally, every estate owner should, as I have said before, feel that he is an officer in the Grand Army of Production, and that he is in duty bound to do all within his power to make the agriculture of his locality a success. With that point of view, he must consider it a privilege to do anything he can to help his neighbors, even though it may mean a personal sacrifice of time.

And after the harrows, the roller—a firmly packed seed bed means better work with the drill and better germination. The drill should immediately follow the roller, to get the seed in while the soil is still soft and moist. Such conditions insure a quick start, and green manure next spring with which to stuff the hungry fields with humus and plant food ready to decompose and produce lusty crops in spite of war conditions

John Russell Pope, architect

Delightfully intimate in spirit is this country house library, where recessed bookshelves occur at intervals, and in which, after the manner of the English manor house, the rich but informal furnishings at once relate the interior to its natural surroundings

LIVABLE

Dignity is an attribute of itself; comfort and are given it through

With text and captions

IF WE may liken the hearth to the heart of the home, the library is its soul. And one to whom books mean much could no more build a house without a library, if only the smallest retreat with crude rows of stained shelves lining its walls, than a mother could picture a house where the voices of childhood were unknown. Children and books—can there be a home in the biggest and finest sense of the word where the influence of one as well as of the other is not felt?

The prestige of a book, even of the book which lies idle on the shelf, has been acknowledged since the days when a library ceased to be the special privilege of kings and rich monasteries, and came to be regarded as a necessity in every gentleman's home. But the *real* library, the library where books are known by their contents rather than by the value of their covers, has a compelling sincerity of charm that is born and not made; a beauty and distinction which can never be had from the mere presence of costly bindings and editions de luxe. For distinction springs from an air of authority, the authority of knowledge and of cultivated taste, and fosters the kind of dignity which will not be mocked simply by wealth or art; which cannot be acquired, as can a merely formal atmosphere, by following certain lines and rules. Dignity, like tenderness, is an attribute of strength, and, as in a great man it is the tenderness underlying the dignity which wins our hearts, so in a library it is the spirit of intimate human companionship with the finest minds of the ages which, beneath the formal reserve of the room, gives to it a certain lovable quality which no other room can quite attain.

Wm. Lawrence Bottomley and Laurence F. Peck, architects

Two views in a small but impressive library, built for study as well as to be a haven of inspiration. The dignity of paneled walls (of ordinary birch waxed and rubbed to a warm, colorful brown), the rough plaster ceiling, the recessed shelves lining almost two sides of the room, the crude refine-

LIBRARIES

that comes to a library
quiet, deep-toned colors
the decorator's art

by Agnes Rowe Fairman

Nothing could be further from the facts than that a library need be, because of its importance, a solemn or forbidding place. Nowhere in the house is the gladness of sunshine a more welcome decorative note; nowhere is more essential the subtle charm of soft-shaded lamps, and comfort — big, substantial comfort as provided in deep-cushioned sofas and chairs, with plenty of tables, large and small. In the strength and restraint of the wood-paneled wall, where bookshelves may not line all four sides of a room, is found a fitting background for the character of the library; and the color and beauty of fine bindings are shown to particular advantage against a setting of oak, or walnut, or some other sympathetic wood, rubbed to a warm, lustrous tone.

That the library should admit in the way of ornament nothing which detracts from the decorative value of its rows of books, goes without saying, as does also the fact that its color scheme must have sufficient weight, or at least enough depth and richness of tone, to support the dignity of the room. Upholstery fabrics with bold patterns are apt to become, by their obtrusiveness, as distracting as loud talking, but the richest of velvets and old, or antiqued, silk stuffs seem congenial to good books, even to books in buckram binding. Only remember that curtains must be hung with becoming simplicity, and that nothing does more to enhance the beauty of a library than a glimpse of trees and sky, or an outlook over the lawn or garden from unencumbered windows and doors. Beyond these few points, surely the following illustrations are proof that, despite its limitations, the library affords ample opportunity for the exercise of individual taste.

Charles A. Platt, architect

A small room but exquisitely appointed for its intended use. French windows at the other end, facing the doors which flank the hearth, complete that feeling of perfect balance which gives restful charm to this little library belonging to Mr. C. B. Brokaw

ment of early English and Italian chairs, with two highly useful old chests, and finally the carefully chosen art objects which relieve the severity of the whole, show how few and how simple things, when rightly assembled, may create an atmosphere at once restful yet stimulating to creative thought

John Russell Pope, architect

Few indeed of the world's great artists have been blessed with a library such as this splendid room built for the late Reginald De Koven. A mixture of English and Italian ideas, both in its architecture and its furnishing—the woodwork being of chestnut and patterned after that in the famous Knole House at Kent—this room, with its beautifully bound volumes practically covering the walls and surmounted by a rich old leather frieze, combines dignity with luxurious comfort.

John Russell Pope, architect

When the members of the French Commission were entertained in the Washington home of the Hon. Henry White, Ex-Ambassador to France, they found one of the largest and most famous private libraries in this country at their service, one corner of which is here shown.

Another Long Island library which savors of an old English manor house is this in the home of Mr. H. L. Pratt, with its spacious proportions, carved and fluted oak trim, fine historic paintings and heavy doors. Antique velvet, once red and now faded to a copper tone, covers the walls above the low bookshelves and hangs at the windows, lending a warm glow of color to the room.

James Brite, architect

Miss De Wolfe, decorator

Rich to the point of being lavish in the beauty of its architectural detail, as is this room in the Long Island home of Mr Ormand G Smith, it is but a worthy setting for the finely bound volumes and rare editions which line the walls. The use of old slate blue and silver in the color scheme, the decorative value of rare Chinese porcelains, the richly veined marble mantel and fine overmantel treatment, are other features of interest in this altogether unusual room

A library familiar to many is this of the Colony Club, New York City, in which sturdy English oak, relieved with rich touches of crimson in the antique rug and upholsteries, has been chosen as a background. An interesting feature is that the paneling in the wall spaces between the bookshelves may be removed at any time, revealing rows of shelves already provided for a library that is meant to grow

Delano & Aldrich, architects

Distinguished both by its adaptation of the classic Adam style and the atmosphere of a Southern Colonial mansion is this fine library in the home of Mr. James Swan Frick in a suburb of Baltimore. Here again we find the bookshelves recessed and made an organic part of the walls

John Russell Pope, architect

The QUEEN *of* PLANT PARASITES

By DR. R. W. SHUFELDT

Illustrated by the Author

NATURE students who have, for a sufficient number of years, studied the flora and fauna of the New England and Atlantic States, will bear me out in an observation that I have frequently made with respect to a curious rotation that often takes place in many animals and plants as regards their annual abundance. During some vernal migrations we may note, for example, that scarlet tanagers are particularly abundant and bluebirds markedly rare; that there are dandelions everywhere, but hardly any maidenhair fern, even where there was a quantity of it the year before—and so on for many other species. Indeed, only a few years ago, it was pretty generally announced by ornithologists in the Atlantic tier of states, that the bluebird was on the verge of extinction; and yet, two years thereafter, they appeared again in this very region in somewhat unusual numbers.

A very interesting instance, still further illustrating this law of varying abundance, was observed by me in the summer of 1916. For as many as twenty-five years, I have collected natural history material, of every description, for miles around the city of Washington, and in all this time I never personally came across any specimen of that curious plant, the Indian pipe, also called the corpse plant, ice plant, and ghost flower, the *Monotropa uniflora* of science. But this summer I came across groups of the plant in two different localities in the vicinity of Washington—once near Great Falls, and again not far from Cabin John Bridge, Md. In the latter place we found it growing in great abundance and very luxuriantly. Never before had I discovered it in this locality, which was by no means a new one to me. These ghost flowers grew here in isolated bunches, several of them within nine or ten feet of each other, but most often from two to five hundred yards apart. Nearly all of them had come to be fully matured or very nearly so. Many of them grew near the base of some great tree, or close to a big, rotten log. This, however, was not always the case, for one of the finest bunches which I came across that day was growing well removed from any such place, on the steepish bank of a tiny stream that found its way down one of the hill slopes in this same forest; others grew here and there not far from it.

To regard these plants as they grew among the fast rotting oak, chestnut, and beech leaves, one would never suspect that this much maligned corpse plant was a parasitic one. I say maligned, for even Blanchan (in "Nature's Garden") passed down into history this description of them: "Colorless in every part, waxy, cold, and clammy, Indian pipes rise like a company of wraiths in the dim forest that suits them well. Ghoulish parasites, uncanny saprophytes, for their matted roots prey either on the juices of living plants or on the decaying matter of dead ones, how weirdly beautiful and decorative they are! The strange plant grows also in Japan, and one can readily imagine how fascinated the native artists must be by its chaste charms."

Alice Lounsberry, in her very useful little work on botany, says: "Few plants are uncanny, and we therefore shiver slightly when we take hold of the ghost flower, which is so clammy and white. It further annoys us by turning black and decomposing almost instantly after having been touched. Children and Indians, whose nerves are perhaps more hardy than those of ordinary mortals, delight in the plant. The former play with it, and the latter have some way of using it supposedly to strengthen the eyesight.

"The whiteness of the plant is owing to the absence of all chlorophyl grains, or green coloring matter; and it may not be inappropriate to mention here that it is through the chemical change of these grains that we have the varied tints of the autumn foliage" (p. 170).

The specimens of Indian pipe which I found growing in Maryland were very perfect, and, in some instances, grew to be at least ten inches in height. They ran from five to thirty stalks in each bunch, and in a pretty circle with a diameter of about five inches. Strange to relate, most of those I picked and examined did not immediately turn black, as is generally reported of them; such a change came on gradually during the next few days. As a matter of fact, I dug up with a trowel three bunches of these quaint plants, and brought them to my study, perfectly unharmed in any way whatever. So much of the earth in which they flourished in nature did I bring home, that I was enabled to keep them under close observation in a convenient porcelain-lined pan for more than a fortnight. It was most interesting to watch them develop, gradually raising their heads as the edges of the bracts and petals turned black, the entire plant finally turning as black as charcoal. Although they shriveled up a bit during this change, they never swerved from their erect attitude; and when a bunch was entirely black and dead, they presented by no means an attractive sight, as is the case with all flowers when they shrivel, turn dark, and die.

Detail drawing of Indian pipe, showing *a*, oblong petals, *b*, five-celled seed ovary, and *c*, stamens bearing small anthers

The ghost flowers at their best, when between two and three inches high

More fortunate field students than I have found Indian pipe plants upon which grew *two* flowers to the stalk; and I believe some botanists state that occasionally, though very rarely, there may be three. However, when Linnæus named this plant in 1737, he probably had never heard of there being two or three flowers on one stalk, for *Monotropa uniflora* refers to a plant with a single flower, which *turns to one side* only. Would that all of our scientific names were so well chosen and so suggestive! It was thought at one time that the false beechdrops belonged in the same genus with Indian pipe; but now they are classified in a genus of their own (Hypopitys). Indeed, our Indian pipe is the only plant of its kind in this country.

Sometimes the stems and even a part of the rootlets of the Indian pipe are tinged with a delicate salmon pink; but this happens with flowers of other plants, and in no way indicates another variety in any case.

Perhaps no one of our plants in the Eastern States is so sensitive to the sunlight as is the one now being considered, and as I was aware of this, I took the precaution to keep my study examples in a very shady corner of my rooms.

Selecting the biggest and finest specimen I could find in the bunch, I was much interested to note, in a day or so, that it, in common with the others in the same group, began gradually to bring its head into an erect position. As it did so, the enlarged ovary became tinged with a buffy, salmon-pink color, and the usual black emargination of bracts and petals not only set in, but extended, in all instances, centrally. At this stage, with the aid of a hand lens and a compound microscope, I made an examination of the various parts of the plant, and I also made three enlarged drawings of what I observed. The bracts which take the place of leaves, as well as the stem, appeared to some extent translucent and a bit brittle. On most of the flowers there were five oblong petals, but occasionally only four. These were in contact, almost to their peripheral margins (*a*), which latter were rugose. I found that the sepals of the weak calyx all fell off very early, and that the leaves on the stem were represented only by scaly bracts that spirally alternated each other at fairly short and regular intervals, from the flower down to the root. Most of the plants had ten or eleven pale, tan-colored, hairy stamens bearing small anthers (*c*). It is said that twelve stamens may occasionally be present, but I believe that this is rarely the case. The big, pear-shaped ovary is five-celled and filled with seeds arranged as in *b*, where I have given a horizontal section to show the interior.

It is commonly said that Indian pipe is a degenerate species of plant, for the various reasons that I have given above with respect to its structure, life, and general characteristics; but it seems to me that there is more to be said on this point, and I trust that I may hear from some capable botanist on the subject.

SHOULD I *keep* POULTRY *in* WARTIME?

By E. K. PARKINSON

THERE are such multitudinous divisions and classes of poultry owners, that it becomes a difficult feat to unravel the tangled web of whether it is wisdom, or folly, to keep a large flock of poultry during the present untoward condition of affairs. Unfortunately, on the average large estate possessing abundant resources of labor for all other departments, it seems to be a foregone conclusion that these feathered Philistines are only an unimportant detail, with few requirements, and calling for no preeminent brain power to mold them into a profitable and proper tractability. Now this idea is comparatively easy in theory, but its consummation is less apparent on a closer analysis, and is more difficult in actual fact, as we shall see from a few figures later on. Where such misleading theories prevail, our answer as to the wisdom of rearing fowls under present conditions is emphatically "no."

Poultry buildings constructed to match the other architectural features of a place are pleasing to the eye, but generally speaking they make the interest charges against a flock mount up alarmingly

On the other hand, where chickens receive the care and intelligent treatment accorded to other live stock, the owner of a large flock need not be daunted by the present difficulties in his path. Unhappily, however, these conditions are not the predominating ones, but the reasons therefor are not overdifficult to understand. The common supposition, for instance, that poultry is easy to raise, brings with it an unpleasant surprise in the frustrated confidence of a new owner, whose M.A. degree seems to him sufficient proof that there could have been no lack on his own part, the deficiency evidently lying entirely with the poultry; thus the whole brood is promptly disposed of in entire disgust. Or again, instead of securing an experienced and intelligent poultryman from one of the larger agricultural colleges and putting him in charge of a flock of thoroughbred chickens, the subject is dismissed with a brief, "Oh, fowls will take care of themselves; we needn't spend much thought in that quarter," upon which follows a happy-go-lucky arrangement in the poultry plant, usually ending in disaster.

However, the more difficult the task, the greater the satisfaction in accomplishing it, and success is always pleasant whether it be to grow a capricious flower, or to extract a profit where one's neighbor faced only loss. To take up the principles, then, essential to economic success in the raising of poultry, the most obvious fault with the owners of country places, whether large or small, who raise chickens by proxy, is that they invariably invest too much capital in the plant, thus making it difficult for any flock to meet even the interest, to say nothing of a net profit. It is not usually known to the amateur, or too often forgotten, that the returns from one hen is very small, and that it is only by keeping poultry in fairly large numbers that an income of any proportions is made. In 1912, for example, $1.25 net profit per hen was considered fair where large flocks were kept, although, of course, the returns from a few birds are always proportionately better, sometimes running up to $2.50 each, often for the reason that the owner is apt to take a more personal interest in their welfare, and frequently a part of the feed is made up of waste from the household.

Let us assume, then, that the owner of a country place happens to be somewhat interested in fowls and so decides to have his place handle a flock of, perhaps, 300 layers; he at once commissions his architect, who is planning the other farm buildings, to build a house some 70 x 20 feet, to be constructed of such material as an architect would be apt to select, namely, the best. The cost of such a building with a shingled roof, walls and doors of a high grade of pine, a cement floor, etc., and complete with two coats of paint, would cost to-day in the neighborhood of $1,000, exclusive of the yards, which would add another $100, and make the interest on this alone $66, at the outset.

The commercial poultryman, on the other hand, with his practical knowledge, and forewarned and forearmed, would use for the walls and roof of his poultry house common North Carolina pine boards, covered with some good roofing paper. As far as the comfort of his flock goes, this house would prove fully as suitable as the unnecessarily expensive one of the amateur, and would cost about a third less, even if he hired the work done.

There is also another form of needless and avoidable wastage very prevalent on large estates, where, for instance, some one who knows nothing about such things is told off to purchase the entire flock. The mistake is too often made of absurd and gigantic expenditures, unless one looks into the matter very carefully, and of course these sums of money must be conscientiously added to the investment account. For example, it is frequently customary to make a point of being on hand at one of the leading poultry shows in order to contract with some fancier for a flock of most expensive pullets, perhaps 280, and some 20 cocks, with which to start in. But for the wise man there is the happy alternative of a more modest outfit bought by an intelligent purchaser, where the total cost of the birds, delivered, will amount to about $660 all told, or some $2 each for the pullets and $5 each for the cocks, which is a fairly modest price for high-class thoroughbreds. But to stop for a moment in order to see just where, at the end of the year, these taxes on the profits leave the owner of such a flock, housed in his $1,000 house, fenced in by suitable wire, and provided with the adequate feed hoppers, etc.

In 1912 it cost $1.40 to feed a hen for 365 days, but to-day it costs about $3.13 for the smaller breeds, and about $3.50 for the heavier ones; thus if, with her feed costing $1.40, a hen earns $1.50, what can she earn with a feed bill against her of even $3.13? We seem to be dealing in a minus proposition, for our hen is losing about .23 cents—that is, adding the 1912 feed bill of $1.40 to the 1912 maximum profit of $1.50, and subtracting the total from the 1917 feed bill of $3.13. Whereupon the outlook is neither bracing nor cheerful, and the outcome of the whole undertaking is usually a daily menu of chicken served in every conceivable form until the last valiant cock has ceased to crow!

Unfortunately the above is a fairly true summary, for the most part, of conditions prevailing on large estates where poultry is kept. If only the coöperation of the man in charge of the flock can be depended upon, however, this discouraging loss may be turned into a modest profit; but we need not go into details of this latter difficulty, for it is easier for a camel to make his way through the proverbial needle's eye than for a superintendent or foreman to take to economy! Perhaps the most telling method of overcoming this rooted objection to saving is for the owner to offer a small bonus in the form of a percentage on every dollar showing a net profit on the books at the end of the year. This very tempting offer has frequently been known to turn a discouraging loss of several years into a most cheering and sudden profit. And we would add here that the bookkeeping for a flock of from 300 to 500 fowls is a very simple matter, using the single entry system. But it is never advisable to try to figure out the cost of labor to the last hour and minute in such a case; it is better to strike a fair balance instead. For instance, it is supposed to require about three full hours daily the year round to attend properly to a flock of 150 birds, and to raise pullets enough always to have on hand a proportion of half pullets and half yearlings; but it by no means necessarily follows that exactly double the time mentioned will be required to handle a flock double this size.

In this regard, the important fact must be faced at once that our first step toward profit making is the economy of time—namely, to have every detail in our poultry plant conveniently arranged, and all the necessary furnishings as simple and get-at-able as possible. The dry-feed hoppers,

The first important step toward profit making is to conserve time by having every detail of the poultry plant as conveniently arranged as possible

for instance, should be large enough to hold a week's supply and have covers which can be closed at night; the water should be piped into the poultry house with a labor-saving spigot in each separate pen; there should also be a shed, built at one end of the house, for the proper storage of manure, and if the house is more than fifty feet long, a simple overhead track to convey a hanging feed can, a very welcome labor-saving device, which should run from the grain room through into the manure shed. Under these circumstances the doors between the pens should be double and hung with double hinges. It is unnecessary to clean the roost platforms more than twice weekly, and dry earth—instead of land-plaster—can be used to sprinkle the platforms when cleaned.

So far as the comfort of the flock is concerned, a cheap house like this serves the purpose fully as well as a more expensive one

The next important economy to consider carefully is the much discussed one of feeding. With the present prices of grain one may soon run the cost of feeding up to the point where all chances of any profit are out of the question; in fact, the average amateur, and even experienced commercial men, have been known recently to declare the cost of certain grains entirely prohibitive. All commercially prepared feeds, such as mashes, scratch grains, etc., are almost beyond the purse of the average man, ranging as they do from $4 to $6 per hundred; however, a little study of the question will soon convince one that a balanced ration made up on the place will frequently answer fully as well, and will be immeasureably cheaper. For instance, at the U. S. Experiment Poultry Station after a trial of a year and a half, they have discovered that thirty Leghorns averaged 147.5 eggs per pullet year on a ration consisting of three pounds of corn meal and one pound of beef scrap for the dry mash, and for the scratch grain mixture, two pounds of cracked corn and one pound of oats, which cost for the year only $1.93 for each hen. Thus this year the wiser ones are raising hundreds of chicks on a dry mash made up of a hundred pounds of wheat bran to twenty-five pounds of the best meat-scraps, and for the scratch grains, cracked corn alone is being used with excellent results; these two economies alone will be found to mean much in the slice taken off the monthly feed bill.

There is also another way by which a very considerable saving may be effected during the present untoward condition of affairs, which is in the profitable raising of oats, corn, and buckwheat, for with these important grains and a small power grinding mill one can be quite independent of the local miller, except, of course, for bran, an absolute essential in the feeding of small growing chicks.

As to economy where labor is concerned, if a plant consists of less than a thousand laying fowls, the entire time of one man, of course, is never required, so that during the growing season he might very profitably be employed in growing, say, mangelwurzels, for the necessary supply of succulent green food during the winter months, as well as in raising the usual corn, oats, and buckwheat.

But quite aside from the question of all profit, surely it is the patriotic duty of every owner of a bit of land this year to raise chickens, whether it be in large or small numbers, in order to do his part in helping out the much needed food supply. Indeed, in this regard, the Department of Agriculture in Washington made the statement a few months ago, that $600,000,000 worth of poultry products should be added to the United States food supply this year, and that if every one in a position to help would only do his or her part, the poultry products in this country could be doubled within a year.

DRUG FARMING *is not a* SHORT CUT

By E. C. A. SMITH

ITH unfailing regularity, each spring brings forth some new short cut to fortune for the farmer. Each spring, too, my heart lights with hope that here at last is the answer to my unfailing problem of too little land. This year it was a glowing account of the needs of the drug trade which seized my fancy. Here, at least for the present, I could find something which offered very slight competition and called for no extravagant equipment; for this one year I would assuredly surpass my one old stand-by, alfalfa, and give my land a change. Long, long ago I read that, and I should have classified it safely by the company it kept—"energetic and industrious," which I am not, and "content with a competence," which only a chronic failure ever achieves.

Forthwith I sought the buyer for the biggest drug business that I could reach. A cordon of office managers and telephone girls and clerks and errand boys stood between us—that may be why writers on this subject are so ill-informed—but I stolidly repeated my name and stood my ground so confidently that I found myself in the hall outside his door, and just leaked through the crack while he was trying to decide not to see me.

"What do you want?" he asked, quite austerely.

"To be convinced." I said as innocently as might be.

"Convinced of what?" I certainly had his attention.

"That what you want me to grow will make me glad that I grew it."

"But I don't want you to grow anything." He was getting quite warmed up by now.

I looked surprised. "Why aren't you eagerly snatching at every straw in the effort to continue healing the ailing multitudes? Aren't you going to coöperate with me in awaking the farmers to your needs? Aren't you paying fabulous prices for a mere fraction of the normal herb supply? Then here am I, ready to accept any fabulous price that you can offer me. What shall I go out and grow—an acre or so of arsenic, or perhaps a few tons of carbolic root? Of course you will furnish the cuttings."

"Of course I won't," he said dryly. "The things that this climate is suited to produce take two years to mature and the War will be over by then."

"Meaning?"

"Oh, digitalis; you might get some leaves of that this season and we'd give 20 cents a pound (ordinary price 9 cents—), but we don't want stems in it. You won't get much of a crop until the second year anyway. Then there's golden seal. But the price of that will be back around $4, dried root—it's up to $5 now. There's pulsatilla, too—up in the neighborhood of $6, but New York State sends us all that we want."

"And you have to have a distilling apparatus for peppermint," I put in cheerfully, bent on spiking down the lid on the coffin of my dead expectations. I had a mental picture of myself on a hot August day, stripping the leaves by hand off my digitalis stalks, or holding funeral services for the unwary stock that was moved to partake of it! "Just where is this war hitting you?"

"Shipments," he explained. "Every time a ship is sunk it takes that much right out of the market, but there'd be more ready to ship by the time this country got to producing any. Besides, our climate isn't right for most of it. There's licorice root—that comes from Spain, mostly, though some of it's Persian. A lot of that has been destroyed. And we get no Hungarian chamomile. But I don't advise you to grow it either, for we've any amount of Japanese.

"What has taken the biggest jump?" I demanded. There's always romance lurking behind those magic names of the Orient.

"Senna," he answered promptly. "What we did get came from Tinnervelly. It's gone from 7 to 25 cents a pound. A whole shipload of that was sunk. But the very best comes from Alexandria. It has to be carried on camels, and the Germans requisitioned all the camels in that district, so that there was no way of getting it out. Of what little did get through, the siftings that usually cost 8 cents a pound brought 25, the half-leaf, usually around 20 cents cost 45, and the whole leaf, that ought to bring 30, brought 75 cents a pound. And a perfectly normal supply is just mildewing on the grower's hands!"

"Is that what ails the price of cascara?"

"Oh no. We get that from the West. It just dropped so low last year that there was no profit to be made by collecting it, so they skipped a year and now the market is bare again. But it'll be coming in again before long."

"Castor oil?" I could see my back field a forest of towering stalks.

"India. Just another case of transportation. There's plenty over there."

"I hear the Allies are shy of iodine," I observed.

"That's made from kelp," he explained, descending still one more step into the depths of my ignorance. "All controlled and alloted by an English firm." Then, gently, "And, you know carbolic is a coal-tar product."

Then I deliberately set off the last explosive contained in the dynamic article which had carried me thus far. "What is the smallest quantity you will buy?"

"A hundred pounds." His voice gave me scant hope of wiling him to any reconsideration in case of a shortage.

Consider, then. If a drug cropped the same average as hay, about a ton and a half to the acre, that would mean, allowing the usual 40 per cent. for stems, 1,800 pounds, fresh-cut, or 1,400 pounds dry, the second year, meaning $126 at the 9-cent price, or $140 for a half-crop this year at the 20-cent rate. And if that's good money for such an area of ground, imagine what a terrific accumulated area of backache and sunburn would result therefrom. And the care to keep those fat leaves from mildew, or the dried ones from shattering!

Alas for another lost illusion.

TEPEE CAMP

By E. I. FARRINGTON

Photograph by D. A. Ambuter

IT IS called "Tepee Camp" because the living room is designed to represent the tepees of the Indians, many of whom in centuries past probably camped on or near the very spot where Mr. Laurence Minot of Boston has erected his novel structure. The building was planned for a winter camp, to be used on holidays and week-ends, but has proved to be such a delightful abode that it is actually being used for weeks at a time, especially in the spring and fall.

Few dwellings have excited so much interest among architects and house owners, for the camp is remarkable because of the many new and interesting features which it contains. The living room or tepee comes first in importance, as a matter of course. It is a circular room twenty-four feet in diameter and twenty-eight feet to the highest point of the ceiling. This ceiling is in the form of a cone and is painted a very dark blue, the purpose being to create the impression of the sky at night. The ceiling is studded with tiny electric lights which represent stars, the bulbs being hidden. There is no haphazard arrangement of these lights, however. They were placed according to a chart laid out with the greatest accuracy to conform to the exact astronomical conditions existing on the 10th day of March, which happens to be the birthday of a niece of Mr. Minot.

The dipper is especially conspicuous, but numerous other stars appear in their proper relation and in varying degrees of magnitude. The touch of a button, therefore, produces a remarkable and most interesting effect at night, especially when there is a merry blaze on the hearth.

This hearth or open fireplace, which is the most unusual feature of the house, and which is the result of much thought and many months of experimental work, is the conception of Mr. Minot himself and is placed in exactly the middle of the room.

It has no chimney whatever, the smoke ascending straight to the highest point in the ceiling, where it escapes through a ventilator, such as is used on modern steamships, which is enclosed in an outer casing that conceals its real character. Of course, some plan had to be conceived to create a draft and prevent the smoke from becoming diffused throughout the room. This proved a more serious problem than was anticipated at first, but it was finally solved in a highly ingenious manner.

The hearth is made of brick, and small openings at regular intervals all the way around it admit cold air from a box in the basement, four conduits leading to this box from the outside walls. The fresh air drawn into the room by this means is quickly heated and rises to the ceiling, carrying the smoke with it. Just under the roof opening there is a circular metal rod which, after being made very hot by an electric current, aids in controlling the smoke column by accelerating the flow of warm air.

Interesting as the mechanics of the fireplace are, they are forgotten at night, when a fire blazing on the hearth is creating dancing shadows all around, and the counterfeit stars overhead are shining as brightly as real stars on any crisp winter night. Then it is easy to imagine that the walls and the ceiling have vanished altogether, and that the great fire is leaping and crackling in the open air. The suggestion of outdoor life may be carried still further, if desired, for the hearth contains a "bean hole," a device with which all woodsmen are familiar. If a pot of beans be placed in this hole and a hot wood fire built on the hearth, the beans will be perfectly cooked in a few hours and possess a flavor hard to equal by any other method of baking.

The more conventional details of the living room include tinted, plastered walls and a tile floor. Besides four long windows, there are two doors opening upon a brick-paved porch. The living room is also used as a dining room, a semi-circular table being placed at one side of the fireplace and so arranged that it can be lengthened at will. Two large bedrooms open from the tepee, each having a separate bathroom, and directly back of the tepee is the kitchen. There are two bedrooms and a bathroom on the second floor, over the rooms at the rear of the house.

Being a winter camp, to be closed much of the time, there would seem to be danger of frozen pipes, unless care were taken to shut off the water and drain the pipes after each visit. This danger has been obviated, however, by the use of electric heating units at all the traps, and electrical heating devices which keep the water in the pipes moving at all times. All this is more or less experimental, as it is not known that a plan just like this was ever carried into effect before. Each tank is protected with mineral wool and in addition has over the top a canvas bag filled with quilted asbestos. The electric heat unit which protects each trap is placed just above it inside the box and is controlled from a cabinet. The water in all the pipes is heated just enough to maintain a circulation, and the system is kept in operation as long as the cold weather lasts, water being ready at any time. Wherever it is necessary to have permanent heat, little tell-tale lights are placed to reveal any possible lack of current. The water supply for the camp comes from a driven well and is forced into a pressure tank in the basement by means of an electrically driven pump.

There is space in the basement for a coal heater, but electric heaters and fireplaces are depended upon for heat most of the time. Each bedroom contains an electric heater, and similar heaters are found in the bathrooms. In order to have a bathroom at the proper temperature for the morning bath it is only necessary to press a button at the head of the bed. All the cooking is done by electricity, an electric range proving very satisfactory. Indeed, the electric current is used even for cleaning, there being a permanent vacuum cleaner in the basement, with outlets in each room.

The Minot camp is practically fireproof. The exterior walls are built of terra cotta hollow tile, veneered with red brick, and lined on the inside with plaster blocks, which are plastered over. All the interior partitions are made of plaster blocks, on which plaster is laid and tinted. The floors are constructed of concrete, with steel floor tiles for a base, and faced either with tiles or a composition flooring. The roof is covered with slate, and about all the woodwork to be found in the house is the trim and the roof timbers. It is very interesting to learn, in this connection, that the cost of making the house virtually fireproof added but very little to the total. The figures for the inside construction as adopted were less than $200 more than those calling for wire lath on wood studding.

Poor Lo would hardly recognize his humble domicile in this glorified simulation of it

HERE AND THERE

The Society Of the Holy Earth During a meeting of the alumni of the New York State College of Agriculture last winter, there was read a letter from Ex-Dean L. H. Bailey then traveling in the far East. Though primarily a message to men who had formerly studied under him and had received by direct contact the inspiration of his ideals and precepts, his words carry a message also to all those whose hearts respond to the call of the open country, those who realize and accept the responsibility of the stewardship of the ever-lasting land. The letter was as follows:

To My Friends, Greeting:

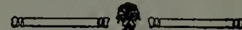
You are they who would excel. To be excellent in knowledge, to be excellent in the daily work, to be excellent in yourselves—this is your purpose. I speed you in that purpose.

How to work with enthusiasm by oneself, and how at the same time to work with enthusiasm with one's fellows, compriseth the great problem of life. Individualism as one dreameth of it, fellow service as one forseeth it, if these may be made compatible, then is the social problem solved.

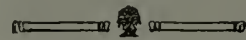
We look to a future of great followships, vastly surpassing whatever we have known. We shall build our new community on the earth. Here let your imaginations run, that you and your children may be partakers in the prophecy.

Now, therefore, have I proposed a Society of Holy Earth. Chapters and branches it may have, but its purpose is not to be organization and its practice is not to be the operation of parliamentary machinery. It will have nothing to ask of anybody, not even of Congress. It will have no schemes to float, and no propaganda. It will have few officers and many leaders. It will be controlled by a motive rather than by a constitution. The associations will be fellowships of the spirit.

Its principle of union will be the love of the Earth, treasured in the hearts of men and women. To every person who longs to walk on the bare ground, who stops in a busy day for the song of a bird, who hears the wind, who looks upward to the clouds, who would protect the land from waste and devastation, realizing that we are transients and that multitudes must come after us, who would exercise a keepership over the planet, who would love the materials and yet not be materialistic, who would contribute his skill and his excellence to the common good, who would escape self-centred, commercial, and physical valuations of life—to all these souls everywhere, the call will come.



Physical Training For the Middleaged Perhaps it sounds like carrying coals to Newcastle to suggest drill or physical exercises of any kind in a magazine the bulk of whose readers is supposed to be made up of persons actually engaged in outdoor occupations or sports. Nevertheless the plan of Mr. Walter Camp's Senior Service Corps, as it has developed and succeeded in New Haven, Conn., provides a splendid model upon which to build similar but smaller groups all over the country, and rural districts can do this as well as urban centres. The features are few and simple: members must be more than forty-five years of age and need pass only a simple physical examination. All that is required is an hour's work three times a week. Each period includes ten minutes or so of comparatively mild setting-up exercises, and forty-five to fifty minutes of walking, at first on the flat and later over hills, each man carrying about eight pounds of equipment (a bar of iron or something of the sort). No military organization and but two officers—a medical director and a leader or physical director—are needed. The results of several weeks of this regular, systematic activity include better carriage, loss of excess weight, increased vigor and endurance, improved mental poise and reserve power, a contagious optimism, and generally increased efficiency. Regular, systematic, modulated exercise is *the* thing; this is the way—simple and practical above all others—for men of the "second line of defense" to insure getting it.



What Of the Surplus Crops At this writing the food gardens of 1917 are vastly more numerous than those of any past year have been. Whether or not a large proportion succumb to the effects of the summer heat (either on them or their gardeners) there is going to be a greater supply of perishable fruit and vegetables on hand this fall than ever before. Much will, doubtless, be eaten at home, fresh. But what of the surplus? Which of three possible plans for its utilization are *you*

What will we do with these? Don't let food go to waste. What you cannot eat or preserve, give to some one who will utilize it

going to follow? First, you may can, preserve, and dry for future use in your household. Good! Second, you may expect to give away your extra crops to friends and others in need. Also good—though it *may* prove difficult to find people near at hand without gardens of their own; and sometimes that sort of charity needs considerable tact. Third, you can help establish a very local exchange, to which any neighbor can take a basket of grapes, some beans, a couple of egg-plants—anything that is likely to go unused—leave it with the knowledge that it will there be picked up by some one that really wants it, and incidentally obtain in exchange some other bit of fresh green stuff of which he is particularly fond but which he has been unable this season to raise. Such exchange might be on a cash basis, on a mere trade basis, or the proceeds from the sale of all such surplus might be donated to the Red Cross or to some other great work, after the running expenses of the exchange were met.

Here is a real chance for community organization, teamwork, economy, service. Who will be the first to start it?

Coloring The Highways One of the highway improvement developments of 1916 which has certainly come to stay is the segregation of through routes by colors. This consists simply in assigning to various long distance roads distinctive colors, bands of which are painted on the telegraph poles alongside the right of way. The most extensive development of this idea has taken place in New England, where all the principal routes have been rendered legible in this way. The general practice is to band every other telegraph pole with a stripe of the highway's distinctive color—red, blue, yellow, green, or whatever it may be. It is possible today to travel from one end of New England to the other without once looking at a route book, except to find out just what colors are desired to be followed.

For the past few years, there has been a growing popularity in the rural districts of what are called "good roads days." All the farmers and business men of a given district meet on a set day and repair a particularly atrocious bit of road, or they may devote their time to dragging a given stretch of highway. Such efforts are inevitably amateurish and while they do a certain amount of good in stimulating good roads enthusiasm, the actual net benefit to the highways is probably small. Would it not be a good idea to direct the efforts of the enthusiastic but unskilled good roads enthusiasts, to painting the distinctive color of their routes on poles and fences, instead of wasting effort in amateur road building? Here is a method by which good roads days may become practically valuable functions.

After The War Even before it has definitely been decided just what the outcome of the Great War is going to be, the belligerent nations are making plans to meet certain conditions that already are apparent. A tremendous readjustment is going to be made necessary by the return of great multitudes of soldiers to civilian life. Work must be found for them and social scientists are endeavoring to divert this potential quantity of readily available labor to useful ends. Our Canadian cousins purpose employing their share of this ex-military labor in road building. A National Labor Bureau has been formed and is working in conjunction with the Dominion Good Roads Association in the formulation of a plan for an extensive system of highways, built largely by this soldier labor. There is no other way in which great quantities of seasoned labor could be employed that will so quickly react to the benefit of the entire community as in building good highways. In the end this problem of the readjustment of labor after the War may be one of the blessings that are now reasonably sure to result from the appalling conflict.

The Wages Of Farm Workers Denmark is a country characterized by thrift, coöperation, education, good government, and general prosperity. Its principal industry is agriculture, hence the wages paid to its half million farm workers constitute an interesting and fairly accurate index as to the condition of the remaining 60 per cent. of its laboring class as a whole. During 1915, men received on the average $121 plus board and lodging, and women $72, per annum, which are the highest wages ever paid in the country for farm labor. Temporary male help received on an average 93 cents per day, and female help 69 cents, or 20 per cent. more than the rates five years ago. In the same time the average work day has been shortened by one third of an hour. Turning our eyes toward home, we find that ten and a half million male farm laborers in this country received per year, in 1915, $255.12 and board, while day labor was worth $1.13, these figures being respectively 10.5 and 6.6 per cent. higher than those of 1910.

THERE is a certain type of community near New York where you find a great deal of Hathaway Furniture. Young married people, particularly, live there—people who left the city behind them.

Their houses are never commonplace; their architects were too clever for that. Their furniture is never commonplace; their tastes are too unusual for that.

Many people of this kind, expanding from an apartment or moving into a new home in the country are attracted to Hathaways. They know that we are perhaps a little more careful about style, a little more discerning in quality and a little more moderate in charges.

This Louis XVI suite, for instance, may be purchased complete, as illustrated, for $767.00. It is of beautifully figured American Walnut, with exquisite carvings of Antique Gold treatment or decorated and finished in any color enamel you may desire.

W. A. Hathaway Company
62 West 45th Street, New York

CAN *while you* CAN

This article has been approved by the Food Administration of the United States

MOST housekeepers are familiar with some form of canning, generally restricted, however, to the putting up of fruits. But this year every surplus vegetable in the garden must be preserved in some way for winter use, if we are to accomplish the task set us of feeding the world. To this end we have secured from Mr. Herbert C. Hoover's office directions which we give below for putting up the vegetables that are staples in most households.

Not one grand bout of canning, but a few vegetables put up from day to day, as the supply from the garden exceeds the family's needs, will dispose of the work in the easiest way, and save the loss of any garden products from waste.

The first steps in canning consist in the preparation and cleaning of containers and in the preparation of the products to be canned, by washing, paring, trimming, and cutting into pieces where division is necessary.

Those engaged in the work should start with clean hands, clean utensils, clean, sound, fresh products, and pure, clean, soft water. No vegetables or fruits which are withered or unsound should be canned. If possible, only fruits and vegetables picked the day of canning should be used. Peas and corn, which lose their flavor rapidly, should be canned, in fact, within five hours if a choice product is desired.

Before the preparation of the products is begun, the containers should be washed. If glass or crockery jars are used they should be placed in a vessel of cold water over a fire to heat. They will then be hot and ready for use when the products have been prepared for packing.

After the materials have been cleaned and put into the shape in which they are to be canned, and containers have been cleaned and tested, the canning procedure for most products by the one-period cold-pack method consists of five steps—scalding or blanching, cold-dipping, packing, processing, and sealing.

The products to be canned are blanched or scalded by being placed in a dipping basket, plunged into boiling water, and allowed to remain there from one to fifteen minutes, according to the canning recipe for that particular product. In the case of greens and green vegetables, however, the scalding is accomplished most satisfactorily in steam, as volatile oils and other substances remain in the food under this treatment. Such products may be put into a colander, set over a vessel of boiling water, and covered as tightly as possible. Even better results may be obtained by the use of a steam cooker.

As soon as the product is removed from the boiling water or steam it should be dipped into cold, clean water and immediately removed and drained for a few moments. The temperature of the water used for cold dipping should be as low as possible.

The product should be packed carefully into hot jars as soon as removed. In the case of fruits, boiling hot syrup or hot water is then added. In the case of vegetables, hot water usually is used and salt is added for seasoning. The scalded rubbers and tops of jars are put into place, and the containers are placed in the device for processing.

Processing is the final application of heat to sterilize the product, and is continued for a period determined by the character of the product and the kind of apparatus used. Immediately after the termination of the processing period, while the products are still hot, glass and similar containers must be sealed.

Jars should then be placed upside down in a tray to cool, and closely examined for leaks. If leakage occurs, the covers should be tightened until they are completely closed.

Most products packed in glass jars will either bleach or darken if exposed to light. It is well, therefore, to wrap such jars in paper. From time to time, especially during very hot weather, the jars should be examined to make certain that there are no leaks, swellings, or other signs of fermentation.

The canner shown in the illustrations is of the steam pressure type, but the same results may be obtained by using outfits of the hot-water-bath or water-seal sorts, only that the processing requires a longer time.

To secure the best results in the operation of steam-pressure canners, the following precautions should be observed:

Place each jar in hot water or in the canner as soon as packed.

Have the water come to the platform, but not above it; add hot water occasionally to prevent the canner from boiling dry.

Have the canner absolutely steam-tight.

When the canner has been filled, fasten the opposite clamps moderately tight; then tighten each pair of clamps fully.

Allow the petcock to remain open until live steam escapes from it. Then close it completely.

One way of preserving string beans for winter use is to salt them down in jars or other containers—a layer of beans sprinkled with salt, another layer of beans, and so on, with water poured over the whole; or the brine may be made first and poured over the packed beans

Force the pressure to the required point before counting time.

Maintain a uniform pressure during the sterilizing period. This may be done by turning down gas or oil flame or moving canner off the stove partially.

Allow the canner to cool until the steam gauge registers zero before opening the petcock.

Remove the jars from the canner and tighten the lids immediately.

Liquid will be lost from jars during the sterilizing period if steam leaks at the joint and around the fittings; if the pressure is allowed to fluctuate, as by running up to twelve pounds, down to seven, and back to ten; if steam is allowed to flow from the petcock during or at the close of the sterilizing period; if a vacuum forms in the canner; or if the wire bails on the glass-top jars are so loose that they will not go in with a snap.

CANNING DIRECTIONS

Tomatoes—Scald one and a half minutes or until skins loosen. Cold dip. Remove stems and cores. Pack directly into cans or hot jars. Press down with tablespoon (add no water). Add level teaspoonful salt per quart. Put rubbers and caps of jars into position, not tight. Sterilize for the length of time given below for the particular type of outfit used.

	MINUTES
Water bath	50
Water seal, 214°	18
Five pounds steam pressure	15
Ten pounds steam pressure	10

Sweet Peppers—Use sweet green peppers. Place the peppers in the oven and bake them until the skins separate from the meat. Remove the skins. Pack them solid in hot glass jars. Add water to fill jar within a quarter inch of top. Add level teaspoonful of salt per quart. Put the rubbers and caps of jars in position, not tight. Sterilize for the length of time given below for the particular type of outfit used:

	MINUTES
Water bath	90
Water seal, 214°	75
Five pounds steam pressure	60
Ten pounds steam pressure	40

Remove the jars, tighten the covers; invert the jars to cool, and test the joints. Wrap jars to prevent bleaching.

Pumpkin, Squash, and Hominy—Prepare and cut into convenient sections. Blanch three minutes. Cold-dip; pack closely in hot jars or cans. Fill with boiling water. Add level teaspoonful salt per quart. Put rubbers and caps of jars into position, not tight. Sterilize for the length of time given below for the particular type of outfit used:

	MINUTES
Water bath	120
Water seal, 214°	90
Five pounds steam pressure	60
Ten pounds steam pressure	40

Sweet Corn—Remove husk and silk. Blanch five minutes on cob. Cold-dip; cut corn from cob and pack directly in hot jars (one inch of top). Fill with boiling water. Add level teaspoonful salt per quart. Put rubbers and caps of jars into position, not tight. Sterilize for the length of time given below for the particular type of outfit used:

	MINUTES
Water bath	180
Water seal, 214°	120
Five pounds steam pressure	90
Ten to fifteen pounds pressure	60

Corn seems to give home canners more trouble than do most products; but with care and study, corn may be canned as easily as any other product grown in the garden. A little experience in selecting the ear, and the ability to recognize corn that is just between the milk and the dough stage are important. Cut the corn from the cob with a sharp, thin-bladed knife, and pack it at once into sterilized jars. Best results can be obtained when one person cuts the corn from the cob and another one fills the contain-

A type of steam pressure canner for home use. The cans, filled and lightly sealed, are placed in the perforated pail, which is set inside the retort—the large receptacle at the left

Then the cover, to which is attached the steam gauge, is put on, the bolts are adjusted, screws tightened evenly all around, and the pressure brought up to the required number of pounds

HE WHO RUNS MAY READ

Firestone

YOU and all who see this page must see at least the name "Firestone." Instantaneously the thought "Tires." Then "Most Miles per Dollar." Then the favorable comments on Firestone Tires from Smith, Jones, Robinson and other car owners flash to mind. So he who runs, or drives, on any road, highway or byway, sees the name Firestone in window, or over door, and feels secure.

That name has come to be a symbol of good service and big value. To attain and hold such a place in the public confidence requires the power, the capacity, the vigilance that are characteristic of the Firestone organization.

The tires that serve longer than usual, that seldom puncture, that wear uniformly, that hold the car steadily, ride easily and look the part of their high class, such tires are soon recognized by the collective mind of the motoring world.

Firestone builders set out to win this recognition seventeen years ago. The latest example of that quality building which looks ahead for the public interest is demonstrated in this Firestone Cord Tire, the tire of superlative efficiency. Resilient and resistant, it runs light and fast and long and gives utmost comfort in riding with the double saving of Most Miles per Dollar and economy of fuel.

Year by year sound public faith in the name Firestone has grown and spread, until an output of many thousands of tires a day at present shows how motorists have responded to this standard of service. Not only because of the values built into the tires, either, but because of the service rendered.

In short, Firestone builders have assumed the responsibility of anticipating the needs of motorists. They have assumed the responsibility of delivering a service so broad, so liberal, so thorough, that car owners will naturally free their minds of tire details.

Just remember the name Firestone because you know that with that name goes a square deal.

FIRESTONE TIRE AND RUBBER COMPANY
Akron, Ohio Branches and Dealers Everywhere

NOTHING— your hammer leaves no impression — why? Because rubber is *elastic*. And it is the elasticity of "61" Floor Varnish that makes its life so long. Send for a sample panel. Test it yourself. Examine the dented wood and the unbroken varnish film. Then think of the heel-blows that your floor is called upon to endure, and you will understand why *"the varnish that can stand your hammer can best endure your heel."*

WRECKAGE — the glass is shivered into a thousand pieces — why? Because glass is *brittle*. And this in a lesser degree is exactly what happens to countless floors finished with ordinary varnishes which crack, check and chip off. A good varnish doesn't break off — it wears off — *slowly*; but the costly oils and gums used in "61" preserve its toughness far longer than the cheap ingredients used in ordinary varnishes.

"61" FLOOR VARNISH

THE English language has been shorn of adjectives to express floor varnish qualities. Mere beauty of surface, and resistance to water, hot or cold, should be taken for granted in any good varnish—but resistance to abrasion — *wear*, is the paramount quality found in "61" Floor Varnish—so often lacking in others. This resistance to the grind of countless footsteps is due to its wonderful *elasticity and toughness*. That is why we say:

Send for Booklet and Sample Panel
finished with "61" and test it with a hammer. "You may dent the wood, but the varnish won't crack."

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VITRALITE, *the Long-Life White Enamel*, is not excelled by *any* enamel in the usual qualities of surface beauty, whiteness, and resistance to water. But *dogged endurance* is its chief claim to distinction, whether it be used on the finest of interior work or the most exposed *exterior* work. Vitralite is so durable that it is *guaranteed for three years outdoors*, as well as indoors. Inside the house its term of service is indefinitely long.

Free Booklet and Sample Panel
showing the beautiful and durable finish of Vitralite will be sent you on request.

OUR GUARANTEE: If any Pratt & Lambert Varnish Product fails to give satisfaction you may have your money back.

Pratt & Lambert Varnish Products are used by painters, specified by architects, and sold by paint and hardware dealers everywhere.

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Residence, Dr. J. D. Odeneal, Biloxi, Miss. H. H. Roof, architect, Biloxi. Stained with Cabot's Stains (see letter below).

Wore Better than Paint

Biloxi, Miss., Feb. 25, 1916.
"My residence, completed two years ago, stained brown with green roof with your stain. In as perfect condition as the day stained. Even the salt spray from the fearful storm of Sept. 29 did not injure one plank. The white columns had to be repainted, as numerous houses, painted, on the beach, were."
J. D. ODENEAL.

Cabot's Creosote Stains

wear as well as the best paints in all climates and better than paint in the south because they cannot crack and peel off as paint does there. The colors are soft and rich, much handsomer than paint, and the Creosote penetrates and preserves the wood. You can afford to use Cabot's Stains; they do not

Cost Half as much as Paint

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

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24 W. Kinzie St., Chicago 523 Market St., San Francisco

Everybody Likes A Good Mystery Story

Perhaps the explanation is (1) that any mystery story resolves itself into a chase after some person or persons who don't want to be caught; (2) that everybody likes a race or a chase; and (3) that the reader of a skilfully told mystery story takes exciting part, though an imaginative part, in the chase and capture. And when a charming love interest is also added—

One of the best new mystery stories, with a fascinating love story involved, is

THE OTHER BROWN

by Adele Luehrmann

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Published by THE CENTURY CO., New York

ers. If it is necessary for one person to work alone, he should cut off sufficient corn to fill one jar, pour on boiling water, add salt, place the rubber and the cap in position, and put the jar into the canner or hot water at once. Corn expands a little in processing, and for this reason jars should not be filled quite full. Corn that has reached the dough stage before being packed will have a cheesy appearance after canning. Corn should never be allowed to remain in the cold-dip water, and large quantities should not be dipped at one time unless sufficient help is available to handle the product quickly. Water-logged or soaked corn indicates slow and inefficient packing.

Home Canning of Field Corn—The corn should be selected between the milk and the dough stage. Wide-mouthed glass jars or tin cans should be used for canning this product. Avoid packing container too full, as the product swells during the sterilization period. The corn should be canned the same day it is picked from the field, if possible. The yellow field corn makes a yellow, butter-like food product when ground and canned. Avoid mixing the white and the yellow or Bloody Butcher corn in the same batch. Secure a good grade of food chopper for grating the corn. Small 10-cent hand graters can be used, but work with these is too slow and tedious.

Blanch the corn ears in boiling hot water or live steam for ten minutes. Remove and dip quickly in cold water. Cut the corn from the cob with a sharp, thin-bladed knife. Feed the corn to the food chopper and grind to a pulp. Cook this product in a kettle, add one level teaspoonful of salt and a little butter to each quart, and sweeten a trifle with sugar. Cook (stir while cooking) until the product becomes a thickened or paste-like mass. Then pack this product immediately in hot glass jars to one fourth inch of the top. Seal jars by placing rubber and cap in position; place in sterilizer and process for the length of time given below for the particular type of outfit used:

	MINUTES
Hot-water bath	180
Water seal, 214°	120
Five pounds steam pressure	60
Ten or fifteen pounds steam pressure	50

After this product has been sterilized and cooled and stored away, it will form a solid, butter-like mass, which when removed whole from the jars may be cut in convenient slices for toasting, frying, and baking purposes, and will make a delicious food product, palatable, economical, and nourishing.

Vegetables such as Wax Beans, Stringless Beans, Okra, Brussels Sprouts, etc.—String or hull. Blanch in live steam for five to ten minutes. Remove and dip quickly in cold water. Pack in hot jars and add boiling hot water until jars are full. Add one level teaspoonful of salt to each quart. Put rubbers and caps of jars in position, not tight. Sterilize for the length of time given below for the particular type of outfit used:

	MINUTES
Water bath	120
Water seal, 214°	90
Five pounds steam pressure	60
Ten pounds steam pressure	40

Lima Beans, Peas, and other vegetables or combinations of them—Blanch in live steam for five to ten minutes. Dip quickly in cold water. Pack immediately in hot glass jars, and add boiling hot water to fill container. Add level teaspoonful salt per quart. Place rubbers and caps of jars in position, not tight. Sterilize for the length of time given below for the particular type of outfit used:

	MINUTES
Water bath	180
Water seal, 214°	120
Five pounds steam pressure	60
Ten to fifteen pounds steam pressure	40

Remove from the container; tighten cover; invert to cool, and test the joints. Wrap in paper to prevent bleaching, and store.

Peas—A cloudy or hazy appearance of the liquid when peas are keeping well indicates that the product was roughly handled in blanching and cold-dipping, or that split or broken peas were not removed before packing. When peas are too old and blanching is not done carefully, the skin becomes cracked and the liquid cloudy. Some waters of high mineral content have a tendency to increase cloudiness, also to harden the peas.

Cauliflower—Use the flowered portion. Plunge

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American men and women now buy a Paige—not because of the price tag which is attached to it—but because of its well established reputation as a fine mechanical product.
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Sedan "Six-39" five-passenger - - - - $1875 f. o. b. Detroit
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Established 1848

it into a cold brine (a half pound salt to twelve quarts of water). Allow the cauliflower to remain in this brine for one hour. Blanch it three minutes and dip quickly into cold water. Pack in hot glass jars. Fill with boiling water and add a level teaspoonful of salt per quart. Put rubbers and caps of jars in position, not tight. Sterilize for the length of time given below for the particular type of outfit used:

	Minutes
Water bath	60
Water seal, 214°	40
Five pounds steam pressure	30
Fifteen pounds steam pressure	20

Remove the jars; tighten covers; invert jars to cool, and test the joint. Wrap the jars with paper to prevent bleaching.

Root and tuber vegetables, such as *Carrots, Parsnips, Salsify, Beets, Turnips, and whole Sweet Potatoes*—Grade for size, color, and degree of ripeness. Wash thoroughly, using vegetable brush. Scald or blanch in hot water sufficiently to loosen the skin. Dip quickly into cold water. Scrape or pare to remove skin. Pack whole vegetables, slices, or cross-section pieces in hot glass jars and add boiling hot water until full. Add level teaspoonful salt to quart. Place rubbers and tops of jars in position; partially seal, but not tight. Sterilize for the length of time given below for the particular type of outfit used:

	Minutes
Water bath	120
Water seal, 214°	80
Five pounds steam pressure	60
Ten pounds steam pressure	40

Remove jars from canner; tighten covers; invert to cool, and test joints. Wrap in paper and store.

Greens or Pot Herbs—A large number of cultivated and wild greens are edible, and if canned by this method will make a succulent and valuable food for the winter and spring months. Among the cultivated greens are Swiss chard, kale, Chinese cabbage leaves, upland cress, French endive, cabbage sprouts, turnip tops, young New Zealand spinach, beet tops, dandelion, young dasheen sprouts, native mustard, Russian mustard, collards, and tender rape leaves. Among the wild greens are pepper cress, lamb's quarter, sour dock, smartweed sprouts, purslane, or "pusley," pokeweed sprouts, dandelion, marsh marigold, wild mustard, and milkweed (tender sprouts and young leaves).

Can greens the day they are picked. Wash clean, sort thoroughly, allowing no foreign weed leaves or other vegetable matter to remain. Rid the greens of all sand, dirt, dry and decayed or diseased leaves. Blanch in live steam for fifteen minutes. Remove the greens and plunge quickly into cold water. Place on the table and cut into convenient lengths. Pack tight in hot jars, add hot water to fill the container, and season to taste. The product will be slightly improved if a few strips of boiled bacon or chipped beef are added. Sterilize for the length of time given below for the particular type of outfit used:

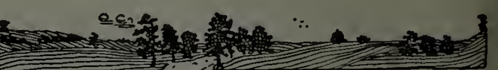
	Minutes
Water bath	120
Water seal, 214°	90
Five pounds steam pressure	60
Ten pounds steam pressure	40

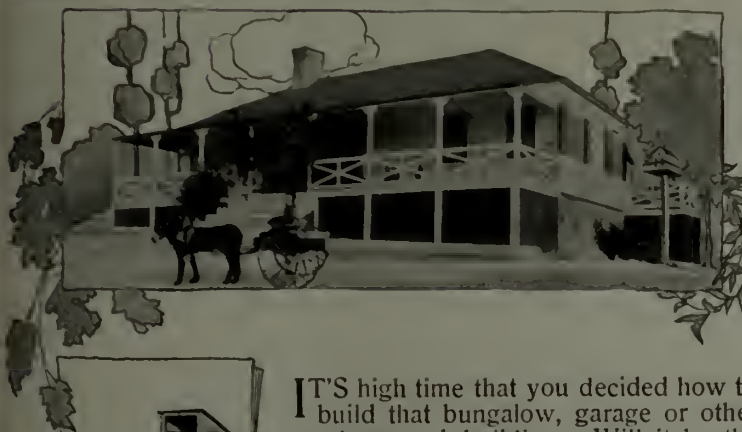
Remove from canner; tighten covers of jars; invert to cool, and test the joints. Wrap in paper to prevent bleaching, and store.

Corn and Tomato combination—Blanch fresh corn on the cob five minutes. Cold dip quickly. Cut the corn from the cob, cutting from tip to butt. Scald the tomatoes one and a half minutes and cold dip. Remove the skin and core. Chop tomatoes into medium-sized pieces. Mix thoroughly two parts of tomatoes with one part of corn. Pack the mixture in hot glass jars and add a level teaspoonful of salt per quart. Put rubbers and caps of jars in position, not tight. Sterilize for the length of time given below for the particular type of outfit used:

	Minutes
Water bath	120
Water seal, 214°	120
Five pounds steam pressure	60
Fifteen pounds steam pressure	45

Remove the jars; tighten the covers, invert the jars to cool, and test the joints. Wrap the jars with paper to prevent bleaching.





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IT'S high time that you decided how to build that bungalow, garage or other much-wanted building. Will it be the usual plans and estimates; dirt, racket and extra expenses, or will you let Hodgson help you—*show* you how to side-step building troubles?

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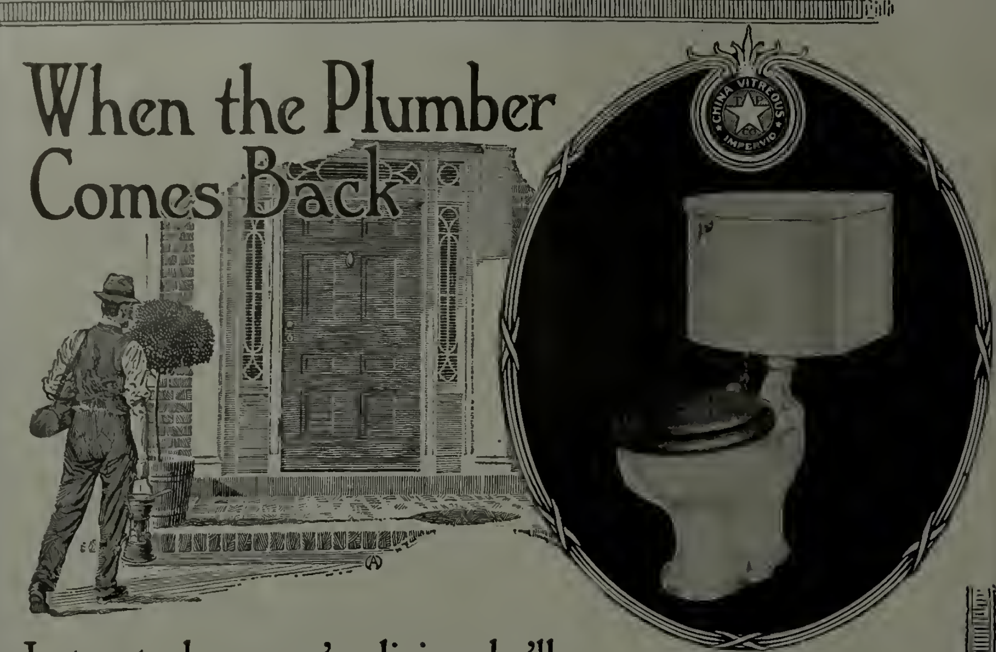

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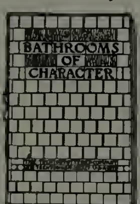

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Bret Harte wrote a little story and got it printed, and the way was instantly opened to fame. A year or so ago "The Century Magazine" printed a long short story, entitled, "The Friends," by Stacy Aumonier, a young English writer whose name was then practically unknown in America; and it was such a quiet, perfectly astounding achievement of the story-telling art that editorial writers all over the world took columns to tell about this one story. In answer to numerous requests, The Century Co. is publishing "The Friends" in a book, which contains also two other brilliant stories by the same author.

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THE STANDARD CYCLOPEDIA OF HORTICULTURE. By L. H. Bailey. The Macmillan Co., London and New York. Illustrated with colored plates, 4,000 engravings in text, and 96 full page cuts; in six volumes, 3,639 pages, 7¼ x 10¾ in.; price $6 per volume.

Seventeen years ago (in 1900), when Mr. Bailey wrote the preface to Vol. I of his "Cyclopedia of American Horticulture," he stated the purpose of that work to be "to make a complete record of the status of North American horticulture as it exists at the close of the nineteenth century," and expressed the hope that the cyclopedia would never be revised, saying that if new issues were called for, mere errors should be corrected, but beyond that the plates should be left as they were. This present cyclopedia, therefore, though founded upon the former, is not a revision of, but a successor to it. It is a new work with an enlarged scope, and its geographical boundaries are wider, to take in the new tropical connections of Canada and the United States.

As its title page sets forth, this is "a discussion, for the amateur and the professional and commercial grower, of the kinds, characteristics, and methods of cultivation of the species of plants grown in the regions of the United States and Canada for ornament, for fancy, for fruit, and for vegetables; with keys to the natural families and genera, descriptions of the horticultural capabilities of the states and provinces and dependent islands, and sketches of eminent horticulturists."

As a whole it is a work of lasting and incalculable value that will take its place with the notable literary achievements of the century, and is a fitting monument to the life's work of its distinguished editor.

THE LIVABLE HOUSE: ITS PLAN AND DESIGN. By Aymar Embury II, architect. Moffat, Yard & Co., New York. Illustrated; 198 pages; 7¼ x 10 inches; price $2.50 net.

THE LIVABLE HOUSE: ITS GARDEN. By Ruth Dean, landscape architect. Moffat, Yard & Co., New York. Illustrated; 174 pages; 7¼ x 10 inches; price $2.50 net.

Volumes I and II in the Livable House series, edited by Mr. Embury, in which the authors set forth the practical wisdom gained through years of experience in planning and designing suburban houses and gardens.

INTERIOR DECORATION FOR THE SMALL HOUSE. By Amy L. Rolfe, M.A., Instructor of Home Economics, University of Montana. The Macmillan Co., New York. Illustrated; 151 pages; 5¼ x 7¾ in; price $1.25.

Applying the rules of art to the decorating and furnishing of homes for people of moderate means.

FOREST FANCIES. By Lucy C. Kellerhouse. Duffield & Co., New York. Illustrated; 164 pages; 5¼ x 8 in.; price $1.50 net.

Seven delightful stories for children, telling of the life of the trees and of the forest.

THE JOYOUS ART OF GARDENING. By Frances Duncan, formerly Garden Editor of *The Ladies' Home Journal*, author of "My Garden Doctor," Charles Scribner's Sons, New York. Illustrated; 239 pages; 5 x 7¾ in.; price $1.75.

A delightful gardening book, and a complete compendium for him who loves to do his own work among his flowers.

THE MYSTERIES OF THE FLOWERS. By Herbert W. Faulkner, Ph. B., M. E. Frederick A. Stokes Co., New York. Illustrated; 238 pages; 6 x 8 in.; price $2.

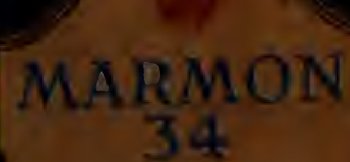
Describing the many varieties of American wild flowers, their mechanisms, and their methods of interchanging pollen. The author, who is well known as artist, botanist, and lecturer, takes his interpretations of plant life directly from nature. The illustrations are in color and black and white.

A VIRGINIAN VILLAGE. By E. S. Nadal. The Macmillan Co., New York. 277 pages; 5¼ x 8 in.; price $1.75.

A collection of articles, dealing largely with outdoor Southern life, which had their initial appearance in various leading magazines. The first of these gives its name to the volume, but the autobiography which precedes it, and which occupies about one-fourth of the book, is by no means the least interesting part of it.

JERRY OF THE ISLANDS. By Jack London. The Macmillan Co., New York. Illustrated; 337 pages; 5¼ x 7¾ in.; price $1.50.

The life story of an Irish terrier, giving his real adventures in the South Sea Islands, where his lot is cast.



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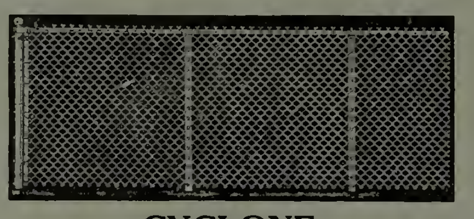

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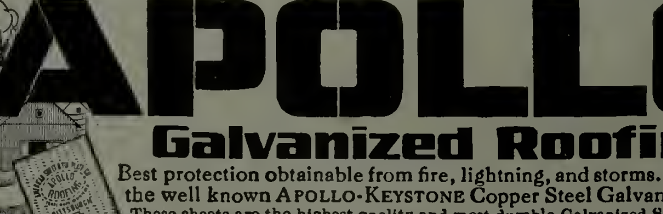
The Readers' Service gives information about Home Decorating

The Readers' Service will give you information about Gardening



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NEW ENGLAND. By Clifton Johnson, author of "Highways and Byways of New England," "New England and Its Neighbors," etc., etc. The Macmillan Co., New York. Illustrated; 371 pages; 5 x 7½ in.; price $1.

A general view of the characteristics—including the human element—whuch give New England interest and charm.

WHAT TO EAT AND WHEN (366 pages). **THE WOMAN WORTH WHILE** (217 pages), and **LET'S BE HEALTHY IN MIND AND BODY** (334 pages). By Susanna Cocroft. G. P. Putnam's Sons, New York. Illustrated; 5 x 7½ in.; price, per set of three volumes, $3.95, postpaid.

Practical advice as to exercise, diet, etc., looking to the winning and maintaining of health.

TROUT LORE. By O. W. Smith, Angling Editor of *Outdoor Life*. Frederick A. Stokes Co., New York. Illustrated; 203 pages; 5¼ x 8¼ in.; price $2.

The author is humorist and philosopher as well as fisherman, but he contrives to divulge the best methods of using dry fly, wet fly, bait, and lure.

A GARDEN ROSARY. By Agnes Edwards, author of "To the House of Friendship." Houghton, Mifflin Co., Boston and New York. 132 pages; 4¾ x 7¼ in.; price $1.25.

A record, in diary form, of the spiritual rather than of the horticultural aspect of gardening.

TROPICAL AGRICULTURE. By E. V. Wilcox, A.M., Ph. D., (Of the U. S. Dept. of Agriculture). D. Appleton & Co., New York and London. Illustrated; 373 pages; 5¼ x 7¾ in.; price, $2.50.

An exposition of the climate, soils, cultural methods, crops, live stock, and opportunities of the tropics.

THE HUMAN SIDE OF TREES. By Royal Dixon and Franklyn E. Fitch. Frederick A. Stokes Co., New York. Illustrated; 199 pages; 5¾ x 7¾ in.; price $1.60 net.

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THE POTATO. (In the Rural Science series edited by L. H. Bailey). By Arthur W. Gilbert, Ph.D., Professor of Plant Breeding, N. Y. State College of Agriculture, Cornell University, assisted by M. F. Barrus, Ph.D., Professor of Plant Pathology, N. Y. State College of Agriculture, Cornell University, and Daniel Dean, ex-President N. Y. State Potato Association. The Macmillan Co., New York. Illustrated; 318 pages; 5 x 7½ in.; price $1.50.

An authoritative and practical treatise on the growing, breeding, and marketing of potatoes.

EQUIPMENT FOR THE FARM AND FARMSTEAD. By Harry C. Ramsower, Professor of Agricultural Engineering in the College of Agriculture, Ohio State University. Ginn & Co., Boston. Illustrated; 523 pages; 5¼ x 8 in.; price, $2.25.

A general survey of farm engineering; especial attention being paid to subjects of particular interest to those who are, or are preparing to become, practical farmers.

AGRICULTURE AND THE FARMING BUSINESS. By Oscar H. Benson, of the U. S. Dept. of Agriculture, and George H. Betts, of Cornell College, Iowa. The Bobbs-Merrill Co., Indianapolis, Ind. Illustrated; 778 pages; 5¼ x 8¼ in.; price, $3.50 net.

A wide range of practical scientific information directly related to the everyday problems of the farm and home is here brought together and translated into simple, non-technical language.

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A text book for amateurs and students of physics, being a new and enlarged edition containing additional chapters on Art in Color Photography and Photomicrography in Color.

A LIFE OF HENRY D. THOREAU. By Frank B. Sanborn. Houghton, Mifflin Co., Boston and New York. Illustrated; 542 pages; 5¾ x 8½ in.; price $4.

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SUCCESS IN THE SUBURBS. By John R. McMahon. With a foreword by O. S. Morgan, of the Department of Agriculture, Columbia University. G. P. Putnam's Sons, New York. Illustrated; 355 pages; 5 x 7½ in.; price $2 net.

How to locate, buy, and build in the suburbs, and especially how to garden and grow fruit and keep fowls and animals there.

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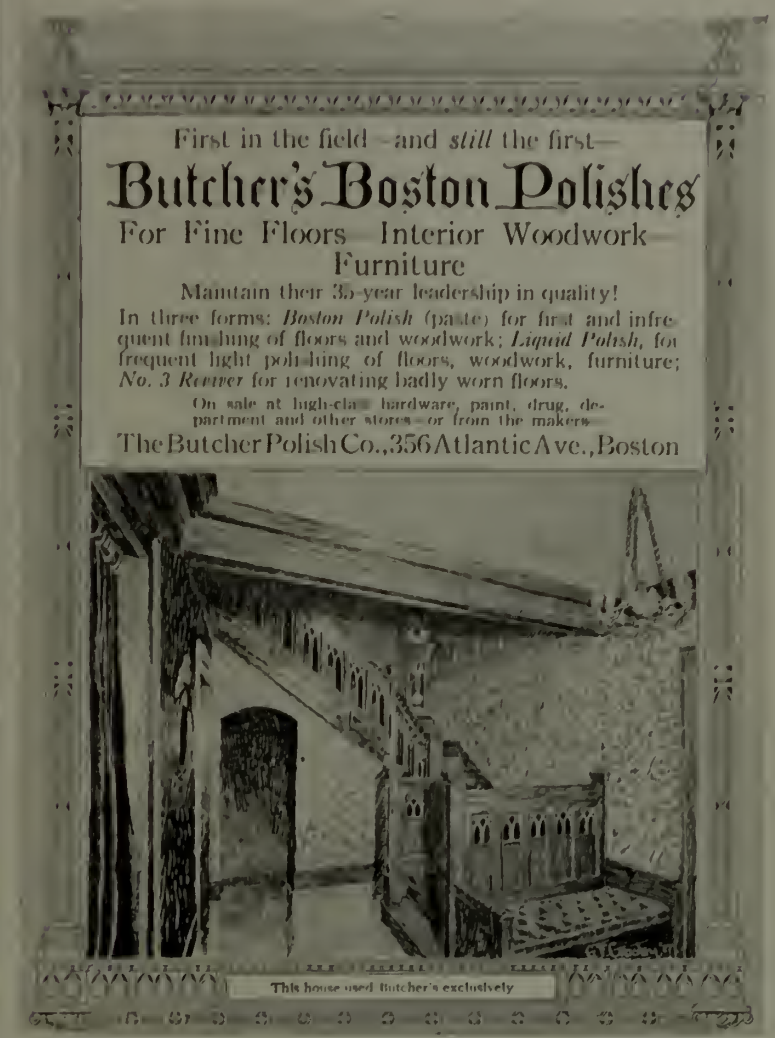

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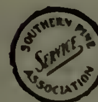

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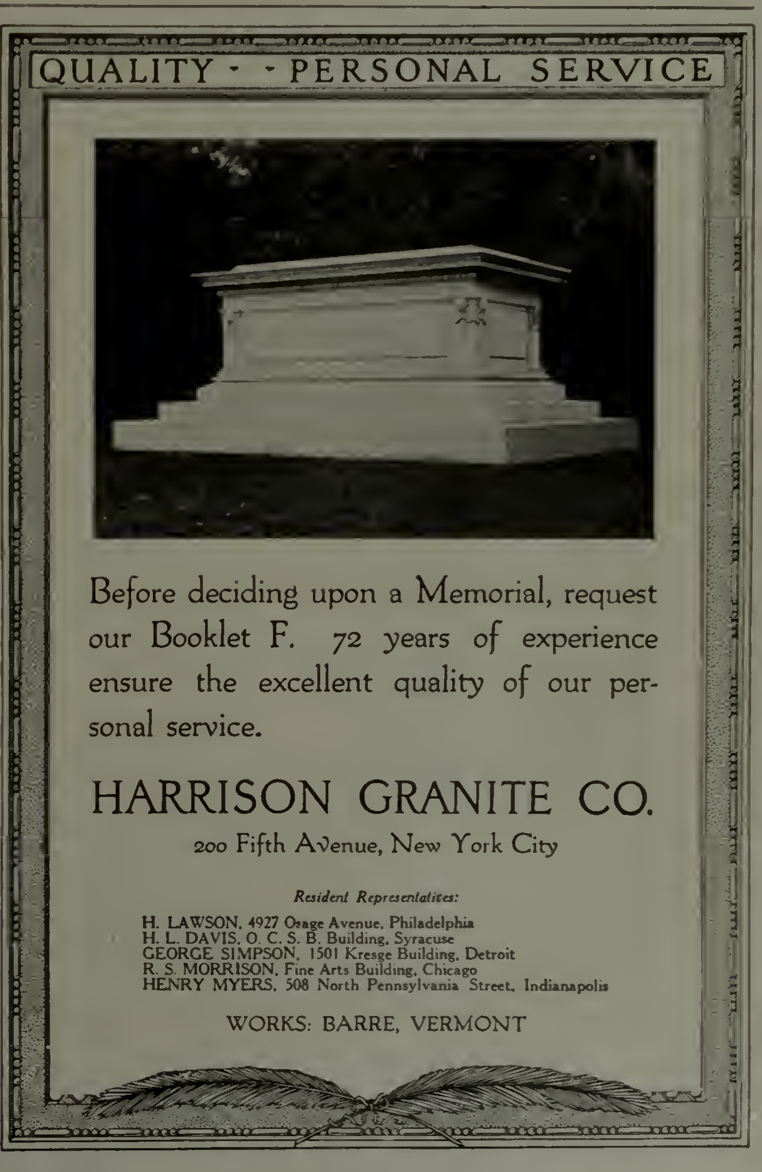

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Lord Northcliffe, now in this country as British Commissioner, has written an article on "Submarines—the Vital Issue;" and Captain André Tardieu, the French Commissioner to the United States writes on "Aeroplanes." Colonel Swinton of the Royal Engineers has an article on the "Tanks." Hugh Gibson, formerly first Secretary of our Legation in Belgium is, with the permission of the State Department, writing of his personal experiences in Belgium during the first days of the war. Burton J. Hendrick has an article on "Man Hunters of the Air," accompanied by many diagrams and illustrations showing much of the strategy of the air. This is the first article of its kind that has been published. Dr. Kellogg, who was in charge of the Commission for Relief in Belgium continues the inside story of the C. R. B. which is sure to go down in history as the one authentic report of conditions in Belgium and Northern France at this time. George Marvin who has just returned from Cuba has a well illustrated article on Keeping Cuba Libre. Mr. Marvin was in Cuba at the time of the recent "revolution." The United States Government has built the greatest airdrome in the world. It is at Dayton, Ohio. James Middleton brings out many interesting facts in his story of this great aviation plant.

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THE WOODCARVER OF SALEM. By Frank Cousins and Phil M. Riley. Little, Brown & Co., Boston. Illustrated; 168 pages; 6¼ x 9¼ in.; edition limited to 930 copies; price $7.50 net.

The work of Samuel McIntire, architect craftsman of Salem in the late eighteenth century, has become known and appreciated largely through Mr. Cousins's photographs. These have been published in this and other magazines during the past decade and have never failed to increase public recognition of the great debt that our early American architecture owes this versatile genius —architect, sculptor, musician. Mr. Riley has brought to light many facts regarding McIntire and his work that were in real danger of becoming lost in oblivion. All in all, the book is a much needed record, well written, well illustrated, and well published. Our one regret is the limitation of the edition, which is already exhausted.

AT PLATTSBURG. By Allen French, author of "The Hiding Places," etc. Charles Scribner's Sons, New York. 310 pages; 5⅛ x 7⅝ in.; price $1.35.

Somewhat as Ian Hay in his "First Hundred Thousand" depicted the life of the new English soldier, so Mr. French gives us a vivid picture of the life of the Plattsburg rookie.

THE WHITE PINE SERIES OF ARCHITECTURAL MONOGRAPHS. Vols. I and II combined. Prepared for publication by Russell F. Whitehead, formerly editor of *The Architectural Record*. Published by The White Pine Bureau, St. Paul, Minn. Illustrated; 8¼ x 10¾ in.; price $1.50.

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TURF FOR GOLF COURSES. By Charles V. Piper, Agrostologist, U. S. Dept. of Agriculture, and Russell A. Oakley, Agronomist, U. S. Dept. of Agriculture. The Macmillan Co., New York. Illustrated; 262 pages; 5⅜ x 8⅜ in.; price $2.50.

An authoritative and practical treatise on growing and maintaining a grass turf, covering conditions in all sections of the United States.

AGRICULTURE AFTER THE WAR. By A. D. Hall, F. R. H.S., author of "The Soil," "The Book of the Rothamsted Experiments," etc., etc. Imported by E. P. Dutton & Co., New York. Illustrated; 137 pages; 4¾ x 7¼ in.; price $1.50, net.

Outlining a policy for England to provide immediate employment for all who are able to work, and eventually to secure such production of food at home as will render the country secure in time of war.

MYTHS AND LEGENDS OF BRITISH NORTH AMERICA. By Katharine B. Judson. A. C. McClurg & Co., Chicago. Illustrated; 211 pages; 6 x 8⅜ in.; price $1.50 net.

The Indian legends in this volume are representative ones, chosen from among the authentic versions of the native tribes of British North America.

THE WAY TO STUDY BIRDS. By John Dryden Kuser. G. P. Putnam's Sons, New York. Illustrated; 85 pages; 4 x 6¾ in.; price $1.25.

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THE COMMERCIALIZATION OF LEISURE. By James Peyton Sizer. Richard G. Badger, Boston. 91 pages; 5 x 7⅜ in.; price 75 cents.

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MANUAL OF FRUIT DISEASES (in the Rural Manuals series edited by L. H. Bailey). By Lex R. Hesler, A.B., Ph. D., Assistant Professor of Plant Pathology, N. Y. State College of Agriculture, Cornell University, and Herbert Hill Whetzel, A.B., M.A., Professor of Plant Pathology, N. Y. State College of Agriculture, Cornell University. The Macmillan Co., New York. Illustrated; 462 pages; 5 x 7⅜ in.; price $2 net.

A presentation of all the known facts regarding common diseases of fruit, with practical information on how to combat them.

BRAZIL TO-DAY AND TO-MORROW. By L. E. Elliott. Literary Editor of *The Pan-American Magazine*. The Macmillan Co., New York. Illustrated; 338 pages; 5⅝ x 7⅞ in.; price $2.25.

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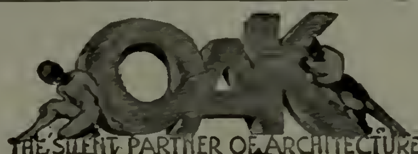

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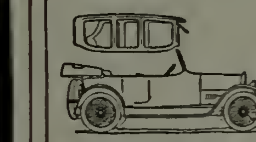

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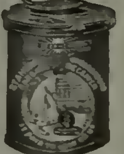

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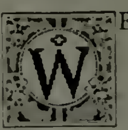

WE HAVE heard some discussion among amateur poultry raisers regarding the advisability of discontinuing the keeping of a home flock on account of the prohibitive prices of feed. A solution of this same problem in England is set forth in an article by Mr. Will Hooley, F.Z.S., in English *Country Life*, and it is so pertinent to our own needs, that we give it in full below.

"The increasing difficulty of obtaining grain for poultry feeding is causing much consternation among poultry keepers, and substitutes are being very eagerly inquired for. A question now frequently put to the expert is: 'Are there any substitutes for grain, or must I give up my poultry?' And another: 'Do you think one ought in these times to feed maize, barley, or oats that might be required for human use?' The answer to these questions is better given Scotch wise—by asking another—and that is, 'Have you ever thought that poultry can exist without grain?' And if so, then you ought not to deplete the country's stock by disposing of your birds.

"Supposing that grain is cut out of the dietary, would not such drastic measures reduce the egg supply? Possibly it would, but the eggs would be produced at a cheaper rate, and there would be some eggs, and the stock would be saved. The following may lead to a solution of the most urgent of poultry keepers' difficulties. More than twenty years in the service of the poultry industry has brought the writer in touch with many and sometimes peculiar clients. One comes very forcibly to mind at the present time—a retired Colonel with many bizarre views of the world in general and the subject of poultry feeding in particular. His theme was that poultry could be reared without grain, and he very faithfully carried out his theory. Here for nearly two years the fowls were under the closest observation; a good number of chickens were reared entirely without grain, and the adult stock were months without grain, and never at any time had more than the smallest supply of it. A sick chicken or fowl was never seen in his yards. Some will say he was a 'crank.' Perhaps so, but his crank was on the axle of a meat-mincing machine, one provided with good stout cutters that most effectively dealt with a variety of substances. May we enumerate them? Banana skins, tomato skins, outsides of celery, radish tops, outside cabbage leaves, potato peelings, small pork bones, soft rabbit bones, bits of fat, the heads and tails of herrings, cod, or any other fish; the backbone and other bones of all these fishes, egg-shells, crusts (if any, which was seldom), apple peelings, all fruit peelings, turnip and carrot tops and parings; in fact, whatever was 'going' went through that meat-mincing machine and came forth in a very nice granulated condition. Into this he put a handful or two of broad bran and a handful of 'fine feed'—by which he referred to middlings. The little chickens had rather less vegetable food and more of the meat, fish, bran, and middlings.

"Buff Orpington chickens reared in this way weighed between three and four pounds at four months old, and at that age did not know the shape of a grain of corn. They were perfectly healthy and beautifully feathered. The adult birds were fed in much the same way; from October to Christmas each had ten ounces of grain per day in addition to the soft food. After Christmas they went without because the local supply of tail corn had finished and it was against his principles to import it. The egg average varied because the house scraps varied; usually two and sometimes three eggs per bird per week were obtained, but the egg supply never failed, and the cost per dozen was ridiculously small. In those days a fowl could be fed for 1¼d. per week. The Colonel's scheme was to feed under a halfpenny—and he did it.

"This method could not be applied to large farms, but why not save the small stocks? Is it not worth while to preserve stocks when so many will be needed to stock France and Belgium? This is not a time to make money; it is a time to hang on to things. If all our stocks go, then out of the Old Country the money will go to refurnish them.

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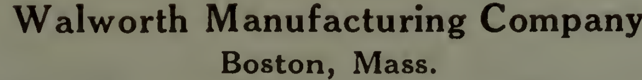

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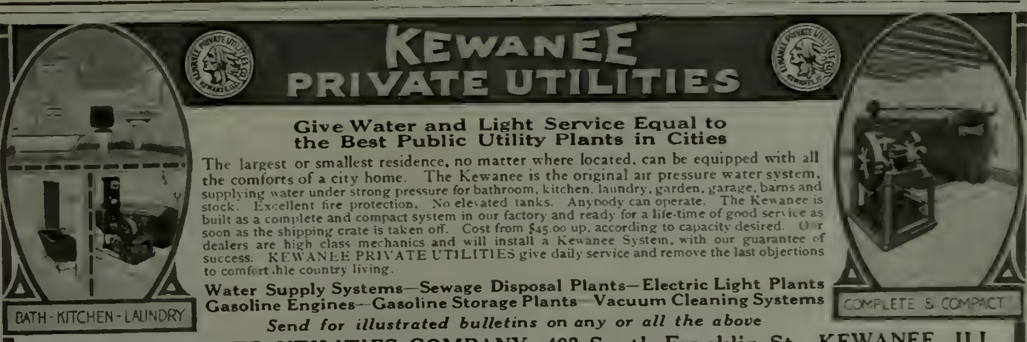

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A NEW NOVEL
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WILLIAM McFEE

¶ William McFee is now engineer officer on a British transport, and he writes us that his new book comes on slowly in the midst of very arduous duties. Meanwhile his first book—the literary sensation of last year—continues to gain new readers.

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would be unavoidable waste—and turning it into good food. It is quite as legitimate to give it to poultry as to pigs, and in towns much more convenient.

"Fish provides good war rations for poultry. A cod's head is not usually used for human consumption, and there are other kinds of fish waste. The heads of 'dabs,' or flukes, and other fish, if well boiled will become so soft that the bones will crush to powder as the meal is incorporated with them. Fish given in this way has no appreciable effect on the eggs; it is shrimps, salmon, mackerel, and fish containing a good deal of oil that are likely to flavor eggs if given daily in the diet of the fowl. In many districts rice with the husk on can still be obtained; one pound of this will weigh nearly four pounds when cooked. A cod's head, one pound of rice (cooked with a very small lump of fat), a little bran, and some middlings, and quite a good repast is available for the fowls—food that chickens, ducks, fowls, or turkeys will enjoy and on which they will thrive. Meat bones ought to be boiled with vegetables many times before being dismissed as useless. One boiling does not obtain all the nutriment from them; they yield fat, gelatine, and bone phosphate in every successive boiling.

"It is to be hoped that the Government will seek to preserve the breeding stock of this country, stock that has been scientifically bred until it is the world's best. Still, even these cannot be put in the balance against human requirements, and one only asks that no stock should be sacrificed without very careful investigation."

THE HAYS THAT HORSES LIKE

THE fundamental and most important aim in feeding animals is, of course, to keep their bodies in such condition that they can maintain health and, in addition, grow, nourish offspring, yield food products, or accomplish work, according to their several natures and purposes. But these related results will be obtained only in part, or at least only at an inconvenient cost, unless the animals are so fed that they relish and enjoy their rations. In others words, the chemical composition of grains and grasses is all important but so, too, is their palatability. The hay of which a horse eats ten pounds, only because there is nothing else available, is in the long run neither efficient nor economical as compared with the hay of which it eagerly consumes fifteen or twenty pounds because it likes it. The latter, it may be said, is all used constructively; part of the energy derived from the former must be expended in destroying or overcoming the horse's distaste for that particular grass.

To discover in a general way the course of this line of least resistance, the Ohio State Experiment Station conducted a series of tests with four horses and a number of different kinds of hay. At each feeding half of the daily hay ration consisted of some standard "check" hay (either timothy or mixed timothy and clover) and the other half of some one of the other kinds under investigation. The amounts of each left after a certain time were weighed, the percentages eaten were figured, and as a result the various materials were ranked in order of palatability as follows:

FIRST TEST	SECOND TEST	THIRD TEST
Perennial rye Grass	*Bromus inermis*	Mixed timothy and clover
Timothy	Timothy	*Bromus inermis*
Italian rye grass	Orchard grass	Timothy
Meadow fescue	Meadow fescue	Italian rye grass
Tall fescue	Blue-grass	Perennial rye grass
Blue grass	Perennial rye grass	Redtop
Tall oat grass	Italian rye grass	Orchard grass
	Tall oat grass	Tall oat grass
	Redtop	Blue-grass

On these grounds the Station concludes that "mixed clover and timothy hay is more palatable than timothy, or any other one grass. *Bromus inermis* (brome grass) stands second, with timothy third. While the rye grasses received high rank in the first year's test, they did not hold up as high in the second, and it is probable that their proper position is intermediate. Tall oat grass is unmistakably at the bottom as regards palatability, with blue-grass and redtop close seconds." D. C.

Good Pictures

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Illustration Department H

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The Country Life Permanent Exposition, Grand Central Terminal, New York City, contains a bungalow built throughout of North Carolina Pine.

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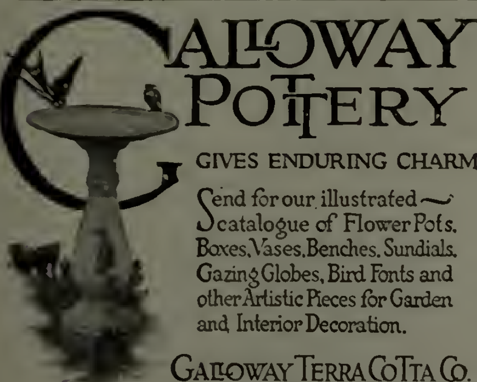

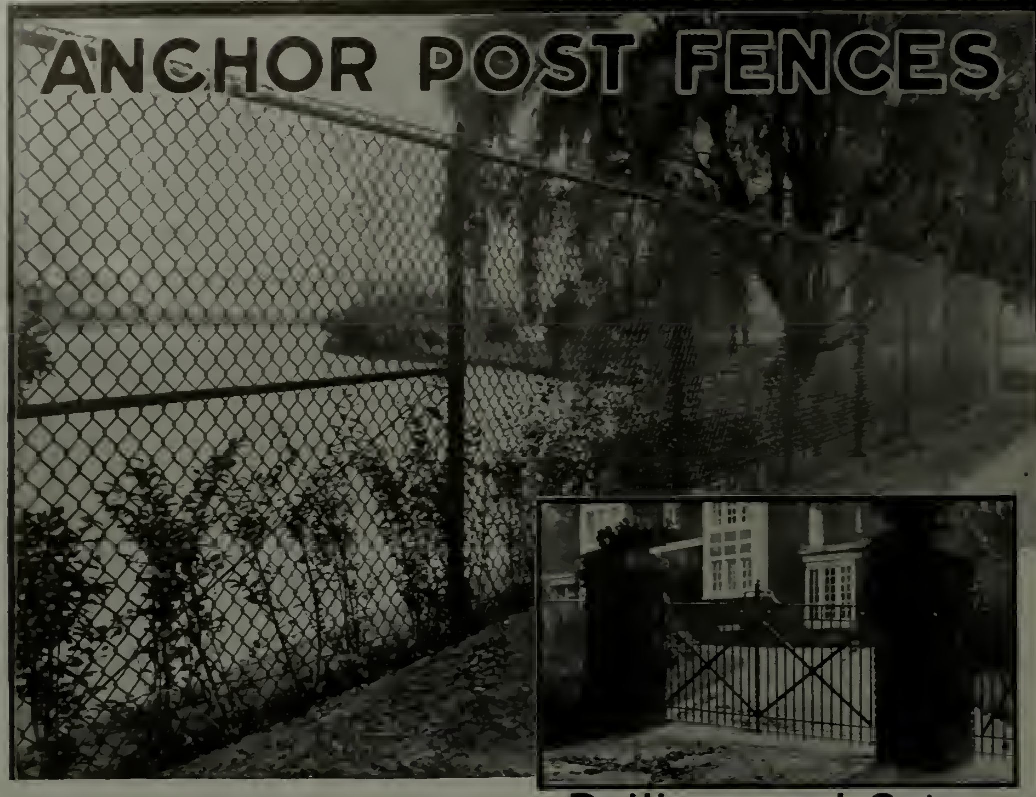

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GARDEN CITY DOUBLEDAY, PAGE & CO. NEW YORK

ANSWERS TO QUERIES ABOUT ANTIQUES

WE HAVE two Empire chairs which we are very partial to, and I am venturing to send you photographs for your opinion. The lines and workmanship are so good and the design so chaste that we have wondered if they might not have come from the shop of Duncan Phyfe during the best of his Empire

While these chairs may have been by Duncan Phyfe, there is little about them to prove it

period. On each cross-piece of the back is a panel of handsome crotch mahogany. The legs are perfectly plain.

I am enclosing also a photograph of an old couch which we bought in Dobbs Ferry as having belonged to Alexander Hamilton. We are sure of its having belonged to his son James, whose home was for many years in Dobbs Ferry, but the father, I believe, died in 1804, and whether this couch is as old as that is the question. As you see, there is little wood exposed. The back lets down and rests on two small, slender, turned legs hinged on to the back. The seat cushion is loose and the back cushion is fastened at the top with tapes. Can you give me the probable date of the making of this piece?

Mrs. G. P. H., Hastings-on-Hudson, N. Y.

These chairs may, of course, have been examples of Duncan Phyfe's late style, but there is very little to prove this. The lines are very graceful and the workmanship apparently good, but they were probably not made before 1820. Good chairs of this kind are sold for $15 to $20 apiece. The couch looks as though it were made not much before 1840, and has therefore only a moderate antique value. Such pieces can usually be purchased for less than they originally cost to make.

I HAVE two shelf clocks about which I would very much like to get some information. They are of the ordinary shelf type, being about thirty inches high by fifteen or eighteen inches wide. One of them is of rosewood veneer, with columns on each side of the door having a light-colored mottled finish, evidently stained plaster of paris. Inside there is the customary printed poster showing that the clock was made by the William L. Gilbert Clock Company of Winsted, Conn.

The other clock is veneered with crotch mahogany, and has painted on the lower part of the glass door a huge weeping willow tree, back of which may be seen a two-story structure resembling a church. The poster in this clock shows that it was made by Clarke, Gilbert & Co. at W-s-ster, Conn. Some of the letters have been obliterated, but I take it to be Worcester, Conn. The poster was printed by Elihu Geer, job, card, and fancy printer, Hartford, Conn. Can you tell me about when the makers of these clocks were in business?

From whom can I purchase "The Old Clock Book," by N. Hudson Moore?

C. D. T., Cleveland, Ohio.

You can probably obtain "The Old Clock Book" through any Cleveland book store. It is published by the Frederick A. Stokes Company, New York.

From this excellent book I have just gathered the following information: William L. Gilbert was a clockmaker in Winsted, Conn., from 1823 to 1866. In 1841 he went into business in Win-

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You and I and the rest of America face practically the same problems which confronted the English in 1914. That is why you and I and the others should read André Chevrillon's "England and the War." It helps one to get one's bearings. Look the book over at the nearest dealer's.

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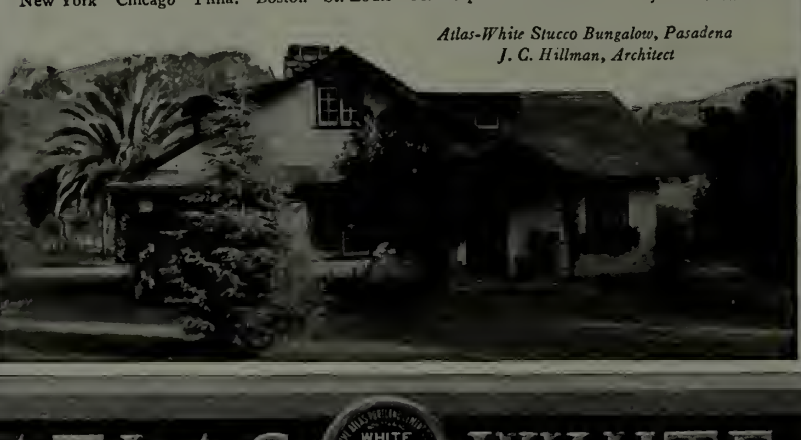

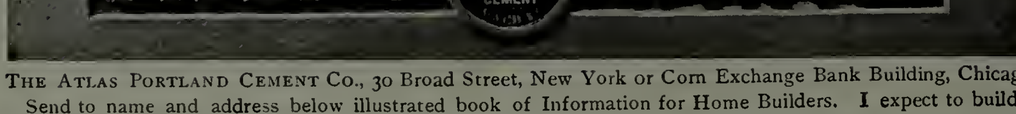

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HOLT had carefully prepared the charge, lit the fuse and, shutting the back door behind him, ran as hard as he could.

He didn't know that an old man and a boy were in the house—not until he collided with Dingby, wet and breathless, half-way up the slope.

What happened during the next thirty seconds and later makes a story.

Stories by Colonel Swinton, "eye witness" of the early days of the war—inventor of the British Tank.

Some are of war—all, full of human interest, excitement and humor.

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The Great Tab Dope

Garden City DOUBLEDAY, PAGE & COMPANY New York

sted with Lucius Clarke, forming the firm of Clarke, Gilbert & Co. Probably Mr. Clarke dropped out, for the name appears again as W. L. Gilbert. In 1866, when perhaps Mr. Gilbert died, the concern was incorporated as the Gilbert Manufacturing Company. In 1871 it was reorganized as the Wm. L. Gilbert Clock Company. It would therefore appear that your rosewood clock is quite modern, dating no farther back than 1871. The mahogany clock, the description of which would lead me to conclude that it is much older, is in every respect more desirable. It would seem to have been made between 1841 and 1860.

CAN you help me out with the probable date of the following two articles? First, a plate showing a "View from Ruggles House, Newburgh, Hudson River." The inscription is enclosed in a festooned panel printed on the back, with the initials W. R. under it. Impressed in the glaze above that is a shield-shaped panel held by two lions, reading "Opaque granite china, W. R. & Co." The face of the plate shows only the view done in black with no border design whatever.

Second, a small pitcher or jug printed in brown, showing on one side a statue of Roger Williams enclosed in an oval with stalks of corn, and on the other side Roger Williams being greeted by Indians as he lands from a boat, and under this the date 1636. Under the lip of the jug is an anchor and a quotation from Williams. On the bottom is printed "Made by J. Wedgwood & Sons, Etruria, for Messrs. Warren & Wood, Providence, R. I."

E. E., Philadelphia.

The plate showing the view from the Ruggles House, Newburgh, is listed in Barber's "Anglo-American Pottery," on page 66. This pattern was printed in black with no border, and in light blue with a narrow border, and was made by William Ridgway & Co. William Ridgway was born in 1787 and died in 1864. The largest number of his American views were made about 1843, when his business was at its height. Your plate was probably made about that time. I can find no reference anywhere to the Roger Williams pitcher. I think it must be some sort of Providence souvenir piece, made in recent years.

WILL you please tell me the value of two pieces of furniture which I have. The first is a mahogany veneer secretary. The top piece is inlaid with an American eagle and eighteen small stars in two rows above the eagle's head. There were three wooden ornaments on top, but they are gone. The top drawer lets down, and inside is a desk with drawers and pigeonholes, and a felt covering on the desk. The outside of the top drawer is inlaid with a piece of some beautiful white wood in oval form. It has wooden knobs and diamond-shaped glass doors, and is in fine condition in every way.

The other is a bureau with curly maple front and Sheraton legs. The rest of it is plain maple. It has wooden knobs and brass rosettes on top. The only thing that it needs is refinishing.

Mrs. A. L. W., Gardner, Mass.

I know of one or two collectors who are on the lookout for these old pieces with the eagle and stars. As a rule, American secretaries are worth from $100 to $200, but it is doubtful if it would bring the higher sum at present. Your bureau is worth $35 or $40.

PRUSSIANIZING THE CAMPAIGN AGAINST SPARROWS

CORRESPONDENT inquires whether the English sparrow is being given a square deal in our Land of Liberty, and we are constrained to admit that, in our judgment, it is not. His letter follows:

I am writing a book on birds and . . . in discussing some of the typical winter birds, have planned to say something about the English sparrow.

Personally I have experienced a change of heart during the last two or three years with reference to this little household bird, and am very much of the opinion that he has not been treated fairly either by Government investigators or by ornithologists. I am very happy to observe that in your book "How to Attract the Birds" you come to the defense of the English sparrow and call attention to some popular prejudices, and I am

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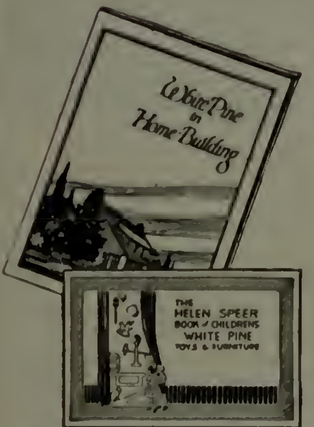
House near Alexandria, Virginia. E. C. Dean, Washington, D. C., Architect



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If you welcome books that take you out of the bicker of daily routine, plant you on a hilltop in morning air, wash you with the clean rain and blow upon you with healthy eye-opening winds —try David Grayson. His books are a philosophy of even, genial, grateful common sense, teaching a love of the goodly plain things the Lord has given us, the smells, sights, sounds, touches and tastes of the country; the wealth of love that lies in the hearts of humble men. You come away from these books with re-sharpened sense of the colour, perfume and ecstasy of daily living.

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taking the liberty of quoting a passage on this subject from this book.

When in Washington last summer I talked with Mr. H—— of the Biological Survey and Mr. H—— of the Smithsonian Institution, and both seemed of the opinion that common justice required a further investigation of this bird and its habits. I will not attempt to present my argument in favor of the English sparrow in this letter, but will merely say that so far as my personal observations go it seldom is responsible for the scarcity of other birds. While the Government reports show that it has seriously damaged crops in some sections, this charge may also be laid at the door of the bobolink, the robin, and many other birds.

I am interested to know what your personal observations have been within the last two or three years with reference to the English sparrow, and whether in your opinion it has been given a square deal. Do you find that sparrows really drive other birds away to any great extent? Isn't the scarcity of other birds about the homes almost wholly due to the fact that they are not encouraged and protected?

Do you not think that the English sparrows, from an economic standpoint, are quite as beneficial as they are harmful?

It takes some little courage to champion the cause of the English sparrow, but I feel that under the constitution he is entitled to his attorney and his day in court, and I am going to volunteer my services.

When the Department of Agriculture, some of the Audubon societies, various bird clubs, and village improvement organizations, not only sanction but encourage the slaughter of this dirty, annoying, ubiquitous feathered immigrant; when sparrow traps are being manufactured wholesale and small boys are encouraged to train their air guns against the defenceless sparrow, it would seem rather late, perhaps, to give the mute criminal at the bar another trial. Some learned men in Washington and very many lovers of fair play elsewhere, however, are not satisfied with the evidence or the verdict.

It has been said that the sparrow drives away the song birds. Yes; it often does, to the next neighbor's, perhaps, but not permanently, certainly not out of the country, and not even a yard away where a real effort is made to attract more desirable visitors by means of fresh water for drinking and bathing, a free lunch counter regularly and reliably supplied in winter, and plenty of sleeping places and nesting sites. For these our native birds contend valiantly and successfully.

Sparrows kill no birds. In England there are many more songsters to a given area than in America. Our birds are rapidly learning to adapt themselves to the ways of these foreigners in their midst, just as, happily, we humans have had to learn to live tolerantly and peaceably with Jews, Italians, Slavs, and many other European immigrants whose virtues were not at first appreciated.

English sparrows were first imported to rid New York and Brooklyn of the inch worm, which they did promptly and effectively. Now that they are overrunning our country from ocean to ocean, they are cleaning up countless other insect pests which are the exclusive diet of their numerous broods until they reach maturity, when the seeds of many noxious weeds become their staple diet and of which they are the most destructive agent. On economic grounds alone, the Supreme Court of the scientists will yet decide, we think, that the sparrow is entitled to protection.

But the truth of the words, "Ye are of more value than many sparrows," was never more apparent than since the Great War of Frightfulness began. The invasion of Belgium caused the revision of so many ethical standards that we are suddenly alarmed lest the encouragement of any form of brutality should Prussianize our children. Is our human race good enough to withstand the brutalizing effect of wantonly torturing and killing even a sparrow? Although it is the only bird ever seen by children doomed to live in the slums of big cities, if they are encouraged to stone it to death, they might just as well grow up in Berlin.

The hardy, adaptable, prolific English sparrow, being fitted by Nature to survive after æons of victorious struggle in the evolution of its species, cannot be exterminated, however annoying some of its aggressive and dirty habits may be. If, in our ignorance, we bring it across the sea only to attempt to exterminate it by Prussian methods, the real destruction will be of some of those fine ethical qualities—toleration, the love of fair play, and the seasoning of justice with mercy—which Americans still hold dear.

NELTJE BLANCHAN.

[EDITOR'S NOTE: A defense of the English sparrow was published in May, 1916, COUNTRY LIFE (page 122) and in October, 1916 (page 43).]

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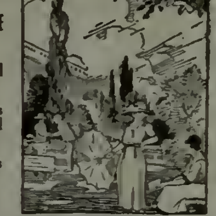

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LADDERS FOR FRUIT PICKING

FRUIT picking is greatly facilitated by having the right kind of ladder. Indeed, a change in ladders is sometimes followed by a considerable increase in profits. Moreover, there is less danger of accidents with some kinds than with others. A ladder which is strong enough to hold any weight likely to be put upon it, and is so constructed that it may be adjusted to any position quickly and safely, is the kind to be chosen. The ideal ladder, too, is so built that it will not damage the trees. The ordinary ladder is a total misfit in the average orchard. It is not easily placed in position on rough ground, it is not readily pushed up among the branches, and if pressed into a crotch it is likely to break off a limb, besides bruising the bark.

Both short and tall ladders are needed in a fruit orchard. A step-ladder is best for low work, but it should be made in the form of a tripod, having only one brace instead of two. It is

Ladder with pointed top—a good type for fruit picking

almost impossible to set up a common step-ladder securely on uneven ground. If the soil is soft it is advisable to nail a short piece of board at the bottom of the brace, so that the latter will not sink into the earth. Step-ladders sold for the use of fruit pickers are widely spread at the base, and this is the best type to employ.

Many commercial fruit growers are now using tall ladders with the side rails brought together at the top, forming a point which is easily set into a crotch of the tree, where it will be held securely. Under some circumstances it may be advisable to wrap a grain bag around the apex of the ladder to avoid any possible bruising of the bark. Some fruit growers prefer a ladder which need not be set against the tree at all, two hinged braces running from the top of the ladder to the ground holding it in place. Such a ladder cannot be very tall, but it is well adapted for use in picking cherries. It is not quite so stable as a ladder resting against a tree trunk, but it is especially useful for gathering fruit from the ends of small and weak branches.

If the fruit trees are very high, which they ought not to be, an extension ladder is required, but it, too, should have the sides brought together at the top. A single ladder that is longer than twenty-five feet is difficult to handle, especially if it is made heavy by paint. Special fruit picking ladders usually have the legs well spread at the bottom, which is a distinct advantage, making for safety as well as for convenience. Strong, light ladders may be made at home from dead white pine poles, to which cleats are nailed.

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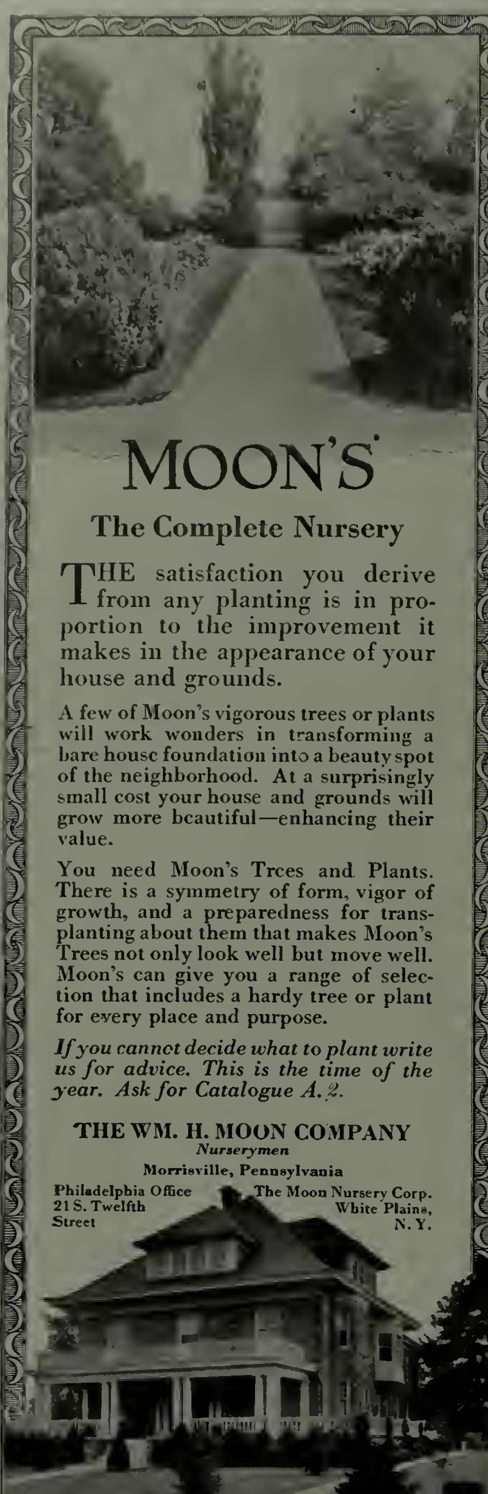

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There are three prominent colors in the blanket —green made from copper, yellow from moss, and black from iron. It was woven from the wool of the mountain goat by the daughter of a famous Crow chief of the olden time, when she was almost seventy years of age. Her family is supposed to have had its origin, in accordance with the genealogical ideas of the Kivakiults, in the crow. When a mere child, this daughter of the great chief was initiated into the secrets of the Chilkat Indian weavers, and from them learned the methods of dyeing and weaving the wool. When she made this blanket, which is said to have been her masterpiece, and in fact, her last blanket, her eyesight was almost gone. She dressed, carded, and spun the wool herself on a primitive wheel. The dyes are known as mineral or "old dyes," which means that all colors were manufactured by the Indians from the elements of the earth.

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The blanket is divided into three great panels, as shown in the photograph. The middle panel tells, in the peculiar hieroglyphics of the Indians of that tribe, the history of the origin of blanket weaving. The outer panels give in the upper part a figure of the weaver's Crow ancestors, as well as part of the romance or story proper. The panels are supposed to be from a solid figure split in twain and laid apart, corresponding to what is known as a perspective. The main blanket is snowy white, trimmed on the upper border with otter skin.

The story which the blanket tells has been translated as follows:

"A beautiful Indian maiden, the daughter of a great chief, went to the woods berry picking. There she met a grizzly bear. The grizzly bear, who is the evil spirit of the Indians, captured her and married her. In spite of the many fights the young men of the tribe had with the bear they were never able to kill him. Repeatedly they shot arrows through his heart, just in front of his forelegs and behind it, but never a drop of blood came forth.

"One day the old grizzly bear wandered far from his forest toward the sea shore. There he found a big patch of red huckleberries and in eating them, for the moment forgot his wife.

All American Indian blankets are said to have a special significance to the initiated, but this Chilkat blanket tells a connected story of love and romance

She wandered down to the sea and bewailed her terrible fate to the waves. Suddenly appeared from the water the great sea bear, and asked her in a gentle voice why she wept. Struck by his beauty and aroused by his sympathy, she told him the story of her capture and imprisonment. Her story so greatly worked on his feelings that he immediately fell in love with her and determined to fight her husband. Having no weapons he decided to use stones.

"The beautiful Indian maiden also lost her heart to this brave warrior and confided to him that if he would but strike the grizzly between the eyes he would fall dead, for there was his vital spot.

"A fearful struggle ensued. The wife sat on the banks and watched it with much concern. Finally, however, the sea bear, by a well directed blow, stretched the grizzly lifeless upon the sands. The victor took the grizzly's wife to the bottom of the sea, where they lived in great happiness. Soon a child was born to them, but as the child grew older the father noticed that the mother was growing pale and sorrowful. He asked her the cause, and she admitted that although she loved him dearly, she wished her son to be brought up by her people. One of the most sacred customs among these Indians is that the children shall return to the mother's family. He consented that she should return temporarily to earth with her son, but made the provision that she should weave for him a ceremonial blanket which would tell the story of their courtship.

"Welcomed back to the circle of her family, she educated her son and spent her spare time weaving the promised blanket. In spite of the greatest secrecy, the other maidens of the village spied on her, and thus was the secret discovered and by similar blankets handed down to future generations. She finally returned to her husband, but left her child with its grandfather."

This blanket is exceptional on account of the fineness of the weave, the accuracy of the portrayed story, and the color scheme. The three panels represent three separate blankets, woven all together, at the same time. The photograph shows plainly the eyes of the grizzly bear, his heart situated between his eyes; heart and fins of the sea bear, the face of the son, the heart of the mother, the face of the grandfather, and other peculiarly shaped hieroglyphics, all of which assist in telling the legend.

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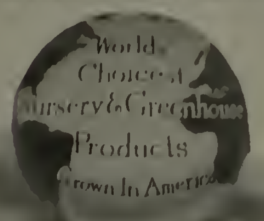

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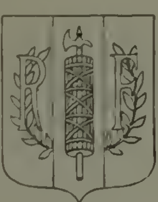


HE Addresses of M. René Viviani and Marshal Joffre delivered in the United States have been translated by M. Émile Hovelaque and published in suitable and appropriate book form by Doubleday, Page & Company, and are on sale at all bookstores.

The AUTOMOBILE

The COOLING SYSTEM *and its* RELATION *to* ENGINE EFFICIENCY

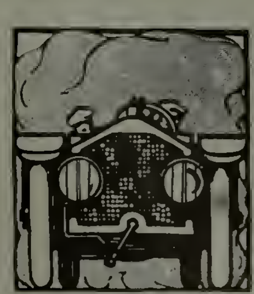
By ALEXANDER JOHNSTON

FEW owners of modern motor cars realize that these smooth-running, powerful vehicles are only relatively efficient. Compared with their precursors of a few years ago, the motor cars of to-day are marvels of efficiency, but when we come to examine the ultimate performance in relation to the effort employed, we find that the modern motor vehicle is only about 20 per cent. efficient. In other words, only one fifth of the power actually generated by the explosion in the combustion chamber is delivered in the form of driving energy at the rear wheels. Our children will probably hold up their hands in holy horror at the wastefulness of the automobiles that we to-day consider the last word in efficiency.

A great proportion of this lost power is blown out through the exhaust. Some of it is dissipated in the form of heat in the water of the cooling system, and still more of this primal energy is lost in friction during the process of conveying it from the engine to the driving wheels by way of the various mechanical units. It will be readily seen that the task of the designer who attempts to increase the efficiency of the engine by eliminating waste from any of these various elements, is one of considerable difficulty. He cannot interfere with the free egress of the burned gases from the engine, and yet every bit of heat that passes out of the exhaust represents so much wasted energy. Friction in the mechanical units he cannot entirely eliminate, even by perfect lubrication, if there were such a mechanical Utopia. Finally, the nature of the internal combustion engine compels the employment of a cooling system, which in fulfilling its appointed function consumes energy in the form of heat.

However, it is in this last system that the most favorable opening lies for improvements destined to increase the relative efficiency of the engine. Now it is a fact that as far as the fuel efficiency of the engine goes, the hotter it is the better. But there is a certain maximum temperature beyond which the heat breaks down the vital film of lubricating oil that protects the engine from sudden death. The designer bent on improvement must reconcile these two conflicting factors. Obviously if he can cause the engine to be maintained steadily at the highest safe temperature, he will get maximum efficiency and minimum waste. Within the past year or so there have been introduced several systems for controlling the temperature of the engine and keeping it approximately at this point of maximum efficiency.

Perhaps by examining the ordinary cooling system as it is employed on the modern motor car we may get a clearer idea of just what these temperature controls attempt to do. Every tyro knows, of course, that in water-cooled engines a certain volume of the liquid is kept constantly circulating around the cylinders, being held there by what are termed water jackets. The cooling system also comprises a radiator wherein the cooling process takes place, after the water has absorbed the heat from the cylinder walls. Through the interstices of this radiator the air is drawn by the action of a fan, driven from the crank shaft of the car.



When we come to examine the radiator in detail we find that it has two tanks, one at the top and the other at the bottom. Between these is the core, that portion which looks like a section of honey comb. The water flows down from the upper tank and passes through the core, where its heat is carried away by the constant current of air drawn through by the action of the fan.

In the construction of the radiator's core we find two distinct types, tubular and cellular. In the former the water flows down through tubes and the air passes through spaces between the tubes. In the cellular core the air passes through the tubes, while the water flows down through the spaces between the tubes.

It may be well to note also that the shape of the radiator has something to do with the efficiency of the part. For instance, in radiators that have considerable height the water has a comparatively long journey through the core where cooling occurs and consequently has more chance to get rid of the heat that it has collected. For this reason racing cars, the engines of which get exceedingly hot in running at high speed, use the type of radiator with maximum height.

With this understanding it is obvious that the cooling water must be kept circulating through the system, and at the present time two entirely different methods of securing this movement of the liquid are employed. One of these is a pump driven by the engine and forcing the water through the cooling system. The second method is known as the thermo-syphon system, which in principle is simply a utilization of the fact that hot water is lighter than cold and inevitably forces its way to the top. In the thermo-syphon system, as soon as the engine has been started and begins to warm up, the water in the bottom of the jacket gets warm, struggles upward to displace the heavier, cold fluid above and soon the entire volume of cooling liquid is in motion.

The great advantage of the pump system of circulation is the fact that its operation is positive. It is able to overcome a certain amount of obstruction, so that there is small chance of failure of the circulation of the water. On the other hand, the thermo-syphon system utilizes a principle of nature and has the advantage of simplicity. So long as the system is kept free from obstructions it cannot fail to operate, as there is no mechanical unit to get out of order. To be efficient, the thermo-syphon cooling system must be carefully designed; it must have larger inlet and outlet pipes than the pump system, and the radiator must be placed well above the level of the water jacket to insure sufficiently rapid cooling to keep the water rising from the lower part of the system. This means simply that, there being no positive means of forcing the water to circulate, the cooling system must offer the least possible resistance to the movement of the fluid.

Now it will be obvious, with a little consideration, that either of these two methods of cooling the engine will operate with uneven effect. That is to say, they will keep on cooling just as energetically when running conditions are favorable as when the engine is laboring under some special difficulty and is getting unusually hot. Every engine has a certain temperature at which it runs with maximum efficiency. If the temperature rises above this point, there is danger of injury to the mechanism. If it falls below this point, the power output will be more or less impaired. Patently then, if some method can be devised by which the temperature of the engine may be maintained at or near the point of maximum efficiency, we shall have solved a portion of the problem of wasted power.

Working with this idea in mind, the engineers have achieved certain results in the past year or so that are encouraging, at least. The most important of these innovations is known as the thermostatic control of engine temperature. This system involves the installation of a thermostat, which is simply a special valve in the water line between the radiator and the water jacket. To achieve the control desired it was necessary that this valve should be automatically governed in its action by the degree of heat existing in the cooling water at any given time.

Various methods of getting this result have been employed. Thermostats of a metal having a high coefficient of expansion have been used, so that as the water gets hot it is passed into the radiator for cooling, but when the engine is cool the water is restricted in its movements. Another method is that of installing in one of the water passages a tube filled with a liquid having tremendous expansive qualities, so that when the water in the system gets hot it causes the expansion of this fluid, which drives out a plunger opening the valve, and allows the water free circulation. As the water cools off, the valve closes gradually until reheating opens it again.

This is a very ingenious method of accomplishing the object, as it actually compels the temperature of the engine to create the proper conditions to enable the power plant to develop its full efficiency. It would be idle to claim that present-day thermostatic control devices are absolutely perfect. There is a measurable distance between theoretical perfection and the same beatific condition in actual practice. At the same time, the thermostat systems that are now installed on many of the better class American cars, abundantly justify their existence and give promise of producing a high degree of efficiency in the automobile engines of to-morrow.

The other method of regulating the temperature of the engine to induce increased efficiency, is the more obvious one of fitting shutters on the front of the radiator, with controls on the dash, so that the operator may limit at will the amount of cooling air that is drawn through the radiator. This method is very simple; it enables the driver rapidly to bring the engine up to working temperature after the start has been made. It has not the flexibility of the thermostatic control, nor is its sphere of usefulness so wide. Moreover, in this manner of control, the uncertain human element enters in, which undoubtedly does not compare favorably with the automatic regulation of the thermostatic control.

There has recently been announced a system by which the circulation of the water and the entrance of air are both automatically controlled. This may very possibly be the next big development in the campaign to eliminate power waste through heat losses, but it is yet too early to make any positive statement in this particular.

That the ordinary cooling system is fully up to the task allotted to it, is attested by the fact that trouble in the unit is not common, in spite of the fact that all the attention which the average owner ever thinks of giving it is to pour in enough water to fill it. But uncomplaining as the cooling system is, it really needs some little attention, which we shall try briefly to indicate below.

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obvious, from the very nature of the cooling system and its form, that there must not be any obstruction in the comparatively constricted passages that carry the water on its devious journey. Now water in long continued contact with the metal walls of the cooling system begets rust or what is termed scale—a hard, flaky deposit. Also in the course of service a certain amount of sand and grit find their way into the system. All of this helps to cut down the efficiency of the system, and if it goes far enough, it may actually cause such overheating that the pistons freeze up and endless trouble results. Garagemen say that often in overhauling cars which have been through a strenuous season's running, they find as much as a pound of foreign matter in the radiator.

The care that the cooling system needs is so simple and withal so easily given that there is no excuse for the common neglect. The entire cooling system should be drained once a week or so and be refilled with clear water—"soft" water is best. For the benefit of the uninitiated we may say that rain or snow water is soft water, and its use largely prevents the formation of scale. At least once a year the cooling system should be drained and filled with a hot solution of soda. The engine should then be run for about twenty minutes, after which the soda water should be drained out and the system be flushed through two or three times with clear water.

The rubber tubing used to make the connections in the cooling systems should be changed twice a year. It frequently happens that the interior material of this tubing partially peels off, so that long shreds of it float in the water stream, impeding the circulation. Also bits of the rubber may flake off and get caught in the constricted passages of the system, blocking the flow of water.

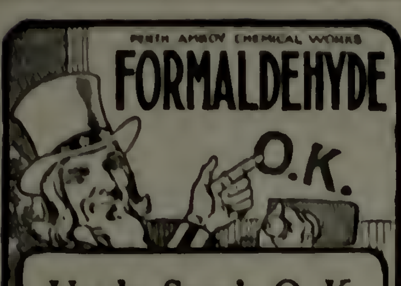
It does not necessarily follow that because the engine overheats, something is wrong with the cooling system. There are many other causes that induce overheating. Carbon in the cylinders is probably the most prolific cause of all. Running with an unduly retarded spark will also produce overheating, as will persistent driving with wide-open throttle. An incorrectly proportioned fuel mixture produces overheating, and almost any mechanical failure that puts a drag on the engine will eventually cause it to run hot. If the fan belt has stretched so that the fan slips, the amount of air drawn through the radiator is reduced, with the inevitable result.

ALFALFA'S PLACE ON THE HORSE'S BILL-OF-FARE

TWO neighbors own horses and alfalfa fields. One maintains that alfalfa hay as a roughage feed for horses has no superior; the other as emphatically insists that it should not be fed to them under any condition. Such conflicting opinions are common, but which opinion is right? There has been little, if any, prejudice expressed against alfalfa hay as roughage for other classes of live stock. Why, then, has the point been raised in regard to feeding it to horses? Clearly, the methods employed have been the principal reason.

On the basis of composition, alfalfa hay should be considered with the concentrates rather than with the roughage feeds. Yet how many livestock feeders realize that, harvested at the proper stage of maturity and well cured, it contains some 30 per cent. more digestible protein than shelled corn and only 30 per cent. less digestible carbohydrates? From the standpoint of palatability, also, alfalfa hay ranks high. Horses will leave most other feeds for it, and as a result the mistake is quite commonly made of filling the mangers two or three times daily and allowing horses to eat all that they wish. Simply because of these two valuable properties, nutritiveness and palatability, alfalfa is injurious if improperly fed. Yet, how many of the men who condemn alfalfa hay for horses have used just such methods of feeding as those described?

Quality in alfalfa hay is oftentimes misjudged. Both buyers and growers should regard, not the green color, but the stage of maturity when harvested and the freeness from dust as the decisive points. Some users claim that alfalfa should not be mowed down until the crop is in full bloom; as a matter of fact, the growth of the new shoots from the crowns must be the determining factor.



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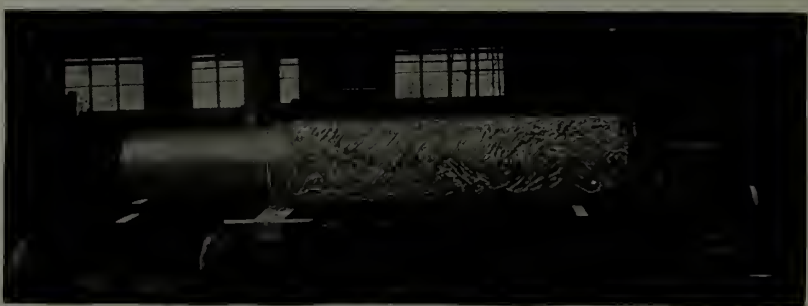

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Certainly horses do better on maturer hay than do cattle, but in no case should the harvesting be delayed after the shoots are more than an inch above the crowns. Cutting early enough to avoid the shedding of the leaves is also a secondary consideration, for the stems are what appeal to horses, and green forage, while satisfactory for cattle, makes a feed that is too laxative for horse feeding. Secondly, the presence of dust or mold should condemn alfalfa hay if it is to be fed to horses; both these defects are largely the result of careless methods of harvesting and storing.

Experiment after experiment has shown the value of properly cured and properly fed alfalfa hay. The Kansas Experiment Station compared a ration of alfalfa hay, corn, and oats which cost $0.1295 per 1,000 pounds live weight of the animals fed, with one of oats and prairie hay that cost $0.2026, with these results: the horses receiving the cheaper ration did their work just as well, showed no ill effects, and, on the contrary, gained 9.3 pounds more than those on the higher priced ration. And although they were about two and a half years older than the others, they received less grain. What can one complain of, when he can thus obtain more satisfactory results and save some 36 per cent. in the cost of feeding? From other tests the Station concluded that in a properly balanced ration, one pound of alfalfa hay is usually worth two pounds of prairie or timothy hay for work horses.

The Wyoming Station fed alfalfa hay and native hay to six horses for equal periods during idleness, light work, and heavy work. Summarized, the results indicated that "the six, during ten one-month periods on alfalfa, showed a total gain of 203 pounds; while during an equal period on native hay there was a total loss of 84 pounds. . . . It was found that both idle and hard-worked animals responded better to the alfalfa diet. The health of all horses was uniformly good with both hays." Is it any wonder they decided that "alfalfa is a satisfactory feed for all classes of horses, and the careful horseman need not hesitate to incorporate it into the rations he uses"?

The Illinois Station concluded, as a result of a comparative test, that when a mixed ration of corn and oats is fed in conjunction with alfalfa hay, from 20 to 22 per cent. less grain is needed to maintain the weight of work horses than when the grain is fed in conjunction with timothy hay. Why, therefore, do horse owners often pay as much for timothy as for alfalfa?

As stated before, a concentrated feed like alfalfa hay must be carefully fed. Just because horses will eat large amounts of it is no sign that it will be good for them in such amounts. If the amount of alfalfa hay that is often fed to a horse in one day were made to last three days, far more desirable results would often be obtained. How many pounds, then, should be fed? About one pound of hay per 100 pounds of live weight appears to be satisfactory for horses at normal hard work.

Many feeders find it desirable not to use alfalfa hay entirely, but to substitute it for a part of the timothy or prairie hays that they previously fed. This is especially the case where it is impossible to obtain hay of the first quality and where the horses are used more or less for driving. Such a substitution, even to the extent of making alfalfa take the place of half the other hay, results in a marked reduction in the cost of both roughage and grain, the latter by reducing the amount needed to supplement the richer roughage.

The best ration for use with alfalfa hay will depend largely on local supplies and prices. In any case, it should supply the food constituents deficient in alfalfa, particularly fats, and, to a less extent, carbohydrates. Corn or oats, or both, have been widely used, and bran or shorts may also be fed.

Experiments show, furthermore, that work horses getting one pound of alfalfa per 100 pounds live weight daily will not require more than an equal amount of grain. Horses weighing 1,200 pounds, for instance, on 8.5 pounds of alfalfa, 1.7 pounds of oats, and 6.8 pounds of corn per day, showed a slight gain in weight while doing heavy work. That, however, is less than most horsemen wish to feed. On the farm where alfalfa hay is produced and fed, corn will doubtless prove the most available grain. But the man who owns driving horses and must buy his alfalfa hay will certainly find oats best for at least half of the grain ration, especially if he uses timothy hay for part of the roughage.

A. C. HARTENBOWER.

Color Manuals

Country Life will have in October a delightful study of correct and charming combinations in the painting of country houses. The color illustrations are by Birch Burdette Long. They are a conservative departure from conventional styles. The text is by Aymar Embury, II. It is instructive and thorough. A broad subject covered completely and ably by an expert with illustrations that are unsurpassed.

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Old Prints (in color) for the Country Home

A comprehensive study of an interesting subject by Mr. Frank Weitenkampf, Curator of Prints of the New York Public Library.—December.

Our Own Dog Show
(In Color)

Several pages of all breeds and colors of dogs, fully illustrated. The best dog of every breed as established by the dog shows will be shown. —January.

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To become better acquainted with The New COUNTRY LIFE we will send you the next three issues for $1.00. By subscribing you will be assured of getting your copy each month. (All of the spring numbers were out of stock on publication date.) The high ideals of The New COUNTRY LIFE, expressed in both its practical and inspirational articles, will help you to get greater pleasure out of your life in the country.

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At newsstands fifty cents
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TABLE DELICACIES

Gifts for the Soldier's Mess Kit

ANN REMSEN

THE going-away steamer basket is being done-up for sterner service this year. The *bon voyage* gifts in fruits and sweets now have a definite end in view—the practical need of the soldier-man with the over-seas command in France, or in a training camp in this country.

In this topsy-turvy age necessities are luxuries. On the other hand, a fuller knowledge of food values has made us transfer many items from the luxury class to that of indispensables. This fact is nowhere so striking as in the relation of sweets to the fighting-man's rations. The importance of sugar to a man engaged in physical labor is widely recognized, which is the reason why the Government is planning to encourage actively the sending of jams, jellies, etc., to our men at the front.

Butter is almost an unknown quantity with the man in the field, as all food must be easy of transportation. Thus butter becomes a luxury. In its place for the varied breads which fall to the share of the Sammies is now substituted jams, preserves, and marmalade. The brave array of jellies and even home-made pickled peaches and brandied cherries and catsups make the mess kit a thing of envy for the old campaigner to whom the straight ration is all that is coming his way, unless he is fortunate enough to have his lot cast in with the youngsters—as a veteran put it to me.

All good stores sell Maillard's

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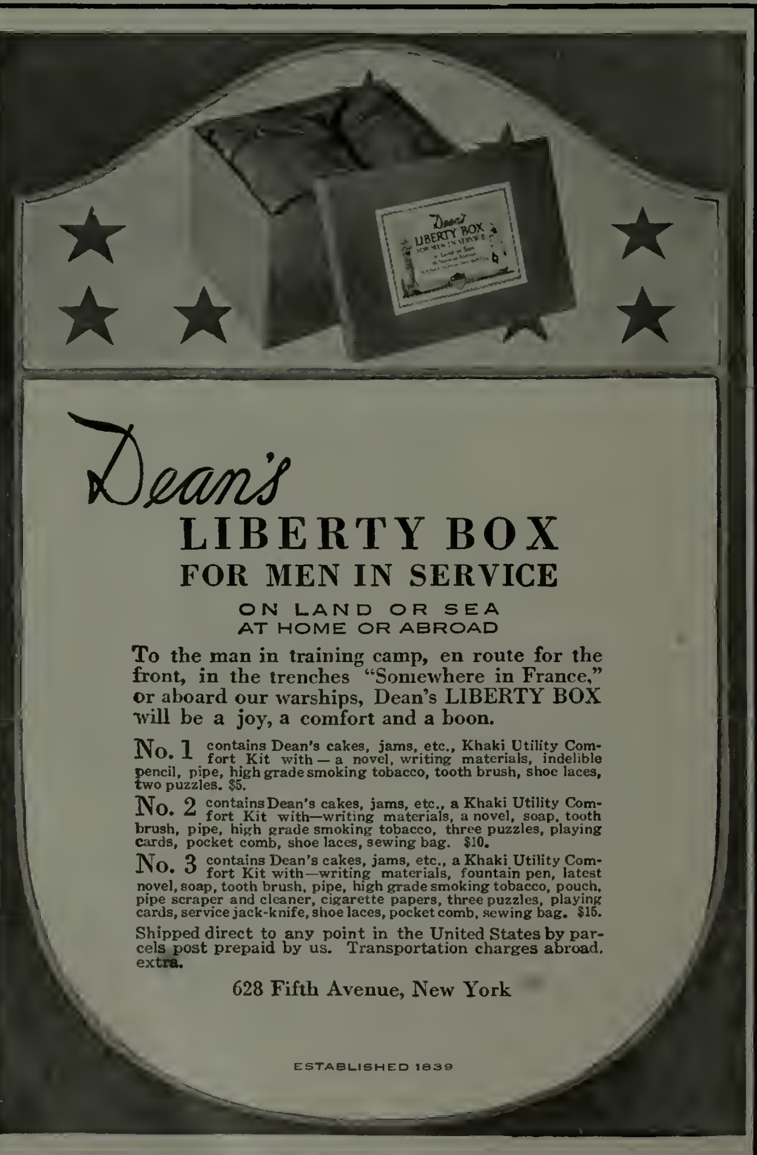


Clysmic—
Of Course

Because its sales are bounding ahead faster than any other table water—sparkling for flavor, lithiated for health.

15 grains of Lithia Salts to the gallon.
Sold everywhere in splits, pints and quarts only.

Don't accept ordinary waters.

Insist on genuine

Small jars of currant jellies, jam, and marmalade come in the best makes fit for the purpose, in size and delicious flavors for the individual need. These glass jars of jellies and jams are sanitary and not bulky. A jar or two may be placed in the kit, and with a box of biscuits now put out in a practical form, make a healthful and delicious bite for the man who needs a relish to live on, as well as nourishment to fight on.

A noted firm of food packers is putting out a box for the mess kit containing a wide and well chosen assortment of delicacies for the soldier—peanut butter, sliced bacon, preserves, jellies, etc. The box is practical and will fill the need of many a portable larder.

If a gift in this line is made for the soldier at home, I advise small jars in glass.

Approved recipes for jellies and preserves for home-made gifts are as follows:

RED RASPBERRY JAM

Allow three quarters of a pound of sugar to a pound of fruit. Put the berries on alone and boil for half an hour, stirring often. Add the sugar and cook twenty minutes more. Put up in jars or glasses.

QUINCE JELLY

Wash the quinces, but do not peel them. Cut in quarters and remove the cores. Put over the fire in a porcelain kettle; add a very little water; cover closely and stew until the fruit is tender and broken. Strain and press through a jelly bag, but do not squeeze the pulp. The juice must be allowed to drip through. Allow a pound of sugar to each pint of the juice. Return the juice to the fire and, as soon as it boils, pour in the sugar. Boil all hard until the juice begins to jelly, skimming off the scum as it rises to the surface. Test the juice occasionally by pouring a spoonful upon a chilled plate. As soon as this quantity begins to jelly about the edge, the kettle may be removed from the fire. Put at once into jelly glasses.

GRAPE JELLY

Put your grapes over the fire in a large double boiler, without water. Cover closely and cook until the fruit is broken to pieces. Rub through a colander, then squeeze through a flannel bag. Measure the juice, and to each pint allow a pound of sugar. Put the sugar in pans and set in the oven to heat, but not to melt. Stir it from time to time to prevent scorching. Return the juice to the fire in a porcelain lined kettle, and bring to a boil. Cook for twenty minutes, add the heated sugar, boil up just once and pour the jelly into glasses set in a pan of hot water.

CRABAPPLE JELLY

Cut juicy crabapples into quarters and put over the fire in a preserving kettle. Cover; bring slowly to a boil and stew until broken to pieces. Strain and press without squeezing, through a jelly-bag, and proceed as with peach jelly. The juice procured by squeezing what is left in the bag will make a good second-best jelly, well flavored, but not clear.

ORANGE MARMALADE

Slice two dozen unpeeled oranges, and remove the seeds. Mix with them two lemons. These, as well as the oranges, must be shredded very thin. Measure the juice and add enough water to make three quarts of liquid. Put all into a stone crock, cover, and set in a cool place all night. Turn into a preserving kettle and bring slowly to the boil. Simmer until the peel is very tender. Now stir in a pound of sugar for every pint of juice, and boil until the skin is clear in appearance. Remove from the fire, and when cool, turn into jelly glasses.

PRESERVED PLUMS

Wipe the plums carefully, and prick each one with a fork to prevent bursting. Weigh the fruit, and to every pound of it allow a pound of sugar and a pint of water. Cook the sugar and water to a clear syrup, then lay in the plums and boil very gently for twenty minutes. Remove the fruit carefully, not to break it, and lay on dishes to cool. Boil the syrup until thick, pack the plums in glass jars, fill to overflowing with the scalding syrup, and seal immediately.

LEMON MARMALADE

Weigh the lemons, and to every pound of them allow a pound and one-quarter of sugar. Grate the rind from half of the lemons, and peel the others. Chop the fruit, removing the seeds as you do so. Press out all the juice that you can upon the sugar, add a little water to this, and put it over the fire. Stir until the sugar is dissolved, then boil for five minutes, skimming off the scum. Stir in the chopped lemons and the grated rind, and boil for half an hour. Put up in jelly glasses.

PEANUT BUTTER

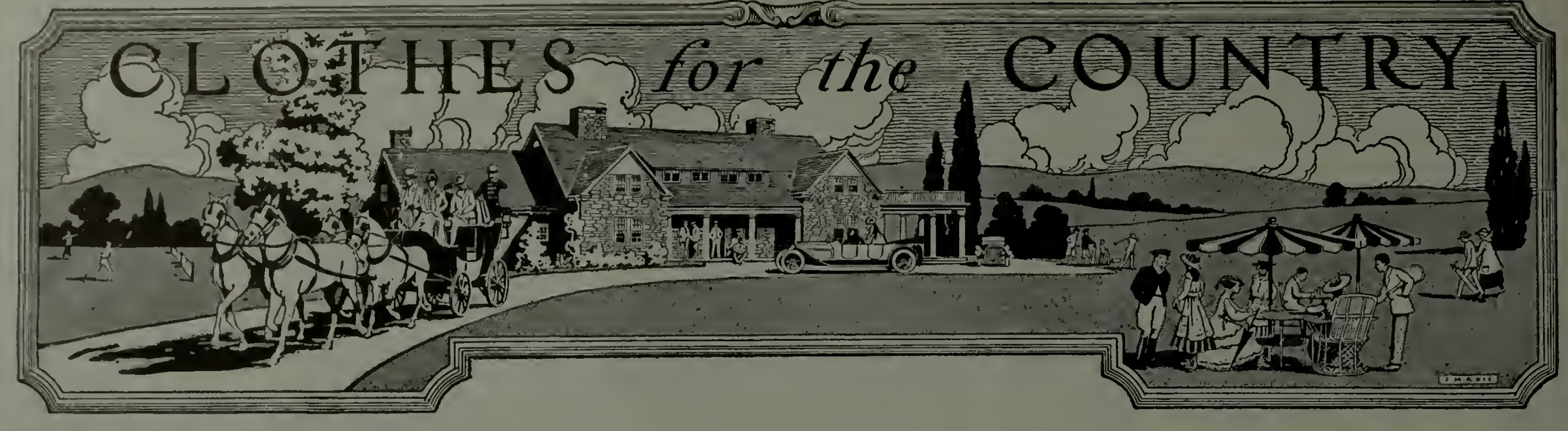
Shell and skin freshly roasted peanuts and pound or grind them to a fine powder. Mix to a smooth paste, with half as much butter as you have peanut powder. If the butter is rather fresh, add a little salt.

PLUM BUTTER

To every pound of plums allow three quarters of a pound of sugar. Wash the plums and put them into a preserving kettle, with the moisture still clinging to them. Cover, bring slowly to a boil, and cook until the fruit is broken to pieces and is very soft. Rub through a colander to remove stones and skins; return the juice and pulp to the fire, add the sugar and boil until the mixture is very thick. Put up in jars.

PRESERVED GREEN GRAPES

Cut each grape in half, remove the seeds and weigh the fruit. Allow a pound of granulated sugar to every pound of the fruit. Put all into a preserving kettle and bring very slowly to a boil. Cook until thick, then pour boiling hot into jars, and seal.



THE sportswoman *en militaire*—the woman of to-day—is as trim and smartly military in her sports clothes as is her brother fighting man. She is garbed for service for her bit may not be in the line of surgical dressings. Having been an outdoor creature motor driving or dispatch duty appeals to her vigorous youth.

Her trench coat is a slightly less heavy affair than the man's coat. It has not the wool extra lining, although it is waterproof and comes in a soft woolly material, well belted. Although the pockets are slit, it is a premeditated evil. Dame Fashion is making a virtue of necessity, and decrys any extra material; the collars will be smaller, the skirts will be less full this coming season. Even the tailors will see to it that men's clothes will have no waste material, no cuffs on the trousers, or on the sleeves, and no extra outside pockets will appear. Rigid economy in wool makes this imperative, but the trim neatness and perfect fit appeal to the well turned out man and woman.

A well tailored suit for service and sports is in an olive drab serge with plaited skirt. With this is worn a velvet coat of olive drab, three shades darker than the skirt, a soft silk shirt in cream color, and a tie in the service color of her corps, which makes a striking costume.

A hat to be worn with this suit is a soft cream-color felt with a band of olive drab velvet around the crown and a tiny wing, in the color of the tie, run through the flat bow on the left side. High-laced tan boots and tan silk stockings complete the costume for this sportswoman.

A regulation khaki suit in olive drab wool has a shell skirt and knickers, and belted Norfolk jacket, cut on military lines. With it is worn a service hat in felt, and puttees. This is a trying costume for the truly feminine creature, but if the exigencies of war have put to use her talent of driving her own car she must needs dress the part adequately. The out-of-door woman is in demand. Her bit is the most active and satisfying.

LINDSAY GLEN

Of The Country Life 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

Woman's trench coat in a light weight woolen material, slashed pockets, belt, and strapped at cuffs, worn with soft felt hat in regulation shape

THE SPORTSMAN—THE SOLDIER

"PACK your troubles in your old kit bag and smile, smile, smile," is a bit of French philosophy which is being sung by T. Atkins and his cousin Sammy from America with a cheery good will. The old kit bag in England is a wonderful hold-all in canvas, which unfolds to amazing proportions and may easily stow away the belongings of a peace time traveler. This makes possible the carrying of a greater variety of togs, but the fighting man can not indulge in variety. Thus the smaller of the two sizes appeals to him. The canvas kit is a roll or hold-all done in stout brown canvas bound in leather, with leather straps and various size pockets and flaps, also bound in leather. This hold-all is invaluable for the man in the field of war or sports.

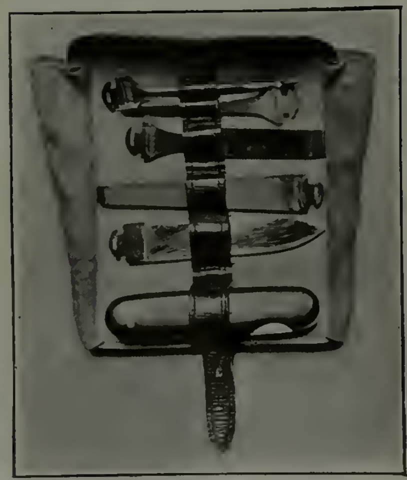
The leather kit bag is less bulky and smarter. This also comes in two sizes, eighteen and twenty inches. This bag is strongly made and, when open, falls wide at the top, so that it may be readily packed. The leather is soft and pliable, yet durable. They are of English make and are the approved regulation kit for the fighting man.

THE TRENCH COAT

The first thing to put in the new kit should be the trench coat, manufactured in England of the finest gabardine procurable, military in cut, with welted seams. The coat has a waterproof lining, also an extra heavy woolen lining. The wool lining is detachable, which makes it possible to wear the coat in the early fall without the woolen lining, or in the cold winter days with the woolen lining buttoned in. These coats are in khaki color, absolutely waterproof, and an exclusive idea of the famous house which originated and guarantees them.

(*Continued on page 108*)

Kit bag in tan leather, which may be folded flat when not in use. A necessity for the soldier going over seas



Tool chest for officer's kit, which folds neatly in a leather case

Swagger sticks in ebony and rosewood, with polished silver heads

The hold-all as its name implies can be stretched to contain nearly everything for which the officer could find a use

Toilet set in French ivory, in tan leather case, so compact that it may be stowed away in kit bag or overcoat pocket

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FALL SHOWING OF FURNITURE AND DECORATIONS

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Our Fall Exhibit includes not only inexpensive patterns in Flint's Fine Furniture, but also Wall Papers and Draperies of striking beauty, simple in design and low in price.

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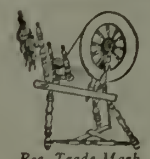
Linens *at* McCutcheon's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For sixty years McCutcheon's has been "The Linen Store of America." It carries the widest assortment of patterns. It offers sound value and quality.

You don't have to come to Fifth Avenue to buy. You can have the McCutcheon Linens by mail wherever you are. This year our stock presents practically as great a variety as ever. Our prompt mail service assures you as much satisfaction as if you stood before our counters.

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Write for our new Fall booklet on Housekeeping Linens

James McCutcheon & Co.
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NEW CHINTZES AND WALL PAPERS

Remarkably good for living room use is this new soft toned paper

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Director of the Decorating Service of The New Country Life's Advertising Department

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Country Life in America

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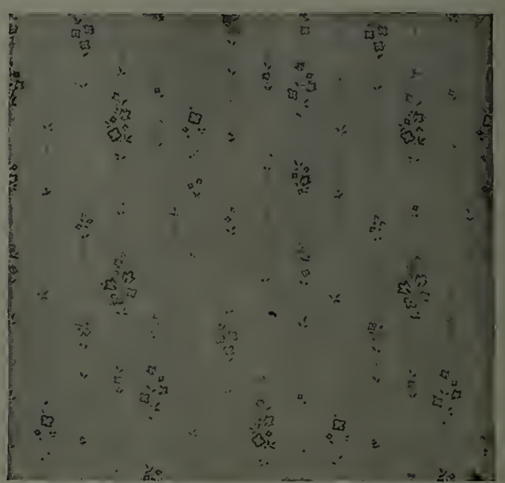


A black pattern on a glazed white ground makes this an admirable bedroom paper

FOR those who are planning to redecorate their houses or rooms before their winter occupancy it may be interesting to remark the various new designs in chintzes and wall papers to be found in the shops. Considering conditions, there are many new patterns of both, and all of them simple in drawing, natural in coloring, and altogether cheerful and pleasing in effect.

As regards the papers though simplicity leads, one may find anything one desires. The dainty bedroom pattern seen at the upper right has only a delicate black vine on a cream white glazed ground. The pattern is so inconspicuous as to permit its use with almost any type of furniture. It will be charming with the early American and simple late English furniture. Muslin curtains with some light-weight two-tone fabric, such as sunfast material, for overdrapery will be correct.

Apropos of the sunfast weaves, let me interrupt here to say that the newest of these materials are far superior to anything heretofore shown. They come in changeable silk effects in both two and three colors, either plain woven or patterned. None of the new fabrics has been so much improved as this nor does any now offer so much opportunity to the decorator.

To return to the papers: the classic design seen at the lower left is in several shades of gray which makes it admirable for use in large halls; it is particularly effective over a paneled dado. When such a design is employed it is better to use no pictures. Indeed, they are quite unnecessary and out of place.

Multi-colored flowers embower the scenic reserves of this fifty-inch chintz, called Shakespeare's Garden. Price, $5.40

The third paper seen here, at the upper left, shows a new variety of foliage with birds, quite interesting for the living room uses. Its colors, soft and restful, will combine well with practically everything that might be already in use.

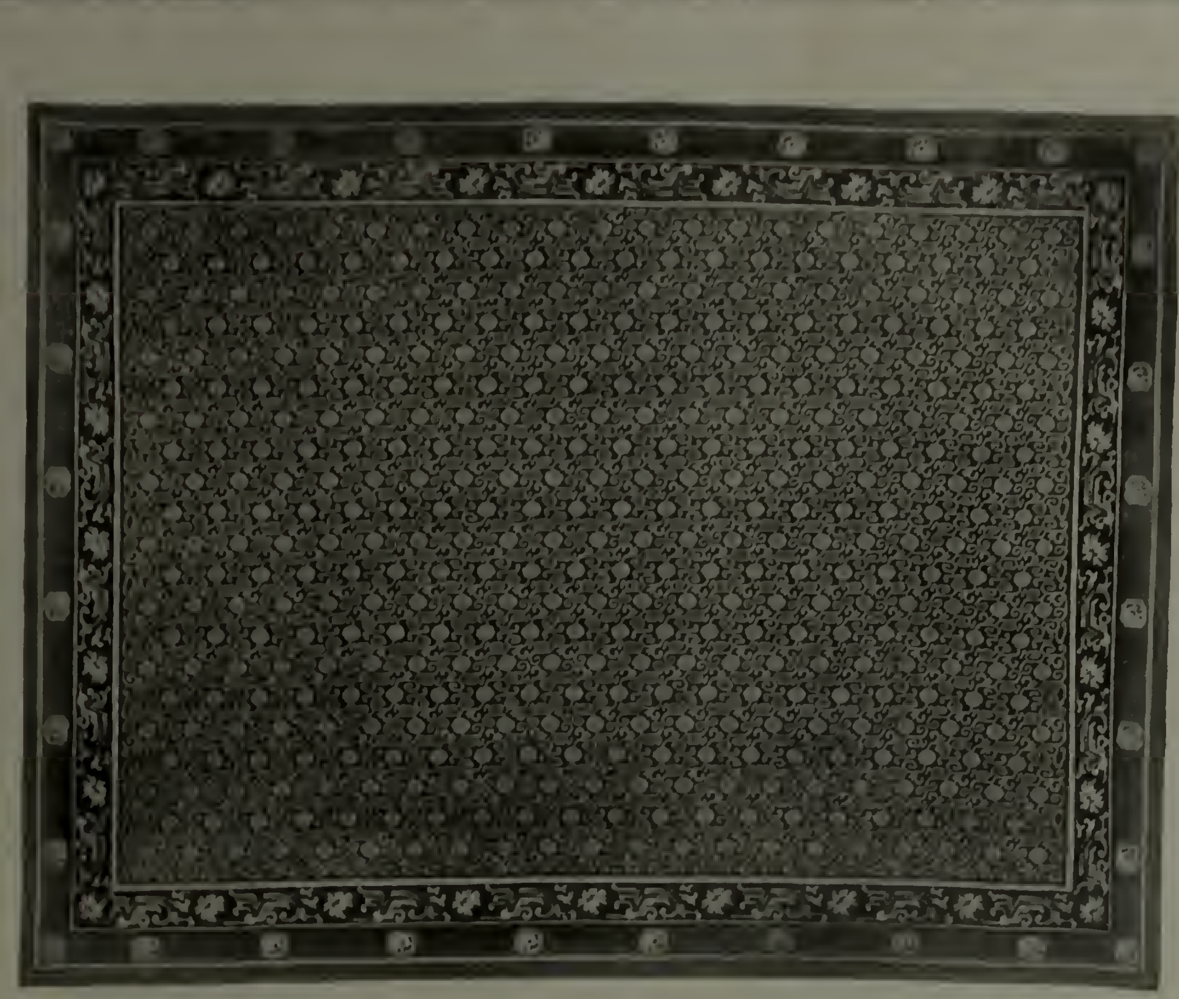
Most unusual in every way is the Shakespeare's Garden chintz pattern pictured in the centre of the page. In this all varieties of flower blossoms in their natural tints are seen on a pale lavender ground. No idea can be had from this picture of the charm of this chintz, since the color arrangement can no more be described than reproduced here, but some understanding can be gotten of the distribution of its pattern and the embowered effect of the scenes as well as of its width, the whole being shown here.

Not less effective though entirely different, is the vine patterned linen at the lower right, whose ecru ground is brightened by rich, deep toned flowers of diverse kinds. Note: We take pleasure in correcting the spelling of the name of Mr. M. Parish-Watson to whom we are indebted for much of the material on Chinese Porcelains used in this page in the August issue of the New Country Life.

Several tones of gray soften the classic beauty of this hall paper

The numerous flowers of this fifty-inch chintz blaze in natural tints on a cream ground. Cost, $3.75

Note the lights and shadows of this graceful, rich-hued vine on ecru linen. Price, $4.35



The strong Chinese feeling in this conventionalized design is emphasized by the colors employed—gray-blue on a deep blue ground, the bold touches of yellow and brown in the border completing the unusual and decorative effect.

Seamless Axminster Rugs

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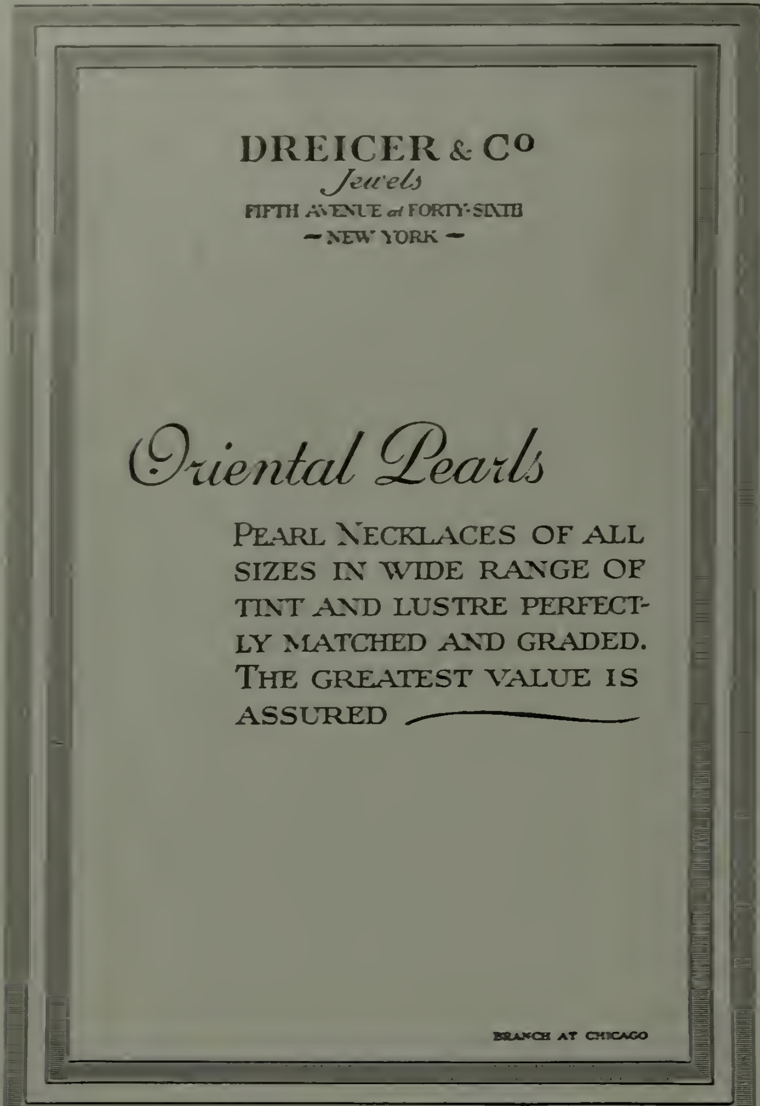

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Some Serviceable Table Articles

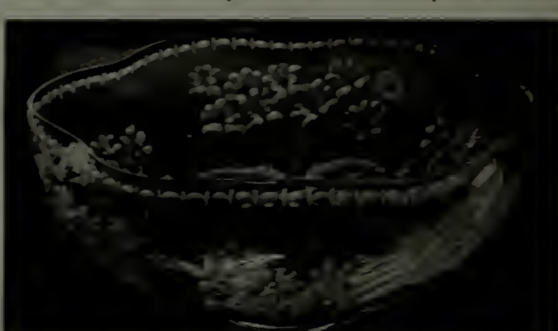
THERE is nothing more interesting to the housekeeper than to find new things for the house, and particularly pleasing is it when these articles are designed to beautify her dining table.

There are a number of these to be found this summer, and the fall season will unquestionably yield many others. Glass seems to have regained all its old-time popularity. It is found in every conceivable shape and is used in numberless ways. The table glass is exceptionally good. One set, I recall, after the old Waterford glass pattern, has wide-mouthed goblets and wine glasses, with simply cut but stout stems that bear well the deep sharply rising bell which is also plainly cut. It is the more charming in appearance because of the remarkable clarity of the glass itself.

Amethyst, amber, and blue glass are excellent for table use and especially in the smaller articles, such as this custard cup and saucer

There is another set, similarly shaped though not so tall, having its sides and foot entirely covered with an extremely fine cross cut, except for a three fourths inch space on the rim and base which is left plain, while on the bell there is a single medallion reserve that gives a touch of lightness to the somewhat severe cutting just described.

But not alone do the goblets claim one's attention; there are numerous bowls that please and which are intended for many uses, though for berries they are unexcelled. The one pictured here is quite unusual both in cut and in shape. Instead of having its rim cut, this is flattened on its outward curve only, while the disk and line engraved border gives a finish to the crystal-like cutting below it.



Berries, blanc mange, and other simple desserts are most attractive when served from dishes such as this of charming cut glass

Not new though none the less interesting on that account, are the Pyrex glass vessels for cooking, which not only are practical, sanitary, and easy to clean, but are good looking as well. No photograph does them justice, but it does not require an unusual imagination to picture how appetizing would be baked custard, macaroni with cheese, rice pudding, and even delectable batter bread in one of those dishes. There are casseroles for meats stewed with vegetables, plates for pies and pots for baked beans. Thus has another sense been enabled to further human contentment. These glass dishes may be had either with or without their metal holders. Indeed they look quite as well without anything more than a plate under them, and are far more effective than a pottery baking dish in the usual napkin trussing. A new china pattern very worth while is Colonial in feeling being decorated only with gold lines that, with its curious clipped edges, give the effect of cobwebs. Inexpensive as it is good looking, it sells at $68.50.

Used either for fruit or flowers, this green pottery dish on its iron stand will lend much distinction to the breakfast table

The epicure, who enjoys the appearance of food as well as its flavor, will find much satisfaction in the use of these baking dishes of glass that are as good looking as they are sanitary, labor saving, and practical

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B. Altman & Co.
New York
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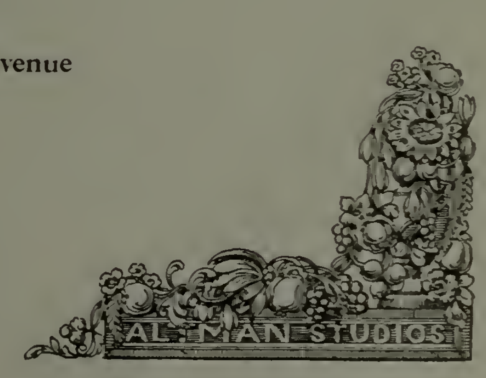

The Real Significance of Good Furniture

WELL chosen, indeed, is the Furniture which not alone fulfills its utilitarian purpose, but imparts to the room decorative distinction, whilst creating a restful, livable atmosphere.

¶ The successful solution of such problems may be realized quite readily by recourse to these Galleries. Here, one may select appropriate Furniture for both formal and informal rooms—'mid quiet, harmonious surroundings without the distraction of irrelevant objects, and at no prohibitive cost.

¶ The extensive collection on view in this interesting establishment, for twoscore years devoted *exclusively* to Furniture and decorative accessories, is vividly reminiscent of every historic epoch, and includes many unusual groups and occasional pieces not elsewhere retailed.

¶ Suggestions may be gained from *de luxe prints* of well-appointed interiors, sent gratis upon request.

New York Galleries
Grand Rapids Furniture Company
INCORPORATED
34-36 West 32nd Street
New York City

War Time Art

RATHER than proving a hindrance, the War seems to have given an impetus to the cleverness of our artist designers, as the dainty decorative articles reproduced here will testify. Rarely does one find as many beautiful things in the shops as are to be found now. Certainly there are infinitely more to be found now than during the first two years of the great struggle, and it is indeed a relief to be freed of the bizarre designs and blazing decorations which emanated from Vienna and flooded the art world with dizzy primary colors. That is over. All the new things are artistically conceived and daintily decorated and, following the trend of the times, they emulate as closely as possible the the natural colors.

This feeling will be noted in all the articles illustrated. Particularly good is the hand-painted glass jar at the top of the column which is intended for aromatic smelling salts for the living or drawing room. The old fashion of refreshing the air of the house by this method has come again into favor, and these jars, decorated with the flowers their contents represent, are sure to be popular.

The Florentine plant shelf seen just below, charmingly painted in ivory and gold, speaks for itself, though the picture does not show that it is really as well made and serviceable as it is good to look at.

There are a good many of these Italian things to be seen—tables, boxes of various kinds, lamps and sconces. All are daintily designed and painted in warm colors.

Simpler far though not less decorative is the wrought-iron water lily sconce with hand dipped candle. The natural grace of the flower has been cleverly caught in this piece, and the artist had the good taste to leave it untinted.

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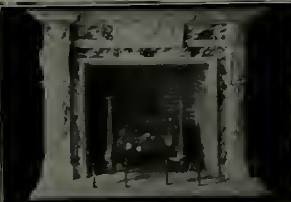

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"Undertow" compels attention and enlists our sympathies right from the start. Afterward we realize that Kathleen Norris has written a novel of literary distinction as well, which deals with a growing problem in our national life—the "Undertow" of extravagance.

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"Gems of the First Water" Caspar Whitney writes us about "Gems (?) of German Thought," William Archer's anthology of *Kultur*, "These are gems indeed, gems of the first (Teuton) water, which together make the most illuminating first aid to understanding the German mentality that I have seen." Look the book over at your dealer's.

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The Charming Thing is Rarely the Usual Thing

Individuality in furniture can best be obtained by buying from the people who manufacture—DANERSK Furniture is made in our own factories. We ship daily direct to all parts of the country beautiful pieces in antique walnut and old Venetian colorings.
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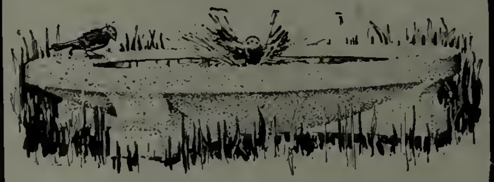
A BIRD BATH



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.)........ $6.00
Send for catalogue illustrating all types of Pompeian Stone garden furniture. Special facilities for designing in marble.
The ERKINS STUDIOS
221 Lexington Avenue New York

Some New Tables

TABLES are as interesting as they are useful. Every new variation of design finds a ready appreciation, and while it cannot be said with truth that all the new patterns are acceptable, many are a great improvement on some of the old ones, since they seem agreeable to any modern setting.

The mahogany folding spool-leg table, pictured here both open and closed, is of particular interest to those who must conserve space. This, as will be seen, folds quite closely, having all the charm of its tip top relative, with a strength and stability not often found in this last named type. And it will especially appeal to hostesses for tea time use since it will easily hold the whole service. It costs only $17.50.

The mahogany kidney table seen above is equally handsome and serviceable. This too is roomy and may be used either for reading, writing, individual tea, or solitaire. A low rim on the outer edge gives security to its utilities while adding to its appearance. Price, $12.

Another attractive table is a slender legged painted one whose top is a daintily painted tray about 11 x 15 inches that gives easy service at tea, or may be used for holding the first aids to sewing and other needlework.

THE HAYDEN COMPANY

PARK AVENUE AT 57TH STREET

New York

CHIPPENDALE COMBINATION WARDROBE AND DRESSER WITH TYPEWRITER IN CENTER PART.

MANY rare and interesting pieces of Antique Furniture have recently been added to The Hayden Company's collection and are now on exhibition. In the early English rooms, which are a feature of the company's building, are assembled Antiques, Hayden Reproductions and Fabrics.

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NEW YORK

1917

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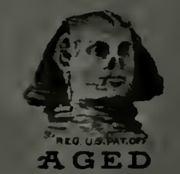

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Paint and Varnish factories, Milwaukee, Wis. and Newark, N. J. Distributing stock in 26 leading cities. Sold by dealers and responsible painters everywhere.

BANZAI ENAMEL

Clothes for the Country

(*continued from page 98*)

VESTED IN GAY COLORS

This fall the usual dull suit of the strictly tailor-made woman will have the added touch of a gay-colored sleeveless vest made quite like a blouse in front but short in the back. They show just below the coat, which is short, for the model is mannish in cut and finish.

Another vest is seen in a stiff figured silk, which nips in at the waist line, with tabs below the belt in front. Heavy corded silk in colors is also seen in vests.

A knitted muffler in pure silk, soft and appealing, is in the colors of the artillery, infantry, cavalry, signal corps, and navy. With these mufflers come ties of the same knitted silk as the muffler. These two are similar in style to those worn by British army officers, all of whom wear their regimental colors. The muffler is ideal for the man or woman who has some one at the front and wishes to wear his colors.

THE SWAGGER STICK

"The soldier must have some weapon of defense, if only a twig," is an old saying which no doubt will serve as an excuse for the handsome ebony sticks used by the young sportsmen and officers in strict military kit. We see finely polished rose wood sticks with capped silver heads shaped like a bullet case; dull ebony sticks with plain heads in silver or gold, or again the ebony is highly polished, the head topped by a tiny shell. Some simple sticks are in bamboo or maple. Whatever the style, the soldier on leave must have a stick to be smart.

Another gift much appreciated by the military man is the tool set in black morocco, which contains a monkey wrench, file, awl, small hammer and screw driver, and knife and pincers, all neatly tucked away in a small case.

Still another gift, and one which appeals to the soldier most of all, is the pipe set, in leather lined with rubber, and folding over smartly. It has a compartment for the adored pipe.

FOR THE SPORTSMAN

A sports vest on exhibition is made in camel's hair cloth with sleeves in a heavy twill silk. It is built especially for golf and shooting and is roomy, soft, and warm. It is made up in various colors, but the London smoke—sort of gray color—and the shades of tan are the most worn.

A cap for sports wear is seen in a mixed material imported from England. It has a patented unbreakable visor, is light in weight, and serviceable and durable for golf or shooting.

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Step Lively! "He who does not believe in the Divine mission of Germany had better hang himself, and rather to-day than to-morrow." So writes one of the German leaders quoted in William Archer's "Gems(?) of German Thought." Ask your dealer to let you see a copy.

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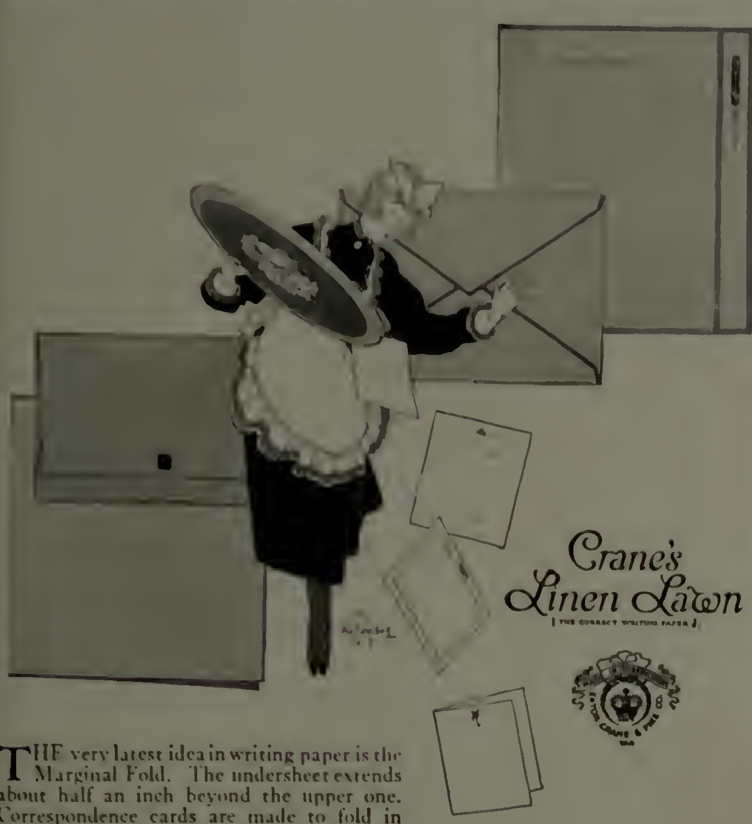
Garden City, New York

CRANE'S CREATIONS

Some of the Newer Ideas in Stationery to Replenish Your Writing Desk and Add to the Pleasure of Your Social Correspondence

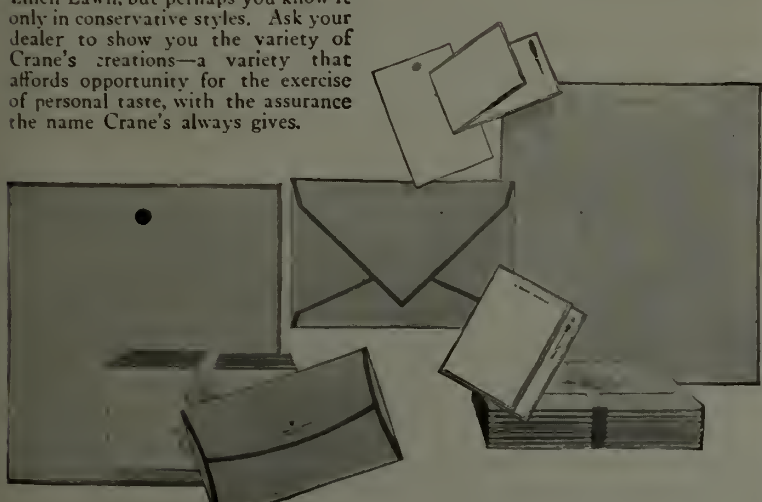
IF one would be correct without being commonplace, Crane's Felted Parchment affords the opportunity. This paper is watermarked with a basket-weave pattern which gives the paper a rich look and an indescribably delightful surface to write on. This richness of appearance is enhanced by borders of pink, blue or grey, relieved by a touch of gold on the edge. This gold is real gold—not gilt. You can have the paper plain or with gold alone if you like.



THE very latest idea in writing paper is the Marginal Fold. The undersheet extends about half an inch beyond the upper one. Correspondence cards are made to fold in the same way. A smart touch is a monogram designed to go on this extending edge with the letters gracefully arranged one above the other. The most approved form is the monogram placed thus on the extending portion of the third page, and the house address in the usual place on the front page. Marginal Folds may be had edged with silver alone or with colored borders added.

CRANE'S GREYLAWN appeals by its elegant simplicity. Look closely at a sheet and you will see that the grey tone is due to an infinite number of fine grey lines very close together. The envelopes are lined with a very thin paper in what is known as Pekin stripe—black and white, violet and white, and blue and white.

CRANE'S Linen Lawn is undoubtedly the autocrat of writing papers. Of fine ancestry, it makes its appeal by the quality of its texture, by its goodness as writing paper. You are acquainted with Crane's Linen Lawn, but perhaps you know it only in conservative styles. Ask your dealer to show you the variety of Crane's creations—a variety that affords opportunity for the exercise of personal taste, with the assurance the name Crane's always gives.



EATON, CRANE & PIKE CO. *New York Pittsfield, Mass.*

This new interpretation of the Oriental note successfully combines restraint with smart individuality

How modern designers express anew the ideals of past ages

UNTIL recently it has been almost impossible to furnish a room in the smart decorative furniture without sooner or later tiring of its foreign note.

In the newest design you can now have the colorful dash of Oriental pieces combined with complete livability, permanent interest, growing enjoyment and delight.

This peculiarly satisfying interpretation of an art nearly two thousand years old, we owe to Berkey & Gay's designers. This is but one example of the success they attain in the creation of new designs in which breathes the genius of master furniture makers of every age. England, France, Spain, Italy have all contributed their finest inspiration to the development of Berkey & Gay pieces.

No matter what your problem may be, no matter whether you live in a small apartment or formal town house, you will find in Berkey & Gay furniture the very pieces you want—pieces that give a delightful new interest to any room.

Ask at your favorite furniture shop for a letter admitting you to Berkey & Gay's Exhibition Rooms in Grand Rapids or New York. Their portfolio of twenty room scenes contains invaluable suggestions about furniture and its arrangement. Send 25c. to Berkey & Gay Furniture Co., 180 Monroe Avenue, Grand Rapids, Michigan.

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Friendly pieces that would make even a bleak corner interesting

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Chase Mohair Velvets are the most luxurious of upholstery fabrics for closed car interiors.

BEAUTIFUL
DURABLE
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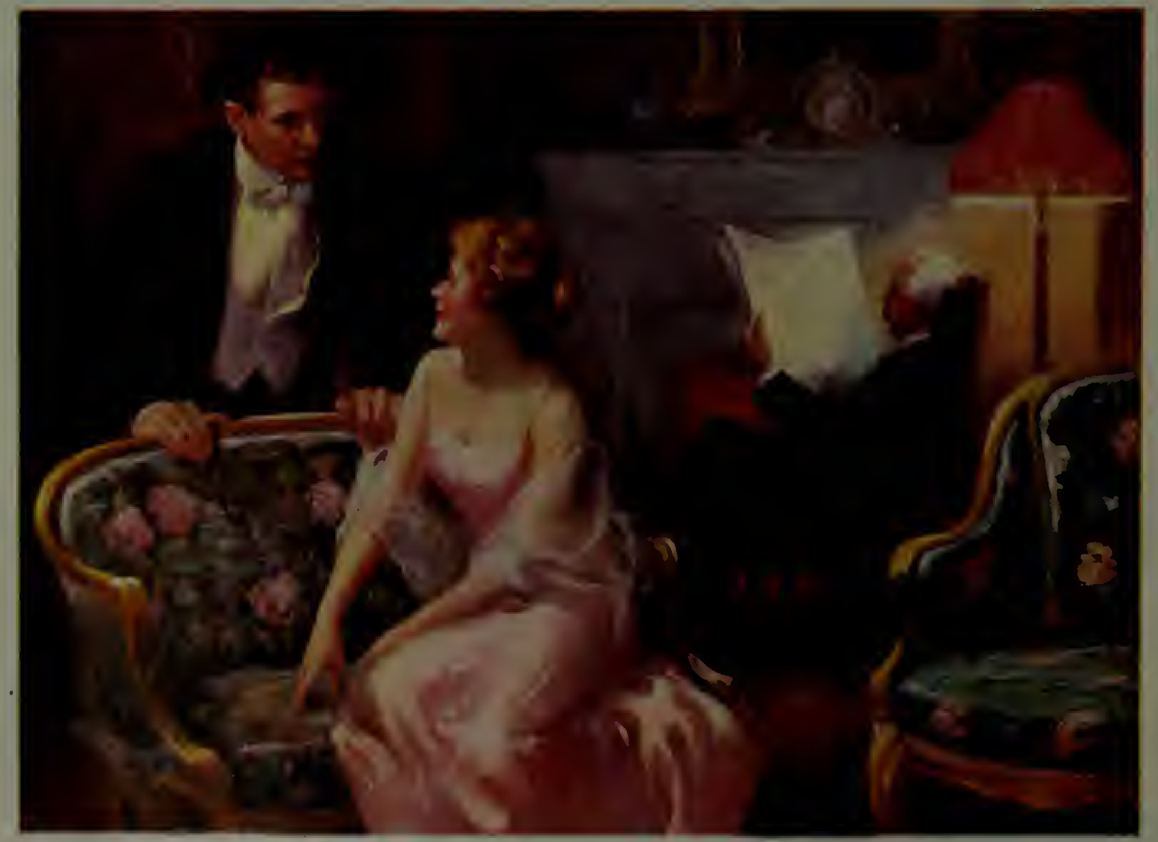
Chase Mohair Velvets are made of pure mohair. Wear comes directly on the top ends of the fibres.

No wearing out in spots—no sliding or slipping while riding.

Scores of wonderful designs in fast colors—plain, neutral shades—stripes and beautiful tapestry effects.

Write for handsome booklet.



Chase Mohair Velvets for furniture upholstery, combine rich, decorative appearance with remarkable wearing qualities.

Easily cleaned—not impaired by pressure—fast, distinctive colors.

Chase Mohair Velvets have been recognized as the most practical and durable of upholstery materials for over a third of a century.

Patterns for every home's requirements.

At your upholsterers' or interior decorators'

Write for samples

NEWS *of the* BREEDS *and the* BREEDERS

AT THE NATIONAL DAIRY SHOW

WHAT is surely one of the greatest inspirational and educational expositions to be held in the world this year—whether industrial or agricultural—is the National Dairy Show, to be held at the Ohio State Fair Grounds, Columbus, October 18th to 27th inclusive.

The barns will be filled to overflowing with more than 1,500 representatives of the leading herds of Jerseys, Guernseys, Holsteins, Ayrshires, and Brown Swiss. The heavy draft horse, represented by the Percherons, Belgians and Clydesdales, will be shown by the leading breeders. The prize list is almost as extensive as that of the International.

A nightly horse fair will be given in the new commodious coliseum, and the management expects to make this the greatest horse fair of America. Horses that are profitable for the farmer to produce will be given special prominence, although hunters, jumpers, polo ponies, cavalry and police mounts, heavy harness and delivery horses will also be shown on each of the nine nights of the Show.

The outstanding thought of this Show is the potentiality of the dairy industry, of its responsibility of feeding the people of the world. Twenty-six per cent. of the dairy cows of the country have gone to the slaughter in the last seven months, and the mission of the Show is to bring together the men and women of the dairy world and impress on them that a saving of our dairy herds to-day means the safeguarding and preservation of the lives of our children.

THE dairy division of the United States Department of Agriculture is to coöperate with the Show this year and will, through the medium of demonstrations on production and manufacture, show how waste can be turned into profit. In addition, the state agricultural colleges will demonstrate the part they are taking in the world's food campaign. Their labors will be largely devoted to showing how to increase production and cheapen it at the same time.

MR. HERBERT HOOVER has promised to be present at the dairy mass meeting to be held on October 22nd, to deliver a message of encouragement to producers of milk and manufacturers of its products. He will tell of the part that dairying must play in serving the people of the world with food, and how we must be prepared to rebuild the cattle industry in the war-wasted territories of stricken Europe.

THE cattle days this year at the National Dairy Show will be October 22nd, 23rd, 24th, and 25th. On account of the great mass meeting of the dairy industry, called for Monday morning, October 22nd, the judging of cattle will not commence until that afternoon. The schedule of judging, and the names of the men who will pass upon the cattle are as follows:

Jerseys: 2 P. M., Monday, October 22nd, H. H. Kildee.

Guernseys: 9 A. M., Tuesday, October 23rd. Robert Scoville, C. L. Hill, W. Al. McKerrow.

Holstein-Friesian: 9 A. M., Wednesday, October 24th. W. T. Moscrip.

Ayrshires: 2 P. M., Thursday, October 25th, Will Forbes.

Brown Swiss: 2 P. M., Thursday, October 25th, H. G. Van Pelt.

RESPONDING apparently to the country's call for increased production, East Newton Nellie, Imp., an Ayrshire cow owned by the L. A. Reymann Estate, Wheeling, W. Va., has just completed a yearly Advanced Registry record, producing 18,156 pounds milk, 774.70 pounds butter-fat.

East Newton Nellie was bred by J. & H. Howie, Newmilns, Scotland, and imported by F. S. Peer. She was dropped April, 1910, and has already an official two-year-old record of 9,440 pounds milk, 407 pounds fat; unofficial three-year-old record of 9,603 pounds milk, 433 pounds fat; unofficial mature record of 10,392 pounds milk, 438 pounds fat, previous to her official record just completed. She is an easy and persistent milker. Her biggest day's work was not more than 60 pounds and she finished her test with more than 40 pounds, showing a fluctuation of only 20 pounds between her high and low mark. She has had four heifer calves.

Her grandsires, Midland Rent Payer and East Newton Old Gipsy, are both sons of the great Scotch cow, Midland Old Gipsy, with a record of 11,510 pounds of milk in nine months.

This record of East Newton Nellie is the second record of more than 18,000 pounds milk made by the Reymann Estate herd within the past few weeks. August Lassie, also a seven-year-old, has just completed a record of 19,582 pounds milk, 831.5 pounds fat.

August Lassie, the famous Ayrshire cow which has just completed a record of 19,582 pounds of milk, 831.5 pounds of butter fat. Last year she took a world's record in her class. August Lassie is owned by the L. A. Reymann Estate, Wheeling, W. Va.

FOLLYLAND NANCY 52457, a two-year-old Guernsey heifer bred and owned by Mr. I. C. Blandy of Greenwich, N. Y., recently completed an official year's record of 12,270.9 pounds of milk and 712.60 pounds of butter fat, her average test being 5.81 per cent. Three weeks after finishing her record she dropped a fine heifer calf, which is now growing well. She ranks third in butter fat production among two-year-old Guernseys.

Her dam, Langwater Nancy 27943, has three official records and is now making her fourth. As a two-year-old she produced 630 pounds of butter fat; as a five-year-old, 735 pounds, and when a six year old, 862 pounds of butter fat. During the first six months of this, her fourth record, she has to her credit 556 pounds of butter fat—3 pounds more than the World's Champion, Murne Cowan 19597, produced during the same period.

MR. P. RYAN of Ryanogue Farms, Brewster, N. Y., has sold Auchlochan Eppie, Hobsland Tumphie 3rd, Nether Craig Primrose, Old Hall Beauty, Gateside Blossom and two calves to Mr. F. Ambrose Clark of Cooperstown, N. Y., the consideration being $8,500.

The two aged cows, Auchlochan Eppie and Hobsland Tumphie 3rd will be strong contenders at this year's National Dairy Show and Mr. Clark is to be congratulated on his purchases.

AT THE recent Ohio State Fair, the Hood Farm Berkshire herd was shown in ten classes, winning eight first prizes, eight second prizes, three third prizes, and two fourth prizes, besides Senior and Grand Champion boar on the herd sire, Longfellow's Double and first and second on get of sire. The first prize get was sired by Lord Premier's Successor, and included Longfellow's Double, his brother, and two of his sisters. The second prize get of sire was four Junior yearlings, sired by Longfellow's Double. Four Junior yearling boars, sons of Longfellow's Double took first, second, third, and fourth in their class.

THE 30,000-acre plantation of Mr. A. E. Yaeger, at Mount, La., is one of the best organized and highest producing estates in the country. He lives on the place and manages it himself. In handling the lumber interest on the place and the cotton, the corn, and the live stock, more than 3,500 darkies are employed.

Mr. Yaeger makes a specialty of producing beef and pork. He maintains a herd of native cows which have been graded up for a number of years by the use of good pure bred bulls from the North; and each year several thousand head of these cattle are sent to market. His extensive herd of Duroc-Jersey hogs has won many premiums at fairs, and has been the source of many foundation herds in that vicinity.

MR. JOHN M. PARKER of New Orleans who has recently been appointed a member of the Food Control Commission is one of Louisiana's most prominent farmers. He owns many thousand acres of Louisiana soil and it is his hobby that every acre shall show profit. Mr. Parker has many plantations of cotton as well as of cane but of all his farming operations, he takes the most pride in the pure bred live stock which he and his son are breeding on the Parker stock farm at St. Francisville, where the summer meeting of the Louisiana Swine Breeders' Association was held this year. On this particular farm are maintained his attractive herds of Hereford cattle and his Duroc-Jersey hogs.

A BULL calf bred by Mr. George C. Hubbard, of Hubbavale Farm, Red Hook, N. Y., topped the Sisson sale of pure bred Holsteins in Poughkeepsie not long since. In entering him for sale, Mr. Hubbard wrote "I want to keep this bull near home, hence am offering him here," but the calf was bought by Mr. F. A. Hereux, of Modesto, Cal., which proves that if you produce quality stock, the world will find it out.

MR. HUGH W. BONNELL'S Jersey Hope You'll Do 276959, whose record of 12,445.9 pounds of milk and 597.27 pounds of fat made her Champion Senior three-year-old in Ohio (until displaced by Mascal), finished the period milking 30 pounds daily, and made more fat in the twelfth month than in any other month after the fifth. She was sired by Oxford You'll Do, owned by the Colt Farm, Bristol, R. I., whose Jersey herd is making an excellent impression among dairymen and live-stock enthusiasts generally.

THE KENNEL DIRECTORY

In this department are printed the advertisements of reliable kennels. The Kennel Department invites correspondence and will send to readers any information about dogs which they may desire. Address KENNEL DEPARTMENT, The New COUNTRY LIFE, 11-13 West 32d Street, New York

A WHITE SCOTCH COLLIE

Has no equal as an all around dog. The appeal of their beauty, grace, faithfulness and intelligence touches the heart and stirs the sympathies of everyone.

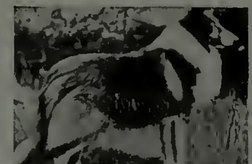
Partner—Playmate—Pet—Protector

White Scotch Collies embody all dog virtues. They are graceful, beautiful, sensitive, comrade for young ladies—a protection and solace for the old who are much alone—sympathetic, knowing companion for men and women. By their playful disposition white collies keep the kiddies out of doors where fresh air and health abounds. These aristocrats of dogdom, lithe and active, are not only an adornment to a city or country home, a pet of the entire household, but of practical worth besides. No dog can equal the Collie for herding Sheep, Cattle, Goats, Pigs and Chickens, nor as guards of the home and the defenceless. Our collies thrive in any climate and will raise $300.00 worth of puppies a year. We have a few choice litters ready for shipment now. Write for photographs.

ISLAND WHITE COLLIE KENNELS, Dept. B, Oshkosh, Wisconsin

COLLIE PUPPIES

Tracing from late
J. PIERPONT MORGAN'S
$5,000 Champion Wishaw Clinker, &c.



Choice Males, $15.

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Choice Females, $10

Perfect health; sable and white, very handsome; RAISED WITH CHILDREN; will ship immediately on receipt of check; money refunded if not absolutely satisfactory; certified pedigree given.

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Many a home has been saved from Fire and Burglars by the intelligence of a thoroughbred Collie; it is conceded that all evildoers always avoid a home where a thoroughbred Collie is kept.
We sold thousands of dollars' worth of Collies to the late J. Pierpont Morgan. We have letters from the late Mr. Morgan to prove this statement. PINE GROVE COLLIE KENNELS, Long Branch, N. J.; order immediately; directions for feeding with each puppy.

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There are no better dogs on the market of this breed. Illustrated booklet upon request.

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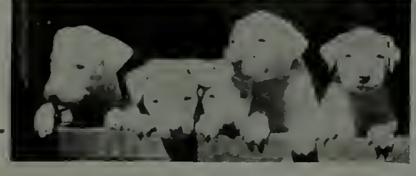

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Apply
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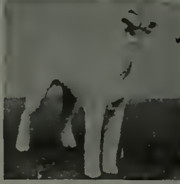

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Scotch Collies, bred from Imported and Champion Stock. Satisfaction guaranteed

Miss MAY THOMSON, *Proprietor*
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German Shepherd Police Dogs

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Large grounds and splendid facilities for boarding.

PAUL HUHN, Owner
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Twin-Cedar Airedale Kennels
Spring Valley, N. Y.

Airedales from stock selected for their intelligence and physical perfection. Classical specimens of all ages. Bred and raised for family use. Inspection of kennels invited. Visitors welcome.

Sealyham and Cairn Terriers

Two Home Bred Puppies

MRS. BYRON ROGERS has for sale *at very low prices* several pedigree puppies in both breeds. She recommends this chance to those who want to buy a PET in either of the two most fashionable terrier breeds in America. All puppies are healthy and attractive.
Send stamped envelope for full particulars.

LLANDOYLEY KENNELS
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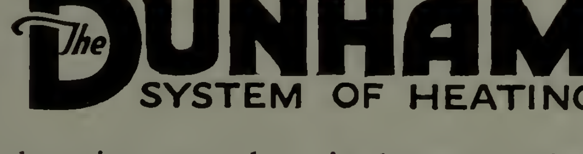

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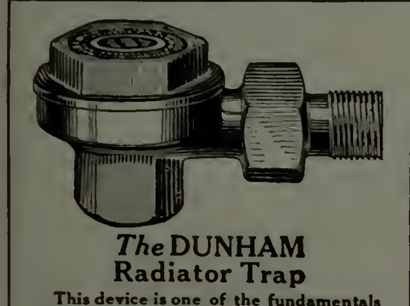

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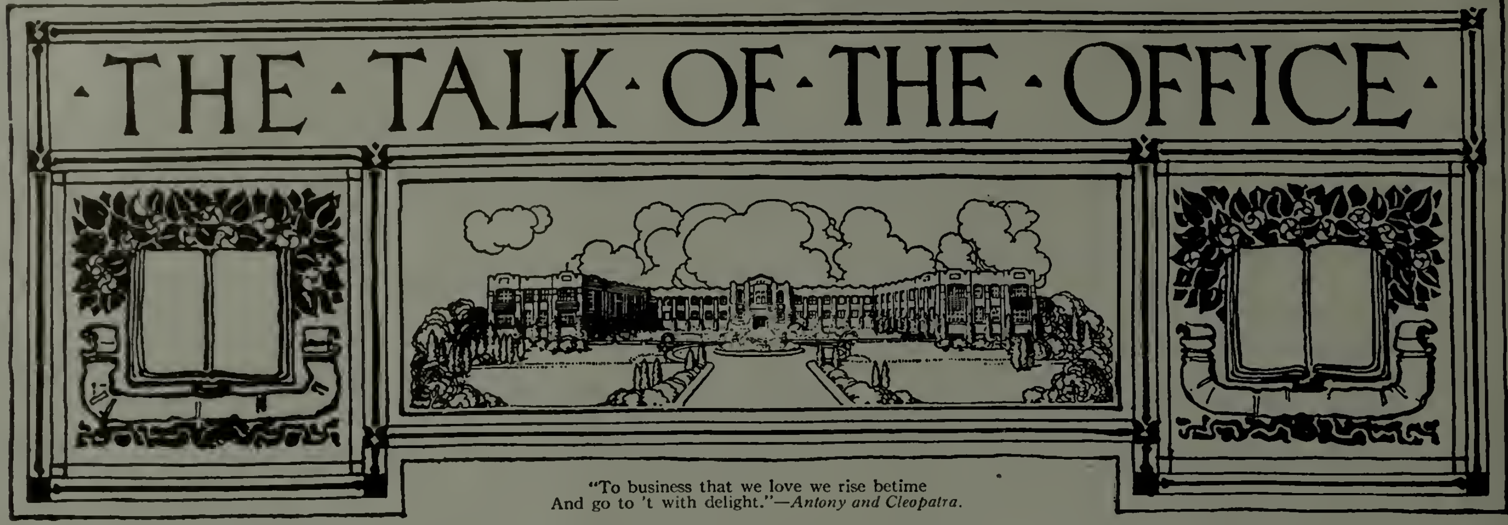

"To business that we love we rise betime
And go to 't with delight."—*Antony and Cleopatra.*

EDWARD S. MARTIN

whose editorials in *Life* have been read by a generation of kindly critics, has brought together the chapters to make a charming book, entitled "The Diary of a Nation. The War and How We Got Into It," telling how Germany lost her case—a book which will please people who want common sense, tinged with a gentle humor and a high vision of righteousness.

A NEW DAVID GRAYSON BOOK

This is what a good friend says about "Great Possessions," the new book by the author of "Adventures in Contentment":

"Another of David Grayson's 'Blue Books of Happiness,' pointing out many highways to the joys of life, and bypaths to great possessions in the world about us. The same warm, friendly spirit, broadened and enriched by new experiences.

"Every true Graysonian will recognize the 'Great Possessions': the smells, sights, sounds, touches, and tastes of the country, and the wealth of love that lies in the heart of common men."

And somewhat in the same delightful field of nature at its best—that is, in its appeal to the heart of living things—is a new book by Walter Prichard Eaton, called

"GREEN TRAILS AND UPLAND PASTURES"

which will be welcomed by all his readers of "The Idyl of Twin Fires."

It is more than a slight satisfaction, after stimulating by our best endeavor the love of out-of-door books and magazines for fifteen years, to see them rise in public esteem and popularity. In the so-called "good old days" a volume classed as a "nature book" was considered fit for only a small and select company of the elect, and one doubted if even this little group really read them. Now, thank fortune, if a book is *good*, it has a well defined audience waiting for it. May we be blessed with the gift of recognizing the truly worthy, and find for it its market. It is a source of great satisfaction that books dealing with nature in one form or another, published by Doubleday, Page & Company, have sold to the tune of millions of copies, and we shall hope to live to see other millions put forth.

While we are on this subject, it may not be out of place to give some credit in this field of widening the market for nature books to our magazines, Country Life and The Garden Magazine. When they were started there were no publications like them. There had been some feeble attempts along the lines which they followed, but the public was not ready, apparently, to welcome magazines devoted to so new a field. Many were the prophecies of failure made for both of them, the details of which are happily forgotten; and yet they were not failures even at first and for fifteen years have flourished at least as well as they deserved—we often think better.

As we write, we are looking the October numbers in the face, and not spring, as our mood would indicate. Happy the soul whose heart rises to meet each season with joy and thanksgiving, and who has the spirit to find under the open way its own peculiar beauty and flavor.

COMPLETE AND AUTHORIZED WORKS OF WALT WHITMAN

We are glad to welcome among the names of authors whose works are published by Doubleday, Page & Co., that of Walt Whitman the poet of democracy and of war. His works have been published in various and incomplete editions but hereafter by arrangement with the poet's literary executors, the only complete and authorized works will be issued from the Country Life Press. We have taken over "Leaves of Grass" complete in leather and cloth binding; Prose in both library and popular bindings; the de luxe Camden edition of Poetry and Prose; and the three volumes by Horace Traubel, "With Walt Whitman in Camden."

To the United States and to all the other nations engaged in the world war on the side of democracy, the poems of Walt Whitman will come as a new and almost uncanny revelation. Any of the poems in "Drum Taps" (which were written during the Civil War) express so truly the passionate plea of the author for a clearer understanding of a great world cause that one has the feeling that Whitman somehow has projected himself into the present.

THE RED CROSS MAGAZINE

The officials of The American Red Cross have entrusted us with the task of making its official magazine. After a good many months, we think the October issue comes near to being a real magazine, chiefly because artists and authors have enlisted in the effort to make it so through their very generous contributions. Its circulation is growing so fast that the average receipt of subscriptions has been at the rate of 25,000 a week, and the total circulation now well past the half million mark. The magazine is sent only to members who pay $2.00 or more for membership. If you contributed to the great campaign for $100,000,000, but did not specify that $2.00 of your contribution was for a membership, under the by-laws of the American Red Cross you would not receive it; but even now, by notifying your local chapter that you wish the sum of $2.00 applied to a membership, this will be done and the magazine will be sent to you for a year.

No one knows to what extent the circulation will go, but it is the hope of those who work on it that it will become the great magazine of humanity and service, sound in text, beautiful in illustration, and inspiring in purpose. All the profits go to The American Red Cross.

TO PRINT OR NOT TO PRINT

A lady (Miss C.L.D.) writes to "The Talk of the Office:" "You must have disappointed authors to read manuscripts submitted to you. You accept so many poor ones and reject so many that are good."

Miss C.L.D. is no doubt correct, at least in that most of us who read manuscripts even ourselves have suffered the pangs of the disappointed writer of something at some time —and very likely for our soul's good; there are few of us who use the pen who might not have done more service to the state with the plow share.

Yet we would say to Miss C.L.D. that we are on the whole a conscientious lot when it comes to manuscripts. An author reveals himself to the practised nerves, usually in a dozen pages, yet here are twenty people in this shop who read manuscripts more or less continually with eager hopes. Ninety-nine of the one hundred mistakes we make, the Sales Department tell us, are the fruits of optimism.

Manuscript readers realize that of the thousands of manuscripts which come to our doors voluntarily all represent toil and often great sacrifice of months and even years. This being so, we do not enter lightly upon the task of attempting to find a writer's full audience; and such a service cannot be done with a large number of books, even with a large force of workers.

What carries us cheerfully on is the remembrance that we have occasionally succeeded in welcoming an author before the public had the opportunity, and with due respect, Miss C.L.D., we decline to be depressed by your sweeping observation.

THE DOUBLEDAY-PAGE NEW ATLAS

is just coming from the press as these lines are printed. The book was described in this page last month and there is no excuse for repeating, as we should like to do. We hope and believe that it will be accepted as the most useful book of its kind, made to fit a world changed almost beyond imagination in the last three years.

The advance orders have been so encouraging that the first edition will be 20,000 copies and much of it will be sold before the book is ready early this month. After the war readers will be supplied, at no further cost, with new maps to be inserted, showing changes in boundaries. There are 240 pages of colored maps; the size is $9\frac{1}{2}$ x $13\frac{1}{4}$ bound in cloth. They tell us that we should charge twice as much for this book to keep pace with other such books. We add a coupon for those interested. The price is $4.50 if cash is remitted, $4.95 if paid for in one dollar instalments.

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P. S. In green leather it costs $2.00 more and looks perhaps twice as well.

The New Country Life

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HENRY H. SAYLOR, EDITOR

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A HOUSE AT CYNWYD, PA. THERE ARE SEVERAL COLOR COMBINATIONS POSSIBLE IN THE LEDGE STONE HOUSES THAT HAVE COME TO BE DESIGNATED AS THE PHILADELPHIA SCHOOL. USUALLY A WHITE OR BLACK TRIM AND PERHAPS A GRAY-GREEN ROOF, GO BEST WITH THE GRAY OF THE STONE

The New
Country Life

Volume XXXII — October, 1917 — Number 6

Pencil drawing by J. M. Rosé

Upon the old Dutch houses of New Jersey one finds almost as much variety in the color as in the materials employed. As with the New England Colonial type, however, white shingles or clapboards, relieved by brick or stone chimneys and green blinds, with a dark brown or gray shingle roof, is probably most acceptable

COLOR *in* COUNTRY HOUSES

By AYMAR EMBURY, II

Color illustrations by Birch Burdette Long

EXT to the design of a house, there is probably no element which enters more into the success of its final appearance than its color, and unfortunately this question is not, as a rule, so carefully considered as is the design of a building. One reason for this is perhaps because certain colors have come to be traditional or standard for certain historic styles, and architects either consciously or unconsciously follow the tradition, proceeding on the assumption that the colors which have been in general use have been those best adapted to the particular types of design. In many cases this assumption is correct, although were there a sufficient number of examples of any of these types of houses in some other combination of colors, one might feel it to be equally true of that combination, for it is impossible to say just how much one's feeling on the subject of color is influenced by tradition and how much is due to a just valuation of the color scheme in comparison with the architecture of the building. Many architects, myself included, rather hesitate about trying for novel or startling color schemes. Mr. Long, whose color drawings illustrate this article, says that most architects have no color sense; that they either follow traditional schemes or else their work is in monotone; and his statement would seem to be justified by observation of a good many houses. Of course, by "monotone" he does not mean that the houses are in variations of black and white, but that they are in variations of a single color or tone, as for example many of the stucco houses, with walls tinted buff, trim ivory white, and roofs brown. These houses convey the impression of being particolored, but they are in reality a monotone, since all the shades used are based upon a warm brown, darkened for the roof and made light for the trim.

That the influence of tradition is not infallible has been proven by the fact that in two cases, at least, which are matters of common knowledge, we have departed from tradition. The first is our

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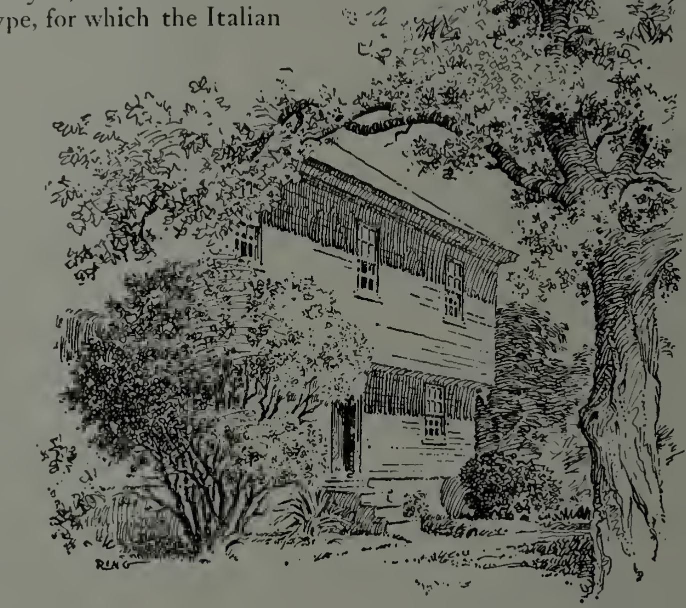
Charles A. Platt, architect

The home of Mr. John T. Pratt, Glen Cove, L. I., is an example of the traditional combination of brickwork with limestone which carries out the stately dignity of the Georgian house. White trim with green blinds and slate roof form the natural accompaniment

Slee & Bryson, Architects

Casa del Ponte, Tokeneke, Conn., with which Mr. Long has taken liberties in the coloring. With the Italian style we associate a freer use of strong colors than are expected in less sunny climates. A typical combination is a wall of salmon pink stucco with a dull blue trim and dark blue tile roof

domestic Colonial work in which a number of old houses were painted yellow or straw color with white trim and green blinds, a color scheme no longer much employed; and the other is stucco architecture of the Italian type, for which the Italian precedent is that the roof is red, with the stucco any color at all. Here our roofs are very commonly made of green tile or even of brown shades, while the stucco is almost invariably of gray, the natural cement color worked up with yellow ochre to a buff tone. Even in these two cases, the departure from tradition is not perhaps very marked, since we have rather made a selection from a number of traditional color schemes; in other words, from the two Colonial color schemes of yellow and of white for the body of the house, we have chosen the white; and from the Italian color scheme which included practically all shades for the stucco, we have chosen the one which was easiest to get and safest to employ. The common American practice of limiting the color of stucco to buff or gray is of modern origin, for many of our earlier stucco houses were of deep shades of orange or tawny red; the difference is due perhaps to the fact that our earlier American stucco houses were tinted after the stucco was applied, while in our modern work we endeavor to make the color integral with the material.


Drawing by Jonathan Ring

In considering color schemes, one must remember that there are two entirely different ways of arriving at the result. The one, by selection of materials which come in fixed colors, so that they will be in harmony; the other, by the coloring or painting of these materials; and while practically all materials are sometimes painted to color, the usual procedure is to paint only materials (as wood or metal) on which paint is needed as a preservative. Stone, for example, is almost always used in its natural colors, and as stone comes in a considerable variety of shades, and as these shades can be modified by mixture with other shades, or by the color of the mortar joint, it can readily be seen that one's palette (so to speak) is less limited than would at the outset seem necessary. In general, any masonry work is left uncolored, or in the case of materials which are manufactured, the color is the result of the processes of manufacture and not of something applied afterward.

This is not, however, an invariable rule, and brick, stone, and stucco are all frequently tinted to other than their natural colors; this is an old practice. There is a famous old house at Germantown—Wyck—built during the seventeenth century, which has walls of rather rough stonework, whitewashed, and I do not know any house of natural stone in which the surface of the walls is more agreeable as a background for the foliage, or which sets off the design better. The practice of whitewashing stonework was common in Colonial days in all parts of the country, and while there can be no good structural reason found for it, there is perhaps no white wall which is pleasanter than a whitewashed stone wall. Whitewashed stonework has slight irregularities of surface which cause variable and interesting shadows where an absolutely dead white wall would be ugly and disagreeable, but any wall which has irregularities may be made white to advantage. This is so generally understood that when an architect has to prescribe a remedy for a badly designed old house, in probably three quarters of the cases the first thing that he does is to paint it white, whether it is of stone or shingles or clapboards; and even brick walls have been painted white with much success.

Of course one sees a great many brick houses which have been painted (especially in cities), and the aspect of these houses is generally unpleasant, although they may have been marked off with black or white lines to represent brick joints. The paint in such cases was applied because the brick was porous and absorbed moisture, and as the painted surface repels moisture, there was a very valid reason for its being used. I have seen certain stone houses which were painted and had the joints marked off with a different color, and these also were unsatisfactory. The reason seems to be that the mind resents imitation, and while it may be right to paint a masonry wall of any kind, it is not right to paint a wall and then try to make it look like material of another kind. Perhaps a common example of bad usage may illustrate this point: no one objects to woodwork finished with stain or shellac so that its natural grain shows, but practically all people of good taste dislike doors artificially painted to resemble the grain of the wood, although nobody objects to a door painted a flat color; so it may be fairly said that if color other than natural color is desired, it should be employed frankly as a color and not in an endeavor to transform the surface into an appearance of some other kind of surface.

The manufacturers have been trying for a very long time to broaden the field of colors which can be produced economically and which are fairly durable, so as to afford more latitude to the architect in the selection of his color schemes, and also to permit the architect who has a particular color scheme in mind to choose between them and other materials. For example, an architect may have in mind a gray house as peculiarly applicable to his design, and may be somewhat undecided as to the material of which it is to be composed. He knows that he can use either gray stone or gray cement, but he much prefers the stone to the cement. However, the difference in cost of the two materials is such as to make him hesitate between them. Then the brick manufacturer, with a material more permanent than stucco, and scarcely less attractive than stone, and at a price between the

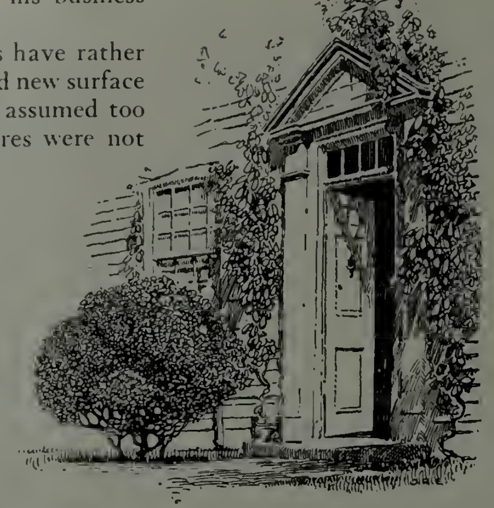
Drawing by J. M. Rosé

Aymar E[illegible] II, ar[illegible]t

The Sanford house, Litchfield, Conn. (pictured also on page 48), is the typical New England Colonial house of wood, in which there is one safe color scheme with but slight possible variations—white shingles or clapboards, green blinds, and gray or brown roof

two, finds a place in which he can extend his business without interfering with his regular lines.

I think, on the whole, that manufacturers have rather led the architects in producing new colors and new surface treatments. The architects have, as a rule, assumed too readily that because certain colors or textures were not generally obtainable, they could not be used; and while it is certainly true that the earlier efforts in modern times to secure special textures and colors were due to the dissatisfaction of the architects with materials at hand, certainly most of the latter experiments have been made by ambitious and artistic manufacturers of their own initiative. With this wide growth in the variety of materials at hand, we may expect to see in the near future a corresponding increase in the variety of colors applied to well known traditional architectural themes, and from these experiments we may find interesting new varieties of color schemes, although the tried and true ones will probably continue to be used in the majority of cases.



Drawing by O. R. Eggers

An excellent example of color secured by combination of materials rather than by artificial coloring is the first of the illustrations of this article, the house at Cynwyd. This house is of English precedent, but precedent which has been skilfully adapted to the local materials—a thing which should be done wherever possible, since there is unquestionably something in the use of native materials which tends to make a house constructed of them appear to be particularly well fitted to its location. This feeling may be purely sentimental, but its recurrence is so constant that I am inclined to believe that there is something deeper than mere sentiment in it, although I am not able to state definitely the cause. In this house a very clever color scheme has been employed, which, with the exception of the woodwork, is due entirely to a selection of natural colors and not to painted work. The stone is the so-called Germantown stone, which is a gray ledge stone splitting into long, narrow blocks, and which for 300 years around Philadelphia has been laid up in wide white mortar joints, flush with the surface of the stone. As occasional streaks in the stone are of a warmer color than gray, tending toward buff or even reddish brown, the surface as a whole is not cold or forbidding, but warm and pleasant; and since the pieces of stone are small, the scale of domestic architecture is held in the stone work so that one does not feel that the walls were intended for a public building rather than for a residence. The chimneys are capped with brick, introducing a strongly differentiated color as an accent to that important point; and the roof, which is of grayish green slate, is an admirable color to be seen against the sky, as well as sufficiently neutral tinted to form a bond between the brick and the stonework.

This seems a good place to say that the color of the roof is of considerable importance, not only because of its combination of color with the other materials of the building, but also because in very many cases it is seen against a bright, clear, and uniform background, and too definite a color against such a background is apt to make a house look hard and forbidding unless the roof lines are irregular or ragged. Probably nine tenths of the houses which have tile roofs of the raw red inseparable from new unglazed tile are ugly in the extreme because the house does not fade into the background; its outlines are emphasized to the last degree, and as there has scarcely ever been a house designed which was perfect from all points of view, and as most houses can be seen from all sides, the definition of color is too intense and undesirable. The most successful roof colors are invariably those which pass unnoticed because they are the expected color, or which blend into the background of the sky. Everybody realizes that it is the unexpected which attracts attention; we pass on the streets hundreds of dark-clothed individuals without giving them a second thought, while if a man comes along with an unusually bright blue suit, or a girl with a purple and yellow sweater, attention is attracted to them, and if the color is not perfectly suited to combine with the rest of the costume, comment is bound to be unfavorable; in many cases it is unfavorable anyway, because most of us are instinctively conservative. Therefore the architect who has any doubt about his color scheme always plays safe, and in the choice of colors for points which show up strongly (as the roof does against the sky), picks colors or materials which are quiet and unobtrusive, or which pass without notice because we are accustomed to them.

The Manor House at Glen Cove is a splendid example of the traditional color scheme used to best advantage. We are perfectly accustomed to the combination of red brick walls, white trim, green blinds, and a dark roof, for a house of Colonial design, and therefore we forget that a combination of red, white, green, and purplish gray for slate is in itself rather startling and only to be accepted because it is very well done or because we are so used to it that we do not notice it. In this house both of these things are true. The house is extremely well designed, the color quality is perfect, and we hardly realize that the color combination is any stronger than that in the house at Cynwyd. When ones says "red brick," some such color scheme as Mr. Platt has adopted is instinctively expected, but it must not be forgotten that there is as much room for selection of color within a traditional scheme as there is for selection of the color scheme itself. In other words, there are many shades of red which do not look well with many shades of green, and dead white is rarely perfect with either, so that to achieve a completely satisfactory result, a very nice adjustment of colors is needed. The brick must not be too vivid; the green must be of a more or less neutral quality, while preserving the impression of green, and the white must be in reality a very light buff or gray, only thought of as white because we are comparing it with other colors and not with anything really white.

Mr. Long has told me that in making a drawing he never attempts to match samples of the materials of which the building is actually to be built. What he tries to do is to obtain in the drawing the same comparative relations between the colors, and he says that a truer idea of executed work can be obtained in this manner than by matching colors exactly. There can be no question but that this is true, since small samples of color seen near by give a very different impression from large surfaces of the same colors seen at a distance and perhaps under different conditions of light and atmosphere; and the architect is always confronted by the problem of endeavoring to determine from small pieces of color what will be the probable effect of large masses of irregular shapes and of sometimes indirect relations with other colors. It is easy enough to find small samples of blue and burnt orange red and olive green which look extremely well in combination, but it is a very difficult task to know how such a combination will strike the observer when it is on the surface of a house rising from the parti-colored green of foliage and terminating against a sky which is generally

Alfred Busselle, architect — Drawing by J. Floyd Yewell

An adaptation from the Georgian, at Great Neck, Long Island

Hays & Hoadley, Architects

The house of Mr. Pierre Jay Wurts, Englewood, N. J. There are many opportunities for variation in color of the brick house, made possible through modern brick of varied texture, form, and color, but usually only a white—or possibly a dark—trim and a green roof may be used to best advantage

assumed to be blue but which in reality varies through every color of the palette. When the roof is broken by trees or foliage, a stronger color can be used without fear of the result, because the contrast between the sky and the roof is broken and disguised by the green of the foliage during summer, and even by the branches when the eaves are no longer on the trees. In the Manor House at Glen Cove a stronger roof color might have been employed without detriment had the architect desired.

Where stonework for trim is employed, too brilliant a white in contrast with brick is undesirable, but fortunately all natural materials quickly lose their original brilliance when exposed to atmospheric, conditions, and one must remember in designing a house that the color at completion is not the probable future color. For example, soft, light buff-colored limestone is excellent in combination with most bricks when a house is new, but as it colors up rapidly the contrast is apt to become too slight within a few years; while marble, which at the beginning is much too bright, generally attains a perfection of color in a year in a smoky atmosphere, or in two or three years in a clear atmosphere, which surpasses the effect of limestone when new. Also in painting the woodwork of a house where the window sills and key blocks and other features of masonry trim are of limestone, one must not make the paint too white or the stone will appear dirty and commonplace; a tone should be adopted which is somewhere near the stone color—a cross between gray and ivory.

The home of Mr. Lee Wilson Dodd, New Haven, Conn., in which the stucco is a very light gray, blinds pea green, and roof dark brown. Aymar Embury, II, architect; drawing by J. Floyd Yewell

A very different color scheme is that of Casa del Ponte,* a little house at Tokeneke, Conn., designed in the Italian manner, and with marked success. In this case all the colors are applied; none is native, so that the architects had all the colors in the world to choose from and were able to depart from conventional schemes.

Stucco is much more common in warm climates than in cold, because it is only within the past twenty years that the general introduction of cement has made it possible to build stucco houses that do not crack or peel off under the influence of frost. Before that time stucco was made of plaster of paris and lime; it was not durable in cold climates and even washed off in rainy weather. The Italians and southern Europeans in general, and also builders in the southern part of the United States, protected their stucco by paint, so we find in the Italian cities and also in New Orleans and Mobile, street after street of painted stucco houses; and as the color of paint is determined only by the whim of the owner, one sees every conceivable hue—pink, salmon, blue, light green, and even violet and brown. The effect of a street of these houses which have been freshly colored is pretty awful, but after they have been given time to soften down, and the original raw colors have toned to quiet, dull shades, there is an exotic charm about them which is not observable in houses of soberer hues; it is this sort of coloring that Mr. Long has imitated in the drawing of Casa del Ponte.

Stucco can be colored in either of two ways—by mixing the colors in the mortar or by applying them to the surface after the house is completed. Around New York we no longer use paint for application to a completed building, but a stain which permeates the pores of the stucco and assists in making it waterproof. The one trouble with all stucco stains is their uncertainty. One cannot be sure in advance that the color mixed in the mortar will produce exactly the desired result, nor can one be sure that the result will be permanent; and when the architect and the plasterer have worked for a long time to produce a mellow, sober, and lovely tone, it is a very great disappointment to have the house fade into something indeterminate and neutral.

The color scheme illustrated in Casa del Ponte is for the walls a dull salmon pink, and this fortunately is one of the colors which is fairly permanent. Having assumed such a color for the walls, one must find suitable tones to harmonize with it, and while there are a number of shades which might be used both for the roof and for the trim, perhaps the most effective are blues of carefully chosen tones. Fortunately, tile manufacturers are now making a deep blue roofing tile which is durable both as to material and to color, and it is this tile which has been suggested in the illustration. Other shades might be used; a dull brown would be good, though less interesting; gray would not be bad; some greens, especially those of faded hues, might harmonize with the salmon pink of the walls, but most reds, especially those commonly obtained in tile, would result in a color scheme much too "hot," as the painters express it. For the trim, probably another shade of blue, either darker or lighter than the roof, would be most desirable, though there are certain browns which might be used to advantage, and a buff colored paint which suggests white would be far from bad.

Perhaps the principal objection to the use of strong colors in our country houses is traditional. We, in our climate, do not expect to find the colors which appear to us as natural in warmer countries, and unless the surroundings and background are particularly suitable we are apt to regard them as bizarre and foolish. It may be because the foliage in southern climates is of hues which blend better with the stronger colors; it

Alfred Busselle, architect — Drawing by J. Floyd Yewell

* The actual color of Casa del Ponte is not that shown in the illustration, but no house of sufficiently high architectural quality in this color scheme was availahle, and as it was desired to show what could he done with stucco and tile, the drawing was colored differently from the house.

Howard Shaw, architect

The home of Howard Shaw, architect, Lake Forest, Ill. In the modern English cottage type the walls of stucco or cement are almost invariably gray, while the trim is black or dark

may be because a certain amount of foliage is always necessary, and in the north we cannot depend upon it for more than six or seven months of the year; certainly a house of colors as brilliant as those shown in the illustration would look rather fearsome standing up from a field of snow and unbroken except by the bare limbs of trees. Were it a lady it would be described as a "bold piece!"

There is one curious thing in connection with this snow; the white New England houses do not appear cold and bleak and bare when the snow has drifted around them, nor do they appear hot and uncomfortable when surrounded by summer foliage. This is again a result of tradition. We know the warmth and cheer of the New England farmhouse, and while the white and green traditionally associated with them is the coolest color scheme that there is, we rarely think of the houses as being cold in winter, although we frequently think (unconsciously perhaps) that they appear cool on the hottest day. The color scheme adopted by the New England farmers in Colonial time was more or less the result of materials at hand, and not because of any artistic conception of the fitness of the color scheme to theproportions of the building. In the early days of this country there were only three or four colors which were readily obtainable—Paris green, white lead, and the red of red lead. As Paris green was the most expensive of the three, it was not used for anything but trim or blinds or doors. The red we find not uncommon on old houses, and the "old red barn" will readily be recognized as characteristic of early work. It was the cheapest of all the paint and the most durable, and as it showed dirt the least it was generally employed for stables and outhouses. We are probably inclined to credit our Colonial ancestors with more color sense than they really possessed, for the quiet, dull blue-green of the blinds or shutters on old houses was not the original tone at all, but is the result of time. The houses when they were first built must have been extremely ugly, for Paris green is the rawest, vividest, greenest green that there is, and its one saving virtue is that it fades rapidly, although its final color is impossible to determine in advance; it may become blue, it may become yellow, or it may fade into a quiet, light olive tint.

Old Colonial houses were almost invariably covered with shingled roofs, although in certain sections of Vermont, New York State, and Pennsylvania, in the neighborhood of the slate quarries, the local slate was used. The shingle roofs were left to weather without any stain or preservative, and under the influence of the elements they turned to various colors, according to the locality and climatic conditions around each house. For example, houses near the seashore had roofs which were weathered to a soft gray; the houses in damp climates turned a much darker gray, almost a velvety black, and the rest turned a seal brown. The darkest of these roofs are not especially attractive, and in our modern work we endeavor to use a stain for coloring them which will retain its color after exposure to the air. Very many so-called Colonial houses have green-stained roofs which is, in my opinion, a mistake, since it is very difficult to find a green stain which is in exact harmony with the green used for blinds and trim; also, the greens when new are too vivid, and most of them rapidly turn black, losing every vestige of green. The colors which I personally prefer are the softer brown and light gray stains, which take the raw look off the new roofs and which bleach the shingles to some extent, so that they never get very dark. Certain brown stains eventually turn a bluish gray, which is the loveliest of all colors for shingle roofs on a white house, since it supplements admirably the color of the chimneys, and blends readily with almost any color of blinds or trim. In Mrs. Sanford's house, illustrated in connection with this article, the white chosen was not absolutely white but a sort of oyster gray. The blinds were very light bluish-green, much too vivid when first painted but which faded rapidly to about the color shown on the drawing. The roof was stained with one of the brown fading stains, and is very nearly the same tone given in the illustration. This color scheme is perhaps the quietest and safest of all, and if there is no special reason to use other tints, it may be employed over and over again without becoming monotonous.

An ingenious utilization of simplified classic detail in an informal picturesque mass; white walls, green blinds, dark shingle roof. A design submitted in the recent *White Pine Series* competition for a $12,500 house, by J. H. Scarff, J. F. Yewell, and S. Le Paire

Of course there is no heaven-sent fitness in this color scheme; as before said, many of the old houses had their walls painted straw

Elmer Grey, architect

A summer cottage at Grosse Pointe, Mich. In the very simple and informal cottage, whether built on the sand dunes or in the woods, the safest and most satisfactory solution of the problem of color is to use one tone only, a simple gray or brown, for walls, trim, and roof

color, or dull, light yellow, with green or white trim, and dark roofs. This scheme is perhaps not so charming as the white house, but for situations where foliage is lacking is perhaps preferable. Certain of our latest Colonial houses have had the blinds painted blue or black, and in one or two cases reddish brown. These colors are not traditional, but seem to be good, especially the blue, which is a dull, solid color, somewhere between gray and robin's egg. It is not unusual in modern Colonial houses to paint the chimneys white, or black, or sometimes white with black caps, which is a desirable addition, especially in the case of outside chimneys, since the red chimneys cutting across the white walls of a Colonial house are very far from being agreeable, although oftentimes this arrangement is necessary for the conservation of space.

When all is said and done, white seems to be the distinguishing color of Colonial work, and it is almost impossible to build a Colonial house able from the point of view of the interiors to make the curtains uniform, a lining color can always be introduced which is the same throughout.

In considering the question of the coloring of trim, blinds, etc., one should remember that trim of approximately the color or shade of the interior as seen through glass tends to enlarge the opening; if there are no shades or curtains at the windows, the camera will show the house with the windows in dark squares, and if the trim is white, cross barred with white strips. If the trim is dark, the size of the windows will be apparently enlarged, so that when a house is designed the windows should be kept a little larger than appears to be correct if the trim is to be white, or a little smaller than appears to be correct if the trim is dark, especially if the color selected is of a gray or bluish tone resembling the color that one sees through glass. In my own practice I have

J Floyd Yewell, architect

in which white does not play an important part. For example, in the Wurts house (which is a brick Colonial house as distinguished from the English Georgian type of the Pratt house at Glen Cove) white has been used for the trim, the trellis, the blinds, the cornices, the porches, and the piazza, and there is no other relieving color aside from the window shades, the curtains, and the roof. Even with such unmixed colors, the house is by no means dismal or stupid. The variation of form and the shadows cast by the porches and by the recessed piazza, are sufficient to create the illusion of a pleasant diversity of materials, and it is probably also true that the colors of the shades and curtains play some part in the color design.

It should be said in any discussion of the color of houses that the colors of curtains and shades are too often considered with relation to the interiors of rooms only, the decorators forgetting that unless they are lined, curtain colors can be seen from the outside, and shades can always be seen. There is perhaps no single thing which injures the appearance of an exterior more than dark green or dark blue window shades, and we often find shades of just these colors used in the second story so that the rooms may be kept dark in the morning, while lighter colored shades are used on the ground floor. There is, after all, no one thing in a house which can be considered by itself; every object bears some relation to the rest of the structure or to the furnishings, and influences items which would seem to be apparently remote. I like where possible to see both the shades and curtains uniform throughout the body of a house, and if it is undesir- had occasionally to introduce false transoms over entrance doors or false side-lights where a question of balance or of proportion was involved—windows which opened on no room, but were backed up with boards; and I have found that if these boards are tinted a sort of slate gray they have exactly the same effect that is produced by looking through a window into a room from some distance away. In many of the English cottages, where the walls are of gray or buff stucco (this being the English practice in contradistinction to the southern European practice of coloring the stucco brightly) the trim is dark, sometimes almost black, and in order to "keep the windows in their places," that is, to be sure that they appear as they are intended to appear, the sash themselves are painted white, while the window trim, the cornices, etc., are dark. This is the case in Mr. Shaw's house at Lake Forest, and it is interesting to note that he has kept his door to match the trim, rather than to match the sash of the windows. The moldings, trim work, and cornices on a house of this character can be of less projection than would be possible were they to match the walls. In a Colonial house, for example, where the cornices and walls are all white, we must depend upon the shadows caused by the cornices to accentuate the finish at the top line of the wall. On the other hand, where cornices are painted or stained a color in marked contrast to the walls, they are not necessarily so big nor of so much projection. The cornice, after all, is only a way of saying "this is where the wall stops and the roof begins," and if emphasis is laid upon this by color, shadow is not so necessary. One should therefore know

John Russell Pope, architect

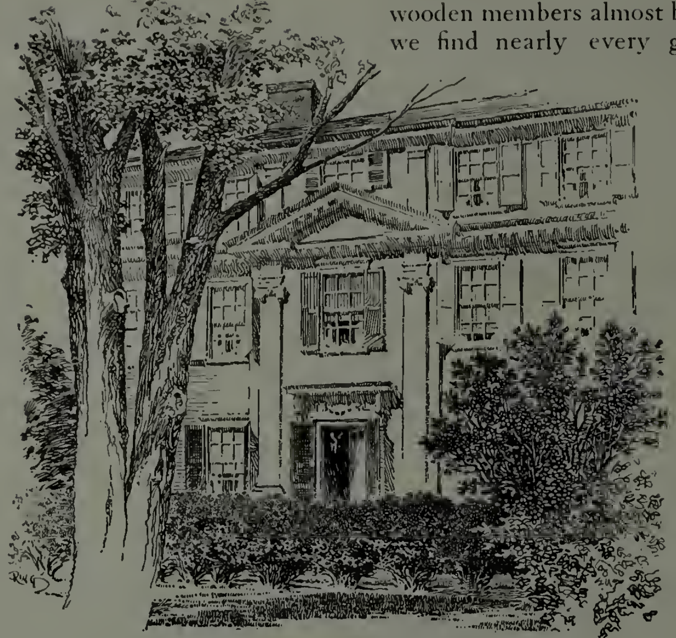
Gate lodge on the estate of Mr. W. K. Vanderbilt, Deepdale, L. I. The English half-timber house permits little or no variation from the traditional color scheme of buff walls, dark brown trim, and a red roof of tile or slate

in advance the color which is to be used upon the house, because a far projecting cornice, if brought into relief by the use of a color strongly differentiated from the house, is apt to look heavy and overloaded. Cornices and moldings so small as those on Mr. Shaw's house would, if they were painted a color about the same as the house, lose their value of design and become meaningless.

The part which color plays in moldings is not very well understood by people in general, and even by some of our architectural practitioners. Moldings worked in unfinished wood must be made clear cut and deeper and sharper than would be the case with painted moldings. Painted woodwork, being uniform in color (or indeed any material which is uniform in color), shows the varieties of shadow much more clearly than material which has a natural variation of color, and moldings can be made more delicate, lighter, and more graceful than in natural surfaces. Of course, of all the paints, white shows shadows most easily, and perhaps one reason for the great delicacy of Colonial moldings was the realization on the part of designers that, executed in white, they could afford to make the cuts of the moldings shallow and the curves attenuated and graceful. Moldings such as are used on Mr. Shaw's house should be bold and solid in comparison with their size, for much variation of contour is necessary when the surface itself is varied.

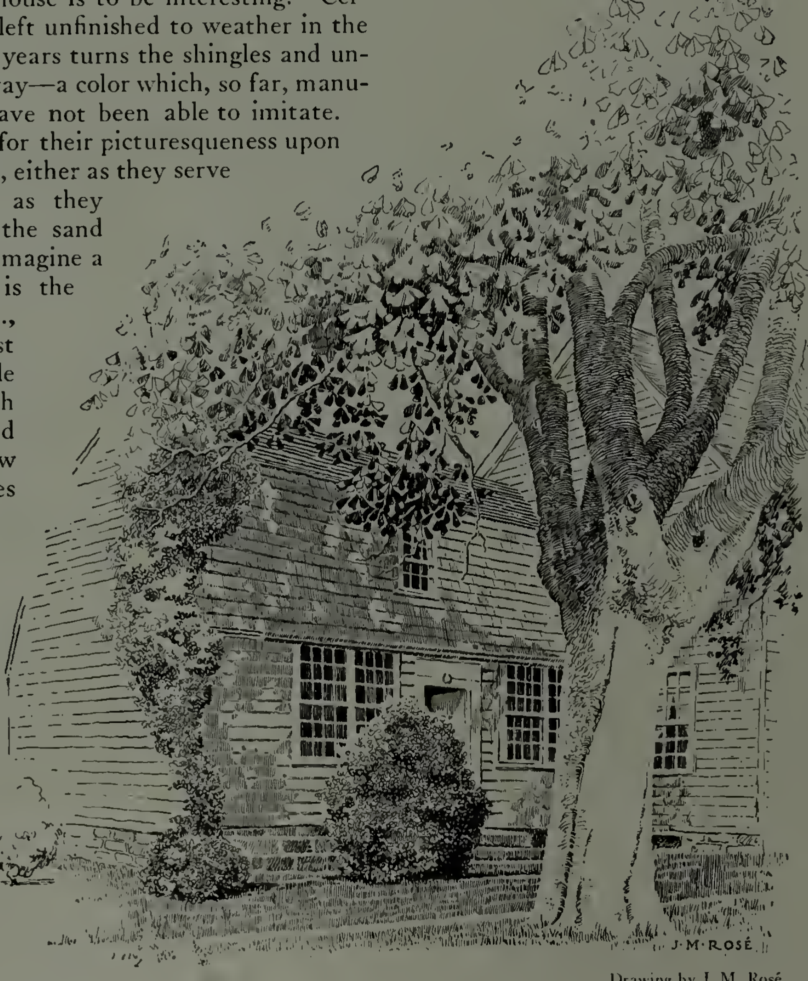
Hitherto the examples which we have discussed have been houses in which the different portions were variously treated to indicate to some extent their uses. This is not always necessary, but when a house has no variation of color it must be of exceptional excellence of line to be even passable, and the gradations of shadows must approach perfection if the house is to be interesting. Certain of our seashore cottages are left unfinished to weather in the salt air, which during a period of years turns the shingles and unfinished wood a wonderful soft gray—a color which, so far, manufacturers of paints and stains have not been able to imitate. Houses of this character depend for their picturesqueness upon their adjustment to the landscape, either as they serve as a background for flowers or as they blend into the natural slopes of the sand dunes. It would be difficult to imagine a square, high house, colored as is the cottage at Grosse Pointe, Mich., which would have the slightest pretense to charm, yet this little cottage, evidently designed with respectful admiration of the old fisherman's cottages along the New England coast, has soft, low lines which lead down to the ground and blend with the landscape, and color which harmonizes with almost any natural tone of foliage or of flowers, and is, as well, unobtrusive when viewed against the sky.

Perhaps the most amusing of all types of houses, purely from the question of the color treatment, is the English type of half-timber, part of which is of timber construction. In the first place, the combination of colors in the half timber surface is susceptible to considerable variation; one sometimes finds the stucco practically dead white, and the wooden members almost black, and beginning with this extreme, we find nearly every gradation, so that some half-timber houses have both the stucco and the wood of the same soft brown tone. There is only one limit to this variation—the timber must be at least as dark as the stucco. The roofs of most English half-timber houses are of red tile or red slate, but gray or green slate is perfectly adapted to this scheme; in fact the only requirement regarding the roof is that it shall not be flimsy in appearance; while shingles are sometimes used, especially when woven to imitate thatched roofs, they must be so laid as to give an appearance of great solidity. With half-timber work every conceivable material can be combined—stone or brick or even shingles or clapboards—but half-timber should never be superimposed over shingles or clapboards.


Drawing by Jonathan Ring

In the half-timber house illustrated in connection with this article, the base is of gray stone, the walls of a very light buff cement, the timber of a rather dark brown, and the roof of red tile. As said before, new red tile are apt to be raw and uncompromising in color; in this particular case the tile used were old Moravian tile which had formed the roof of an Ohio barn; they were removed and reset on this house. Of course, the greater the contrast between the timber and stucco, the greater the necessity that the pattern in which the half-timber is set should be interesting. Half-timber, as it is customarily constructed in this country, is a purely decorative surface; it is not constructive in more than one case out of a hundred (this happens to be the one case), but like all decorations which are founded upon structural form, the theory of structure must be preserved, and the lines of support must occur in places where there would actually be lines of support. These things have been observed in the gate lodge illustrated.

The whole question of color for buildings is like several other features of house design—largely a matter of taste or preference; but no amount of theory can deny that certain color schemes look well to trained minds and certain ones do not. Good taste in any type of work may mean the approval of very distinct and conflicting ideas. There is not a single inevitable solution to any problem which involves taste, but a considerable number, and two architects or two painters of equal natural ability and equally well educated, will often differ violently as to what is best, though I have rarely seen them differ as to what is bad. Color sense is like good taste, something which is obtained by cultivation of natural discrimination; and for people, whether they be architects or owners, who cannot fully trust their color sense, there is but one thing to do and that is to follow some standard and accepted scheme.



Drawing by J. M. Rosé

A house at Westport, Conn., belonging to Mr. Herbert M. Baer, architect. The house was built about 1760, and in remodeling it Mr. Baer left the main part practically unchanged, but added the wing at the left

OLD HOUSES UNDER NEW ROOFS

Remodeling — the national pastime

By RUTH DEAN

HE "antique" business has grown so flourishingly that worm holes and weather stains are no longer trustworthy signs of age, and architects are coming so skilfully to imitate the earmarks of old houses that presently we shall have to demand a sworn affidavit along with the house that we think we are buying as a Revolutionary landmark.

"Old" as applied to houses in this country usually means those of Colonial origin built from the middle of the eighteenth to the middle of the nineteenth century. Few earlier houses still stand, and we have not yet arrived at the point of calling "old" the houses built during the Victorian period.

Possibly something might be done with houses of this era, for many of these high ceilinged, mansard-roofed structures are not without a stately sort of dignity and, every once in a while one comes across a Queen Anne cottage so-called, with battened boards for a finish, which possesses considerable charm. When the supply of white-painted farmhouses has given out, perhaps architects will turn their attention to these later buildings, and the Victorian period will come into its own.

In the meantime it is easy to find delightful examples of alterations and restorations in the earlier style, and those illustrated here are a few which show how pleasing is that intangible quality known as "atmosphere," which makes an old house so desirable.

The studio from the garden. This Mr. Baer evolved from an old two-story stable on the place

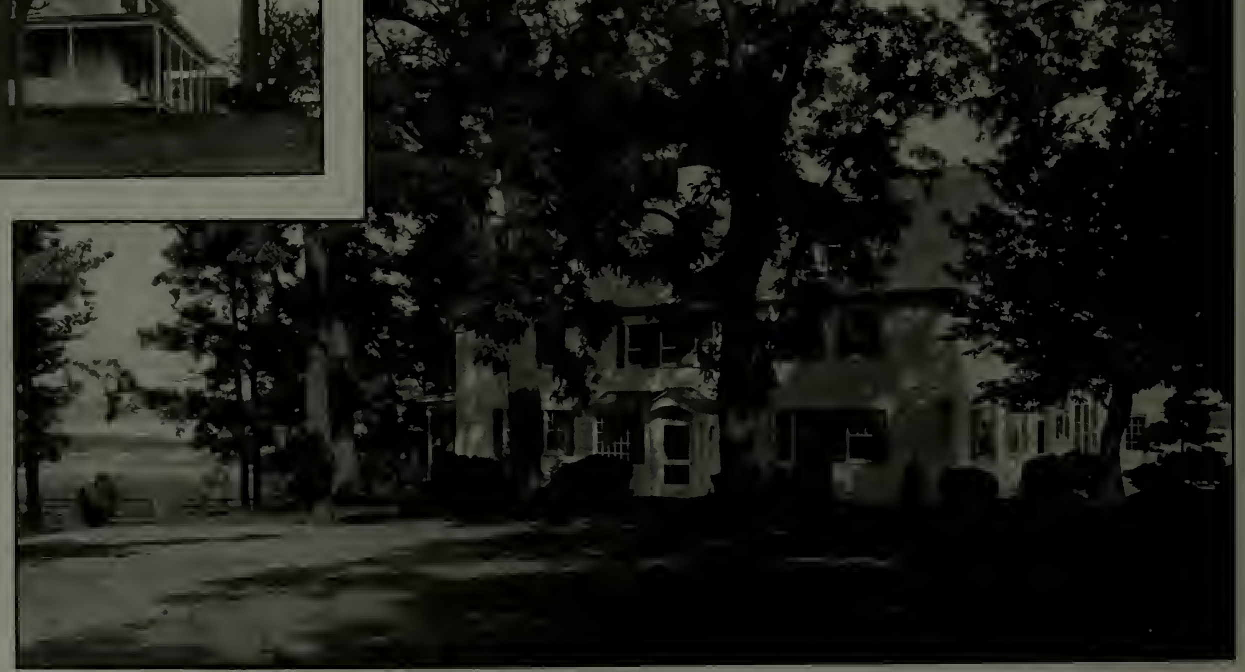
A rear view of the Baer house showing the new wing which was built on to serve modern needs, but so cleverly that it does not detract from the old-fashioned atmosphere of the place

The present dining room was the kitchen in the old house, and the original framing was left around the fireplace. At left is the library fireplace

A pathway of stepping stones leads to Mr. Baer's stable-studio

The old fireplace in Mr. Baer's dining room. The original wide floor boards were left undisturbed, but the paneling is an addition brought from another old Connecticut farmhouse

Above is shown the unpromising material from which Mr. Archibald M. Brown developed the delightful home at the right. The major offensive was the removal of the encircling piazza and the building of an entirely new entrance. The old box and the locust trees, which are characteristic of the old places on the North Shore of Long Island, contribute not a little to the charming effect

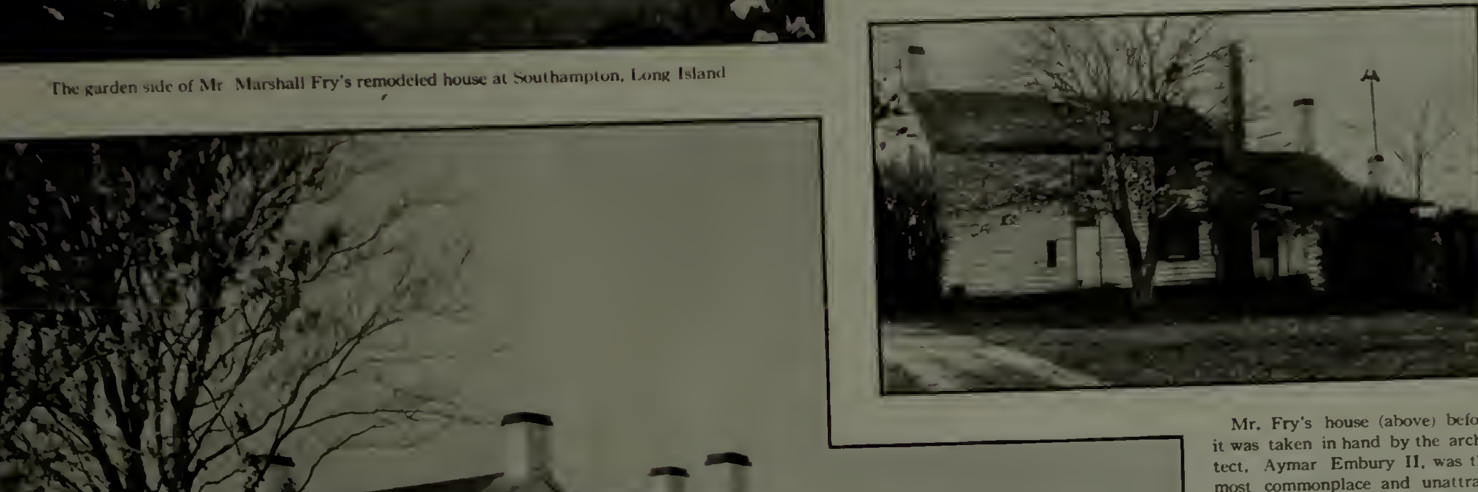


End view of Mr. Brown's house

Close up of the new entrance to the Brown house, showing also the dormers which have replaced the one out-of-scale central window

The garden side of Mr. Marshall Fry's remodeled house at Southampton, Long Island

As the Fry house originally appeared from the garden



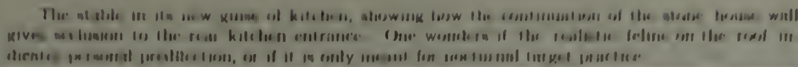
Mr. Fry's house (above) before it was taken in hand by the architect, Aymar Embury II, was the most commonplace and unattractive of farmhouses, the kitchen being merely a lean-to; but under Mr. Embury's treatment it emerged the broad, comfortable country house at the left. The new piazza extends pleasingly the lines of the house

The house of Mrs. Harrison Sanford, at Litchfield, Conn., restored, rather then remodeled, by Aymar Embury II. The white picket fence is new and supplants the cast-iron pipe which some practical hand had placed as a barrier at the property line

Mrs. Sanford's house was built about 1775, and underwent many detrimental changes twenty-four years ago. The restoration consisted in removal of the bay window, reduction of the big dormers and the bulging piazza, and return of the original entrance

Thatch Meadow Farm, the home of Mr. George W. Bacon at St. James, Long Island, remodeled by Peabody, Wilson & Brown, architects

Mr. Bacon's house (above) as it was before any alterations were made. The building was an old one to which a piazza had been added across the front. This was removed, and a circular porch in keeping with the architecture of the original house was built on. Detail of this porch is shown at the left. Old boxwood and hollyhocks help to give an old-time atmosphere



The stable in its new guise of kitchen, showing how the continuation of the stone house wall gives seclusion to the rear kitchen entrance. One wonders if the realistic feline on the roof indicates personal predilection, or if it is only meant for nocturnal target practice

The old stone stable at Thatch Meadow Farm had passed through a period of usefulness as a human habitation, and it was decided to make a connecting link between it and the house proper and utilize it as a kitchen

A house at Chappaqua, N. Y., built about 1820, remodeled by Mr. Alfred Busselle. Originally the second story was nothing but an attic, but Mr. Busselle raised the roof to get a full story, built an addition in the rear, removed a narrow porch which ran all the way across the front, and built a new entrance, using for it the original porch columns

A characteristic Victorian monstrosity, built about 1860 or 1870, belonging to Mr. Charles Hoadley

Mr. Hoadley's translation of the house at the left into a dignified English half-timber dwelling. The scallops and jigsaw work have been totally eliminated, and the aspiring steeple metamorphosed into a pleasing gable entrance

Louise Day Putnam Lee, decorator

An effective combination of plain and figured materials. The curtains are mulberry colored taffeta, and the valances cream colored linen with a blue and mulberry design

WINDOW DRAPERIES

By LUCY GATES HARRING

INCE the heyday of Nottingham lace, window curtains have undergone a profound change. One of the first "improvements" introduced into family parlors East and West by the present generation of daughters returning from school, was the banishment of these expressions of the machine-made Victorian era, and the substitution of some stenciled product of an applied art course. These aids to the future home-maker (applied art courses) were largely influenced at this stage of their development by the so-called Arts-and-Crafts movement, which, although it has much to answer for in the way of conventionalized crows and rabbits and flowers promiscuously silhouetted on burlap and coarse linen, was, nevertheless, instrumental in rousing us from the unwholesome enshroudedness of the preceding period. This was the dark age of magnificent window reveals and five pairs of curtains to the window, outcomes of the elaboration of architecture and decoration made possible by the invention of machinery, which closed the door on the simplicity and dignity of the Colonial period, and ushered in the Victorian era.

Having progressed beyond both of these earlier tastes, we look back nowadays with incredulity on our tolerance of saw-tooth black walnut, and our later extremes of Thoreau simplicity embodied in square Mission furniture and burlap hangings. For we have succeeded to what might be called the decorator's period, in which the hand of the professional decorator is seen in the furnishings of the plainest cottage. We are much more sophisticated in our simplicity than we were ten years ago, and we have learned the difference between primitive workmanship due to lack of tools, and that affectation of roughness which is crudity.

For much of this betterment in taste as well as for the increased means of gratifying it, for the prevalence of well-designed furniture, for the linens, silks, and cretonnes of such varying and delightful patterns as are obtainable to-day, we are indebted to the professional decorator. He, or quite as often she, has supplied the trained and discriminating taste which, with the coöperation of intelligent manufacturers, has restored to us many lovely old designs in materials for window draperies, and added more new ones.

The tendency, both in kinds of materials and their use, has been toward simplification. Plain curtains of net or fine voile or scrim have replaced elaborate lace for face curtains, and the latter have been relegated to the realm of dentist's office or hairdresser's shop. Much-draped and festooned curtains have fallen into disfavor as well, except for an occasional boudoir where their use seems consistent with a French scheme of decoration.

The proportions of windows, their construction, and the character of the room which they light, should be the three most important factors in determining the style of their drapery. If they are a bad shape, the curtains may be the graceful means of disguising the fact and bringing them back to pleasing proportions. A deep valance across the top will cut down materially a window which is too high, and the breadth of an over-wide one may be reduced by means of side curtains.

Occasionally the structure of a window is such that no amount of curtaining will beautify it, and more radical steps must be taken

to make it sightly. Such a problem was presented in the windows shown in the photograph on page 50 which reveal no hint of their original state. They were in one of the bedrooms of an old-fashioned apartment house in New York, built in the days when height was supposed to be synonymous with grandeur. They extended very nearly to the ceiling line and were surmounted by transoms of red and green and blue glass, covered with grilles. As the apartment house owner was averse to a change in the construction of the windows, the decorator was under the necessity of devising some way to conceal the transoms and lower the windows without rebuilding them. A ready-to-use wall board, painted the same color as the walls, was the

Whittredge & Barrows, decorators

A very good treatment of an arched window, in which the curtains follow the lines of the trim

means of solving the difficulty, and now the transoms blink their red and green eyes behind the board, while the admirers of the window curtains are unaware of their existence.

The curtains themselves deserve more than passing mention, both because of their style, and because of their lovely coloring. This combination of plain and figured materials in curtains, particularly when both materials are used elsewhere in the room, is one which, rightly handled, is very delightful. In this room the curtains are of mulberry colored taffeta, and the valances are of linen with a blue and mulberry design on a cream ground of the same tone as the walls. The colors of the design are emphasized in a blue and mulberry ruche which edges the curtains, and the linen is used again in the tie-backs. Mrs. Lee (who designed the room) says that it is desirable to recall the linen if possible in some piece of furniture used near the windows; in this case it is the *chaise longue*

Mrs. Alexander Van R. Barnewall, decorator

A window draped to admit all the light possible. The undercurtains are of voile, the overcurtains of gauze, and the effect is light and sunny

upholstered in the same material which subtly carries the eye down from the valance to the floor, and unifies the whole treatment.

White muslin face curtains soften the light and give the room a kind of sparkling freshness. "Muslin," however, is only a term, and means anything but the durable fabric for which it originally stood. Lawn, voile, fine net, cheesecloth, swiss, even organdie, may be known as muslin when the word is used to denote this particular sort of a curtain.

If the construction and proportion of the window are good, the curtains should preserve and emphasize structural lines. The treatment suggested in the sketch for an arched window opening shown at the left, is a very good example of emphasis of the architectural treatment of a window, in which the trim is not concealed, and the lines of the windows are adhered to.

The windows in the house of picturesque English character (page 52) are curtained very well, by the use of only one set of curtains inside the reveal against the windows. An attempt to use more than one pair of curtains or curtains and shades on casement windows of this type usually results in a crowded, complicated looking window. Casement windows are almost always comparatively small and as a rule occur in groups, both of which circumstances plead for a simple treatment. Many

Miss Swords, decorator

These taffeta curtains with their shaped valance carry out the feeling of the painted Venetian furniture

curtains, or curtains and shades, create an intricate effect which is very unpleasing. The curtains of these casements serve for shades as well, being drawn at night and pushed back by day. This is a custom which decorators are adopting more and more in connection with every kind of window; shades, which have always been regarded as a necessary evil, are being supplanted wherever possible by an under-curtain of silk or some other opaque material, which serves sometimes in the double capacity of shade and face curtain, and at other times as the only curtain necessary.

Louise Day Putnam Lee, decorator
A boudoir curtained with fine voile face curtains and taffetta overcurtains. The painted cornice and the smocked valance are the noteworthy features of this treatment

The character of the room to be curtained is perhaps the most important influence of the three in determining a suitable style of curtaining, for while a certain amount of disguise of construction as well as of proportion is possible, the uses to which a room is to be put are more or less fixed. The reception room requires a different treatment from that accorded the living room, and the bedrooms need to be curtained unlike the sun porch.

Generally speaking, long curtains possess a certain amount of formality and dignity, short ones a correspondingly opposite air of informality. Chintzes and cretonnes are apt to introduce into a room a less conventional atmosphere than silks and velvets. One would, therefore, use long curtains in a drawing room or any formal room, of such materials as taffetas, brocades, or the more dignified of the patterned linens; and for living rooms or bedrooms, for which a more homelike spirit is desirable, short draperies chosen from a wider variety of materials. Of course all general rules are subject to exceptions, and however informal one might wish a room to be, the windows could conceivably be of the high, stately variety, which would look as absurd in short curtains as a white haired old lady in skirts above her ankles. On the other hand, the folly of draping with long curtains such windows as the casements in Miss Siedler's breakfast room is apparent; they would be out of keeping with the cottage type of furniture, the braided rug, and the unpretentious charm of the room.

As a contrast to this style of curtaining, the long taffeta hangings with their shaped valances which are illustrated in the bedroom

Julia F. Siedler, decorator
Well curtained casement windows. The use of both shades and curtains, or of more than one pair of curtains, on such windows produces a too complicated effect

Hettie Rhoda Meade, decorator
A good example of two windows treated as one. The striped shade and the English block print linen side curtains give a gay effect which is pleasing

on page 51, suit admirably the general character of this room. The decorator has caught the spirit of the seventeenth century Venetian furniture and carried it out in the curtains. Incidentally these draperies illustrate another point well worth emphasizing, namely, the desirability of balancing plain and figured surfaces in a room. With the painted furniture, a patterned curtain or wall surface would have resulted in confusion and restlessness. As the room stands, the decoration of furniture and ornaments is offset by the plain background, with very interesting results.

Miss Swords, decorator

A reception room whose dignified simplicity illustrates the desirability of balancing plain and figured surfaces in a room. The curtains are of old English glazed chintz

The same idea is illustrated in the room shown in the upper picture on page 53, where an old English glazed chintz has been used to curtain in a dignified manner a reception room. It is easy to imagine the complicated effect of a figured wall paper with this chintz, and to appreciate, by contrast, the restful simplicity of the existing treatment.

The effectiveness of simple curtaining is nowhere better illustrated than in the boudoir shown at the top of page 52. The style is plain almost to severity, but the painted cornice at the tops of the windows and the smocked valances take the edge off its austerity and make the curtains altogether delightful. It is often such details as these, little dressmaker's tricks like ruchings, pipings, and bindings, which give curtains their charm and make them *chic* and desirable. Old fashioned rick-rack braid, dyed to match overcurtains or some color in the room, edging white muslin, can be a pleasing touch; and ball fringe similarly used, or brightly colored muslin as a binding on the hem, helps to emphasize an important color and at the same time give the windows snap and sparkle.

Trimmings of any sort are useless, of course, if the curtains are poorly made, for nowhere else about the house does good workmanship count for so much as in the curtains; they are almost the first things we notice upon entering a room, and if they hang badly or are made in a careless manner, the room is immediately stamped on our minds as being shoddy. On the other hand if the windows are well tailored, so to speak, mistakes in furniture are forgivable.

Some materials will not hang well unless they are lined or weighted at the bottom. Linings are used for two purposes, to give sufficient body to materials which are too thin to drape well alone, or to cut off the light from those fabrics through which it shines unpleasantly. In the former class are lightweight silks, chintzes, and linens, particularly when they are used for long curtains. An example of the latter is the figured linens. These may be used successfully unlined where they go over the trim or where the light does not shine through them, but their effect in front of a window is poor.

Pongees, china silk, and casement cloth—which is a silk and wool material—diffuse the light very pleasantly, and for this reason all three make good casement curtains. Pongee is shown used in this way in the photograph of a group of casement windows. On the upper sash the curtains are kept drawn and so act as shades, and the amount of light desired may be regulated by pulling the lower curtains back or forward. The side curtains in this room, which form a boundary to the group of windows and tie them together, are of brocade in a dull blue.

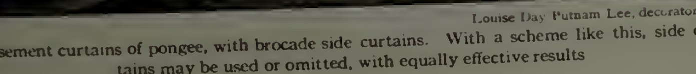
A window curtained so as to admit a maximum of light is the double window on page 51. Fine voile face curtains, with overcurtains of gauze, offer little obstruction to the light and at the same time clothe the window pleasingly.

Decorative shades are useful where light is at a premium, or where for any other reason it is desirable to curtain windows scantily. These shades, made of flowered or striped chintz, are sometimes cut straight across the bottom and sometimes shaped like a valance. They may or may not be used with other curtains, and if they are used alone they have sufficient decorative value in themselves.

In the dining room window shown at the lower right on page 52, striped chintz with a scalloped, ribbon-bound edge forms the shade, and an old English block print linen the overcurtain. This photograph also furnishes a good example of two windows treated as one.

A window which needs no curtaining at all is the English oriel of the living room at Great Dixter. Knowing when not to drape a window is sometimes as important as knowing what materials to use when it demands curtaining. Finely leaded glass such as that illustrated, especially if it be used in groups of small windows, diffuses the light sufficiently through its bars to make the services of curtains unnecessary, and such a group of windows certainly needs no ornamental treatment.

Louise Day Putnam Lee, decorator



Casement curtains of pongee, with brocade side curtains. With a scheme like this, side curtains may be used or omitted, with equally effective results

English oriel window in the living room at Great Dixter. Finely leaded glass such as this, especially if used in groups of small windows, renders curtains unnecessary

FROM A COUNTRY WINDOW

GOING BACK HOME

OLD HOME WEEK this year—not the public gathering of the clans of a community, but the quiet home-coming of the individual—must have taken on for many the nature of a ceremonial, a requickening of the perceptions against the time when trench life shall rob the world of sparkle and beauty. To us the visit back home is always a little tinged with sadness, for it is inextricably linked with the joyous adventures of a small boy who bore our name and who must have had a certain family resemblance to us, but whose most tangible bequest has been a store of happy recollections. Ordinarily, of course, we thrust the barefoot adventures of this miniature of ourselves into the background of our memory where they belong, but on each reacquaintance with the trees, rocks, and roofs on which he climbed there is no denying them. Can we look at the church roof with its sheer drop of forty feet from the eaves, and fail to recall with longing the days on which we eluded paternal vigilance and played tag on its steep incline? Or can we envisage the sleek, tanned bodies of half a dozen youngsters sprawled on the bank of a miry cow pond without sorrowfully wishing that our capacity for enjoyment were as expansive or our tastes as elementary as they once were?

But there is much more to the visit home than a heterogeneous assortment of wistful memories. Although enduringly reminiscent of the past, the house with its setting is as unchanging as youth itself, the accumulation of years seeming only to endow it with an atmosphere of sempiternity. The June days shine with accustomed brightness, the west wind blows with its old vigor, and the bobolinks fling out their cascade of song with all the joyous abandon of two decades—and, we suppose, two centuries—ago. Down the road a bit is the ruminative calf which always stands tethered before a certain farmhouse. Reason tells us that it can't be the three-months calf that first we glimpsed years and years ago, and have since seen with a regularity as unfailing as the summer itself, munching the same grass or calling discontentedly for the same mother, the identical white spot at the end of its tail, the self-same rope round its sable neck. If, perchance, the calf has not drunk from the fountain of youth, it is insignificant in itself, yet somehow it seems to typify the changelessness of the old home town.

It is a peaceful reminder that though war may rage, life and character change, and serenity be banished from our immediate world, there is always the happy recompense of "back home," nestling in its circlet of the hills, calm in its contemplation of the past, undisturbed by the welter of the present, and so enheartening in its augury for the future.

ON ORCHARD WORSHIP

IT HAS SOMETIMES SEEMED to me that the old Greeks, with all their lightness of fancy, their readiness to believe, their fineness of artistic perception, their intellectual versatility, just missed the finest thing of all. The Greek could worship the sea, he could build wonderful temples in mysterious glades, he could see naiads in waterfalls, he could follow the wild bee over the fields. But the Greek never knew the real meaning of a garden. He admired flowers, to be sure; the hyacinth held for him the soul of a youth. And he could place outdoor statues and marble seats effectively, and arrange wondrous parks. But that is not gardening. What Greek ever knew the joy of messing about with tulip bulbs? What Greek ever transplanted a hollyhock with a yard-long tap-root?

The Greek could appreciate art, but the idea of comfortable, old-fashioned, homelike, quiet things he somehow missed. He worshipped his Olympians in a shadowy cypress grove, where the breeze spoke in awesome whispers. I worship in an apple orchard behind my barn, where my cow Matilda and my heifer Nancy graze placidly.

My orchard is not a temple of thundering gods to be propitiated, but rather the chapel of the domestic Lares and Penates of barn and byre. The gods of the orchard are, in a way, less pagan than those of the grove. Orchard worship is not that of frenzied priestess and oracle, but rather like that of some little, white-spired village church, with wild flowers on the pulpit steps and white-frocked little girls in the pews. The peace of a New England Sabbath reigns in my orchard.

In this not ignoble edifice I arrive as near as a man well can at the fundamental idea of eternity and divinity in the world. My preacher is the gnarled old Greening by the bar-way. My choristers are the birds—orioles and robins, ovenbirds and chipping sparrows, warblers and redstarts, bluebirds and red-winged blackbirds, song sparrows and meadow larks, kingbirds and woodpeckers, the sleek, bilingual catbird, and even the gorgeous tanager.

No Greek ever knew so tranquil a spot as my orchard. His instinct was for the awful, the sublime; mine is for the sweet and gentle. For as I grow older, and the fires of youth burn slower, I find myself moved less by Niagaras and Sierras and more by the perfect harmony of a bluebird on a blossoming apple bough. God speaks no more potently through the whirlwind and the fire than through the still, small voice of the summer zephyr in my orchard trees.

ON FADING VISIONS

I HAVE BEEN dimly conscious of late of a suspicion which I hope is baseless. It is that country life, the back-to-the-land movement, is becoming just a little of an old story with us. Ten or fifteen years ago, it seems to me, I used to encounter hotter enthusiasm for it. Perhaps it is because the thing has lost its novelty for us. Perhaps it is because we Anglo-Saxons are prone to become ashamed of our enthusiasms.

Or perhaps I have been misled entirely. I hope so, for one contemplates fading visions and cooling ardor with something akin to terror. It means that a quality of youth has gone out of us. It means that the glory of Greece is gone, that Pan is dead, that the world and we are growing old.

Shall we, then, take it all for granted, this country life over which we waxed so enthusiastic and about which we talked so volubly but a little time since? Shall we think placidly of our poultry houses and our hardy borders, as we do of our city elevators and our filing cabinets? Shall we rave no more over great box trees in old dooryards? Shall we feel no more the thrill of joy at the sight of a perfect gambrel roof beneath a perfect elm? Shall we forget our early zeal in morning gardening, our love for sprouting corn, our yearning for shy orchids, our belief in fauns and fairies?

> "I'd rather be
> A Pagan suckled in a creed outworn;
> So might I, standing on this pleasant lea,
> Have glimpses that would make me less forlorn;
> Have sight of Proteus rising from the sea;
> Or hear old Triton blow his wreathèd horn."

Let me be optimistic. Let me believe that this apparent lowering of the country life mercury is not real, or is merely the result of temporary conditions. For my own part I will nurse my rural enthusiasms, let the world think and do what it will. My gods of field and wood shall remain authentic to me. Be as cold and supercilious as you like, my old stone walls shall continue to gladden my eye and I shall continue to get excited over the first upthrusting asparagus shoot. The world may grow old, if it will, but as for my garden and me, we will renew our youth with the coming of each sweet-breathed spring.

AN OMAR SCREEN

COUNTRY HOUSE DECORATIONS

By

Arthur Crisp

SILK BATIK HANGING EXECUTED BY L. N. SOMMER

THE STOLEN PRINCESS

THREE DECORATIONS CALLED "SUMMERTIME," IN THE HOUSE OF MR. SEWARD PROSSER

"THE LAND OF CONTENTMENT"—OVERMANTEL IN THE HOUSE OF MR. GEORGE H. BROWN

THE GOLDEN GALLEON

ROMANCE

TWO OVERMANTELS

PHILOSOPHY—A LIBRARY DECORATION

Perspective showing the house from the end opposite to that appearing in the photograph immediately below it. This drawing was made while the property was under consideration but not yet purchased, to determine whether the outlooks desired for the various rooms were practicable in connection with the plot

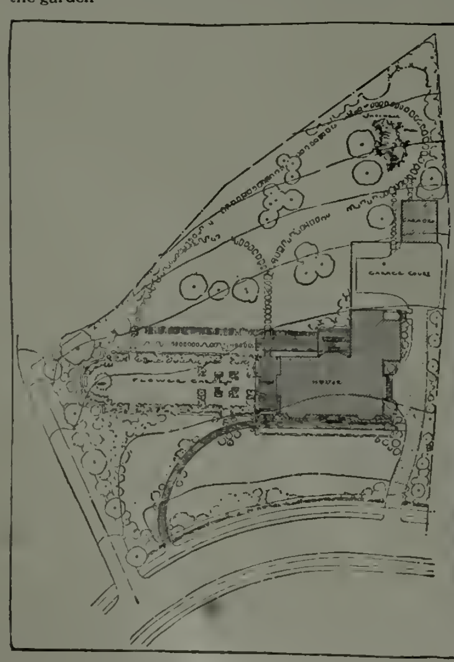
PLANNING *before* BUYING

The Hopkins House Ardmore, Pa.

Solving the problems of an irregular plot before taking title

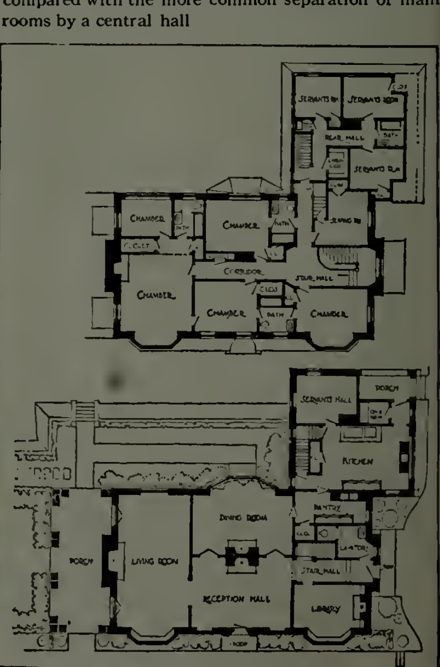
FRANK SEEBURGER and CHARLES F. RABENOLD, Associate Architects

Plot plan which Mr. Hopkins also had made before he purchased, in order that he might see just what he could hope to do with the irregular piece of ground. It comprises only an acre, but is so laid out that it gives the impression of a much larger estate. Note the long path leading from the porch back through the lawn, winding in among the trees, and returning to the garden



While the house is unmistakably of the Germantown Colonial type, it displays a free hand in the treatment of the main cornice and in the generous use of bay windows, which give it an effect of breadth and comfortable proportions

The location of the automobile drive (see plot plan) and the owner's requirement that there should be an adequate entrance from it, determined the arrangement of the rooms to a large extent. The lateral placing of the main stairs made possible the continuity of main rooms, which gives greater facility for entertaining, as compared with the more common separation of main rooms by a central hall



Four of them on point. Pointers owned by Mr. H. F. Fellows

THE RISE *of the* POINTER

By WALTER A. DYER

HE June and July issues of COUNTRY LIFE contained a brace of articles on the setters, and it seems fitting that these should be followed by a consideration of the pointer, thus rounding out the general subject of what are commonly known as bird dogs.

It is a wonderful story of canine development, that of the pointer. Once he was a big-limbed, broad-jointed, heavily muscled, big-skulled, slow, and often sour-tempered animal of variable color and instinct, difficult to train as a gun dog; but time, patience, brains, and money were combined to produce a clean-limbed, active, swift, reliable, sweet-tempered, finely colored dog of remarkable intelligence and a highly specialized instinct. In some respects the pointer is the last word in canine evolution.

Personally, it has never been my good fortune to fall in love with a pointer. Not being an enthusiastic gunner, I have never had occasion to use one. But I cannot see how any dog lover can fail to be filled with admiration at the sight of a pointer at work in the field. The lithe grace of him, the smoothness of his movements, the wonderful coordination of sense and brain and muscle are a joy to behold and, to me, a constant marvel. Perfectly attuned to his natural environment, his physical beauty, the keenness of his senses, and his unerring sagacity suggest one of Cooper's idealized Indians.

My own preference is for the setter, and the Irish setter at that, but honesty of judgment and strict impartiality must accord the palm to the pointer.

I have before me notes taken from no less than six different authorities on dogs, and I find in them a considerable difference of opinion as to the pointer's origin. He undoubtedly strains back to hound blood in the beginning, and it has been surmised that the pointer breed, which became distributed over western Europe before the days of reliable records, may have had its origin in Italy. At any rate, there were so-called partridge dogs there as early as the thirteenth century, which were related to the later French and Spanish pointers. In general it may be said that the pointer was a short-coated dog possessing certain hound-like characteristics, that searched for game by scent, and that was trained to assume a pointing attitude on finding, and to repress his bark.

As to the English pointer, which is the breed we know, it is the common theory that it was developed from the Spanish pointer which was introduced into England as early as 1700, possibly by British officers returning from Spain. The Spanish pointer was a big, heavy dog, with large ears, large feet, and an ill-formed body, slow and bad-tempered, but gifted with a keen scent. This was about the time when firearms were beginning to be used for fowling purposes, and there were English sportsmen who thought that the Spanish pointer was better suited to this purpose than the old setting spaniel. According to this theory, the English pointer was developed from the Spanish pointer by selection and the infusion of foxhound blood.

William Youatt, writing in the first half of the last century, stated that the pointer was descended from the hound, with possibly some spaniel blood added. The origin was obscure, he said, but not remote. It was a dog found to be of good scenting powers that was taught to point like a setter.

I am inclined to think that James Watson came nearer to the truth. At least, he appears to have made a more exhaustive investigation of original sources of information. In his opinion the pointer was developed independently in England before the introduction of the Spanish pointer, from a dog of unknown qualities, just as the setter was developed from the spaniel. This parent dog, according to Watson, was from the same stock as the Spanish pointer—a stock distributed over western Europe and developed simultaneously into the pointers of Spain, France, Germany, Italy, and England—so that the English pointer is not the descendant but the first cousin of the Spanish pointer.

This progenitor, according to this authority, was a finding dog of the hound type that was used first in conjunction with coursing dogs in hunting hares and was later trained to the gun. It became, in short, a pointing hound. But before we got anything like our modern pointer, it is probable that Spanish pointer, foxhound, and setter crosses were all employed. Foxhound blood is known to have been added about 1750 to secure greater speed. By 1800 more foxhound blood had been employed and the appearance and characteristics of the breed had been considerably altered. During these years the pointers were mostly white, or white with liver-colored spots, though there was one strain, belonging to the Duke of Kingston, that was perfectly black.

Up to about 1810 there was no established type, bird finding ability being the only criterion. No single fancier, like Mr. Laverack with the setters, took up the breed in a scientific manner, and no good historical record of development was kept as was the case with the setters. It is known, however, that English noblemen and sporting gentlemen between 1810 and 1860 kept kennels of pointers, breeding them more or less along color lines, and gradually bringing the pointer up to something like a standard type.

Pictures of pointers of about 1840-50 show dogs of fairly good type. The pointer was then noted for pace, stamina, resolution, nerve, and bird sense, though he was probably not so fast as the pointer of to-day. Much experimental crossing was indulged in, but there were some sportsmen who stuck to line breeding, and the pointer's evolution progressed steadily if somewhat slowly. In England there were some prominent breeders whose kennels became famous after the middle of the century. In America, however, there were but few pointers used as early as that. As in the case of the setters, there were so-called natives here, differing in various localities, and bred to no common standard. Then came the entry of the pointer in the field-trial game in England, and a marked improvement in type followed.

It was about 1875 that we began to get good pointers over here. The Westminster Kennel Club, started largely as a pointer club, imported the famous Sensation. Even better ones followed, and some good natives were produced. In the early '70's Price's Bang, the ancestor of many later crack dogs, was all the rage in England. The first of his family to be brought to this country was Bow, in 1878, followed shortly by Croxteth and, in 1881, by Bang Bang.

Setters were then the more popular shooting dogs here, but the pointer gained steadily with the sportsmen and fanciers. In 1879 and 1881 the St. Louis Kennel Club imported several and boomed the breed mightily. Mr. A. H. Moore of Philadelphia and others became ardent and helpful converts.

By 1884 the pointer's place was secure and his popularity grew rapidly for shooting, field trials, and the bench. From that time on the names of famous dogs became numerous. Several different strains gained ascendency in turn, the Jingo and Rip-Rap families becoming perhaps the most famous at the field trials.

The later history of the pointer in this country, indeed, has been rather that of families than of types, and wonderful dogs have figured at the trials and on the bench. To-day there are probably better pointers in America than in England.

The history of the American field trials tells the story of the rise of the pointer. At first the setters had it mostly their own way. Then the pointers began to figure more and more prominently in the winnings, until at last the two breeds were fighting neck and neck for supremacy, with the pointer having a little the best

Fishel's Frank, Mr. U. R. Fishel's famous pointer

Mr. William Ziegler, Jr's. Mary Montrose, who won four derbies in 1916-17, and the 1917. All National field-trial championship, besides taking first in four different classes, and first winners at the 1917 New York Show

of it during recent years. There is something solid, persistent, and efficient in the pointer breed, as well as fast, sure, and enduring, that makes him a difficult opponent for the most brilliant setter. The field trial has proved to be a contest to which he is peculiarly well suited, and the field trial has been a great factor in his development. The names of famous field-trial winners are on the lips of every pointer fan, and they have been great dogs in every respect, in character and beauty as well as in specialized achievement. There was Hard Cash and the famous McMurdo strain, and later Manitoba Rap and Fishel's Frank snatched the laurels from the setter's brow.

To-day our field-trial winners include as fine pointers as were ever sired. At present three sons of Fishel's Frank are in the limelight—Comanche Frank, the many times winner, John Proctor, and the latest star, the liver-and-white Lewis C. Morris.

As an indication of the present rivalry between the setters and the pointers, the record of the past season's field trials is interesting. At the United States Trials at Grand Junction, a lemon-and-white setter, Joe Muncie, made glad the hearts of the setter fans by winning first place, with Lewis C. Morris second, and Security, another pointer, third. Setters also won the derby, Kirk's Buss, a white and orange, being first and Naponechee second. At the National, at Calhoun, Ala., Lewis C. Morris won, with Gibraltar, a white-and-orange setter, second, and John Proctor third. At the All-American at Denbigh, N. D., Lewis C. Morris was first, Frank's Den, pointer, second, and Candy Kid, a tri-color setter, third. In the special championship stakes at the same place two setters won, Candy Kid and Joe Muncie. In the New York and Pennsylvania trials the setters had the best of it, so that this past year the pointer was certainly given a run for his money, but on the whole the pointer is still a bit in the lead. It is a fascinating game, and this rivalry between pointer and setter is not the least exciting part of it.

In the case of the setter, the complaint is often made that two types have been developed, and that the bench-show champion is of little use in the field, while the field trial winner would cut a sorry figure on the bench. However true this may be of the setters, it cannot justly be said of the pointers if the case of Mary Montrose is any criterion. Last February she won the blue at Madison Square Garden, after having won the cup given for the All-National championship at Tulsa, Okla., beside four victories at derbies. Form and performance in the pointer, it seems, may go hand in hand.

Parenthetically, let me say that all that the average person could possibly care to know about the pointer is to be found in "The Pointer and His Predecessors" (London, 1906), by William Arkwright, himself a breeder and owner of winning pointers.

In the setter family we find at least three distinct varieties, and two more or less distinct types among the English setters alone; there is but one variety of pointer, and only one type. The only division attempted is that of size and weight. Dogs weighing more than fifty-five pounds and bitches more than fifty pounds are usually placed in one class, and those weighing less in another. For big pointers the usual weight is about sixty pounds for dogs and fifty-six for bitches. Among the smaller ones there have been good ones weighing less than fifty-four and forty-eight pounds respectively. Size, indeed, is not considered of primary importance, other things being equal. A big pointer dog stands 24 or 25 inches at the shoulder. Ch. Bang and Young Bang were 24½ inches high, while the bitch Price's Belle was 24 inches.

Copyright by Edwin Levick

Mary Montrose and her brother, Royal Flush, ready to start in the Field Trials. Bob Armstrong, handler

The pointer's skull should be wide between the ears and long and slanting from the top to the setting of the nose. The head should be of good size, but neither snipy nor too heavy. There should be a decided stop at the brow; cheek bones prominent; occipital protuberance well developed.

Nose long and broad, with widely dilated nostrils. Mouth large, jaw not undershot, teeth meeting evenly. The ears are not like those of the hound, but are of moderate size, soft and thin, set low and lying close to the head. Eyes soft and of medium size; brown in color, varying in shade with that of the coat. Lips well developed but not pendulous.

The neck should be gracefully arched toward the head, long and round, with no suggestion of dew-lap or throatiness. The chest should be deep but not too broad, the shoulders sloping and strong but not loaded. The ribs should be well sprung, giving depth of girth. Loin, slightly arched and muscular. Hips wide, quarters slightly drooping and full of muscle. Haunches long, stifles strong, well bent, and carried wide. The second thigh is very muscular, the hocks strong and straight and not turned in or out, the shank below the hock short.

Good limbs and carriage are very important. The legs and feet should be much like those of the foxhound. The fore legs should be clean, straight, thin-skinned, and big-boned, with large knees and cat-like feet. The elbows should be well down, carried close to the body, and turned neither in nor out; the pastern should be short. These things are not arbitrary notions of the standard makers; by simple laws of mechanics they give the pointer speed and endurance, and that wonderful grace which goes with them. The tail is strong at the root, tapering, and slightly curved, but not hound-like nor with a curl at the tip.

Good proportion and symmetry, well developed muscles, and elastic action are essential characteristics. Big feet, straight shoulders, and light bone are common defects.

The pointer's coat is short and soft, but not silky. A variety of colors are acceptable—liver and white, lemon and white, black and white, and other combinations in different markings. There have been pure black pointers and some brick red and white. Many are ticked and speckled. In England there are kennels that have made a specialty of family colorings, but in this country we have let the matter of color largely take care of itself. A white dog, clear or ticked, with light or dark liver markings evenly distributed, is perhaps the most favored here, though a good lemon and white is always admired.

Such are the physical characteristics of the dog that has been so highly developed from the second-rate animal of a hundred years ago. Its field qualities have also steadily improved, until now, as I have said, the pointer is the setter's keen rival for the sportsman's preference.

It is no easy matter to compare the two breeds. Their differences are often rather subtle than obvious. Seventy years ago Youatt attempted such a comparison, and some of the conclusions he reached would hold to-day. The setter, he said, was more active than the pointer, possessed greater strength and spirit, and stood continued hard work better. He took to water more readily, his long coat was often a protection, he was more companionable and affectionate. The pointer, on the other hand, was credited with a better nose and a more patient courage. He was better in hot weather, not as nervous, more steady and obedient.

William A. Porter, a contemporary of Youatt, considered the setter superior because he was hardier and swifter on rough going, with harder, better feet, and able to stand more work than the pointer. He admitted, however, that the pointer could be more easily broken and brought to a higher perfection of working ability. The setter was sometimes too impetuous, the pointer too deliberate. The pointer he described as rather indifferent to human companionship.

Those who know the pointer well will agree that he must have changed for the better during the last half century, if these estimates are well grounded. And indeed he has, though Youatt and Porter placed shrewd fingers on well known weaknesses. Vero Shaw, a somewhat later critic, considered the setter the better dog for stormy weather and broken ground, such as he encountered in Scotland. The pointer, he said, stiffened and chilled sooner than the setter, but the setter wearied sooner from the effects of heat and thirst. The pointer was more easily broken and possessed the longer, surer memory for place and nose. Shaw found little choice between the two breeds.

In this country to-day each breed has its ardent advocates. The pointer is perhaps a bit more popular in the open prairie land and wheat stubble of the Middle West, and the English setter elsewhere. I think it is safe to say that the setter is the better companion and watch dog of the two, while as a sporting dog the pointer is easier for the amateur handler to manage. As to their comparative merits in the field, the almost even records of the trials are sufficient evidence of their equality. And perhaps it is safe to say that more careful breeding is being done with the pointers than with the setters.

But let the modern American sportsman and fancier speak for himself, the man who has bred and shot over pointers, and setters too, long enough to know something about them.

William Ziegler, Jr., owner of the winning Mary Montrose, writes: "My own personal bent has always been toward pointers, probably because I started with them and they have proved more successful in the trials and as shooting dogs in my own experience. The pointer is at the present time at the crest of the wave and is doing as much winning as the setter did five or ten years ago. This is largely due to the fact that there are several wonderful sires who have gotten real results in their progeny before the public to-day. I cannot say this of the setter, which has been inbred to such an extent that it has lost immeasurably in size and staying power. This is not said with any idea of reflecting on the setter, for I would be as happy to own a good setter as a good pointer. The records of the past season show that the pointer has been placed fully two to one over the setter, and in many instances all the dogs placed were pointers. I can think of no trial of 1916 in which this can be said of the setter. The great winning ability of the offspring of Comanche Frank, Fishel's Frank, and Manitoba Rap stands out in my mind as a further argument for the pointer. Many of the field trial pointers are able to make good on the bench, this cannot be said to any extent of the field trial setter. It is true that the setter is of a more docile and affectionate disposition, which goes a long way toward making him a better companion, but, from the standpoint of efficiency, give me the pointer every time."

From Mr. H. F. Fellows, owner of Frank's Den and other good dogs: "My reason for being partial toward the pointer is that as a rule a bird dog can be used for shooting only thirty to sixty days during the year, and the balance of the time he is to be used as a companion. The short-haired dog is much preferable as a house dog as he gathers less dirt and is easier to keep free from fleas than is a setter, and it takes less care and attention to have him look his best under all conditions. The appearance of the setter must be ruined in the hunting season, for when he comes in contact with burrs, his hair has to be trimmed in order to get satisfactory results from his work. I do not claim that the pointer is superior in any bird sense, nor has more endurance than the matured setter, but it is my experience that he is much more easily developed to maturity than the setter and is not so susceptible to distemper and other dog diseases."

From Mr. O. A. Kline of Yuma, Colo.: "I have raised and hunted both pointers and setters. In this section of the country the pointer is far ahead of the setter, as our hunting is all for prairie chicken, which are hunted in the heat of the day. A good pointer will wear a setter out in a little while under these conditions, and I find that the pointer has the better scenting power, is more easily handled, and is a better ranger than the setter, and is not nearly so nervous on point. As a companion and house dog the pointer is the setter's equal. He is cleaner, and when shedding does not leave mats of long hair about."

Mr. U. R. Fishel, breeder and owner of one of the most celebrated strains in the country, writes: "The pointers have fully convinced the lovers of bird dogs that more of them are natural born bird dogs than of the setters. My Ch. Comanche Frank, I believe, has sired more real bird dogs than any other dog that ever lived. He is the only dog, setter or pointer, that has ever sired a dog that could win a national championship in the derby year."

Says Judge Robert C. Cornell of New York, well known as a sportsman and a follower of the field-trial game: "Personally I prefer the pointer for all-around work, though I have as many English setters as pointers, and I admire and appreciate both varieties. I have always been fond of the pointer breed and for years was the honorary secretary of the Westminster Kennel Club when we owned such good dogs as Sensation, Bang Bang, Haso of Kippen, and King of Kent. I have never been without dogs of this breeding. My shooting is chiefly in North Carolina, and there pointers are thoroughly satisfactory as shooting dogs. They work as well in cold weather as in hot, in thickets and in the open, on rough ground and on smooth.

"In short, they are cheerful and plucky and great stayers. The pointer has a characteristic trait in being a one-man dog. He is indifferent to the caresses of the stranger, but I do not believe that there is one of them that would not lay down his life for his master."

Some discrepancies appear in the foregoing opinions, but the discerning reader will be able to gather from them a fairly clear idea of the pointer's excellences. So far as physical features go, it must be admitted that his short coat is in his favor if he is to be kept as a companion and house dog for even a part of the year. But as to a final decision in regard to the superiority of setter or pointer, that must be left to some impartial judge of wide experience, and impartial judges, in view of our natural enthusiasms, are rarely found in dogdom. But if it were officially decided which is the better dog, would such decision convince anyone besides the officiating judges?

Lewis C. Morris, Mr. Haggin's winning pointer, from a painting by Edmund Osthaus

Comanche Frank, another of Mr. Fishel's good dogs

Judge Cornell's best shooting dog, Don

John Proctor, famous son of a famous sire (Fishel's Frank)

Coming candidates for the limelight—pointer puppies bred by Mr. O. A. Kline

From the house one looks out over the beautiful terraced rose garden to the waters of Lake Champlain beyond. The stairway at the left leads down to the grassy promenade high above the lake shore

Brick walls, broad and low and with a flat stone coping, form a line of demarcation between the different parts of the garden. Beds of delphiniums and coreopsis make gay masses of color

SHELBURNE FARMS, SHELBURNE, VT.

on Lake Champlain

The GARDEN *of* MRS. W. SEWARD WEBB

Photographs from Isabelle H. Hardie

A peony bed in full bloom, with a glimpse of Lake Champlain in the background

The rose garden with its beds of fragrant blossoms is the glory of the place

The wooded point overlooking Lake Champlain, which borders the estate for miles

Fig. 1. The low back Fig. 2. The comb-back Fig. 3. The hoop back Fig. 4. New England arm chair Fig. 5. The fan-back Fig. 6. The loop-back

AMERICAN WINDSOR CHAIRS

By J. B. KERFOOT*

FOR the purposes of this article, all men are divided into two classes: those who love Windsors and those who don't. Let us begin by excusing ourselves to the latter (with apologies and a polite bow) and go on to note that, in my experience at least, there is one remark which, more often than any other, can be counted on from members of the Windsor-loving class when any particular specimen is under discussion. It is the exclamation, "Why, I never noticed that!"

I once knew an old lady who had a pet pug. It had cabriole legs, a broken-arch tail, the front elevation of a Dutch lowboy, and a face like a rear end collision. It had been her intimate companion for years, and she loved it. One day the cook left the area door open and the pug walked out and disappeared. Advertisements were put in the paper. Rewards were offered. Visits were paid to the pound. For a month the whole family was excited and helpful. And then the matter dropped. That is to say, every one dropped it except the old lady. She never abandoned the search. Only—since she had never "noticed that"—her efforts were curiously handicapped. She *knew a dog when she saw one*, but beyond that she couldn't be sure. So she applied the only test at hand. When she met a dog, she stopped, stretched out an ingratiating hand, and called it "Tommy." If it answered, it would be her lost pug. If it didn't, it wouldn't. And for years, she continued to stop Great Danes, dachshunds, fox terriers, cocker spaniels, and chows, and to say "Here Tommy!" to them, adding "It's not he," when they passed on. The dogs were very nice about it on the whole. Some of them rather got to know her. One magnificent white collie who lived in her neighborhood always wagged his tail courteously when she spoke to him. And I believe that she suspected his identity to the day of her death.

I often think of her when I meet Windsor lovers.

There is nothing that is more likely to be exclaimed over and pointed out, say by one's companions on an automobile ride, than a Windsor on a farmhouse porch. No owner of a specimen can have failed to notice how many visitors will put a hand on the back of it as they pass and say "Oh, you have a Windsor!"—very much as they pat a dog's head and say "Nice doggie!" There seem to be thousands of people who know a Windsor as far as they can see one, by whom no one of those other quadrupeds that we call chairs are ever mistaken for them. High-backs, low-backs, fan-backs, comb-backs, brace-backs, hoop-backs, clumsy English types, graceful American, generous New Jersey, prim New England—all are instantly recognized as belonging to the genus Windsor. But though hundreds of these recognizers and exclaimers turn out, on being questioned, to be the owners of a pet Windsor or two themselves, which they esteem as among their dearest possessions, one suspects that should some discriminating burglar deprive them of their treasure, they would be even worse off than the old lady who lost her pug. For not only do all Windsors look alike to them, but a strayed Windsor can not answer to its name.

And the existing literature of the subject is almost as bad. The available books of reference are only a few degrees more perceptive. There is not one of them that has any suggestion to make as to the possible origin of the type, beyond quoting the legend of George II's finding a crude specimen in a peasant's hut. Let us see if we can not, by means of some grouped illustrations and a few well-chosen close-ups, combined with verbal comment, bring a little tentative order out of this chaos.

We shall find that the Windsor is almost certainly descended from a type of chair that immediately preceded it in popular favor both in England and America; that the American models probably owe much less to direct English influence than is supposed; and that once we familiarize ourselves with six types of back (Figures 1 to 6) and with four types of seat (Figures 7 to 10) we have a key for analyzing and identifying any existing specimen of American Windsor.

Of course the King George legend, at best, accounts for nothing but the origin of the present name. The tacit assumption that the Windsor in all its variations derives from the peasant's chair that the King ordered copied for the palace and thus established as a "Windsor," not only gives us no clue to the character of this parent chair, but ignores the likelihood that this chair was itself an example or modification of an already existing chair type. Let us dismiss this legend from our minds, then, and turn to the chairs themselves for information.

At the end of the seventeenth century—twenty-five years or so before the beginning of the Windsor vogue in England—a chair called the roundabout became popular. It was what is known as a corner chair (see Figure 11); that is to say, it was built to stand in a corner instead of against the wall; and its seat was so placed with reference to its back that one sat in it with one of its legs between his knees. Its back consisted of a more or less semicircular wooden rail, supported by the continuation of three of the chair's legs, this rail being built in three pieces: a raised central portion shaped from a solid piece, and two flat, curved arms, sawed out of plank and then mortised into the other, as shown in Figure 25. Originally this chair's legs, as well as the continuations of them that acted as back supports, were lathe-finished in ornamental designs; and the legs were braced with rungs (some plain and some ornamentally turned) placed between each pair of legs all the way round (see Figure 11). Later specimens of the roundabout show splats added as ornamental back supports, and a four-pointed stretcher of peculiar design substituted for the rungs (see Figure 12). Other specimens show an extension, or head rest, added to the low back (see Figure 14). And while these more ornate roundabouts affected cabriole legs with ball-and-claw and other feet, they uniformly preserved the lathe-turned arm supports of the earlier type (see Figures 11, 12, and 14). This roundabout chair, with its typical and peculiar back, I believe to be the direct ancestor of the whole Windsor tribe.

Examine, if you please, Figures 15, 16, and 17. In Figure 15 we see a chair that, at first glance, appears to be a roundabout, but when you look at the placing of its legs, you see that it has changed from a corner chair into one of the ordinary, front-facing variety. Now look at Figure 16. This is an entirely typical specimen of the

Fig. 7. The low-back seat Fig. 8. The hoop-back seat Fig. 9. The New Jersey fan-back seat Fig. 10. The New England seat

*The photographs illustrating this article are by the author, from specimens in his own collection and that of Annie B. Hunter.

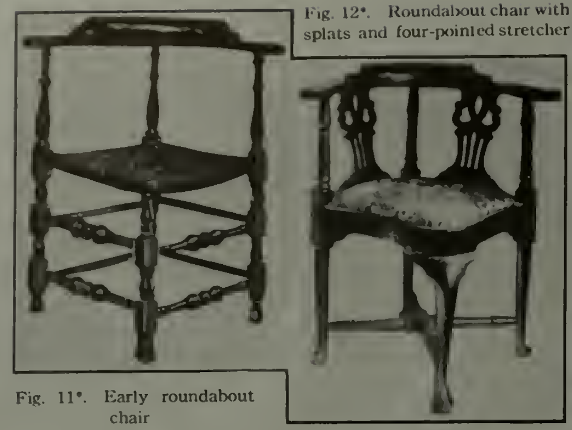


Fig. 11*. Early roundabout chair

Fig. 12*. Roundabout chair with splats and four-pointed stretcher

Fig. 13. Writing chair of the late low-back period

Fig. 14*. Roundabout chair with head rest

Fig. 15.* An ordinary chair of roundabout construction

Fig. 16. Typical American low-back Windsor. Note family resemblance

Fig. 17.* Early American comb-back with roundabout tendencies

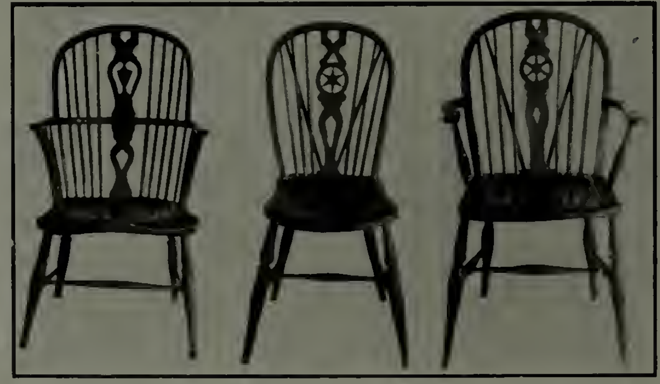
Fig. 18. Early English Windsor with round back rail

Fig. 19. English Windsor with bent wood rail

American low-back Windsor. There is no escaping the family resemblance. And Figure 17 (a very early American chair described and illustrated by I. W. Lyon in his pioneer volume on "The Colonial Furniture of New England") is worth studying as a missing link between the roundabout, the American low-back derivative from it, and the ultimate American comb-back. Note that it has the four-pointed stretcher of the roundabout; that its seat approximates to the American low-back seat (Figure 7); that all its spindles are turned to match the roundabout stretcher points, and resemble no standard English or American spindle forms; and finally, that the maker of it has solved in his own fashion the problem of making the back rail of the roundabout and low-back Windsor chairs. He has made the foundation of it out of two plank-sawn pieces joined in the middle, and has achieved the central rise by adding a third piece which he has used as the support for his comb spindles. The top-rail of the comb is also worth looking at. It simply reproduces the shape of the raised centre of the back.

Let us turn for a moment, now, to the English Windsors. Figure 18 shows a typical early specimen. Note that it has the characteristic roundabout back rail (made in three pieces in the orthodox fashion) with a hooped extension, or head rest, added. Figures 19 and 20 are mere refinements of Figure 18. In both, the curve of the roundabout back rail is preserved, but the central rise is abandoned, and a single piece of bent wood is substituted for the earlier composite construction. In Figure 20 we see introduced the ornamental splat so common in English Windsor designs and never found in American chairs. Figure 21 shows the typical English Windsor side chair, which is not an original form, but was devised to complement the armed variety. The chair shown in Figure 22 is a side chair with arms added—in other words, a still later development. Our examination of American chairs will prove this sequence.

The more we study the American and English types in juxtaposition, ÷ the smaller does the American debt to the English makers appear. The American hoop-back (Figure 3)—or to be exact, the hoop idea as applied in the American chairs—and the loop idea as applied in the American loop-back (Figure 6) are evidently derived from England. The seat of the original American side chair (Figure 9) is also of English derivation (compare Figure 23). And there is reason to assume an occasional English use of the comb-back idea as afterward developed in America. That appears to be the total of our indebtedness. Before, however, we go on to an examination of the American types, their local genesis and mutual relation, I want to call attention to the points by which the English chairs are most easily identifiable as such. The placing of the legs is one point. The legs of English Windsors are invariably doweled into the extreme corners of the under side of the seat. Those of American chairs are always placed well in from the edges. See the indicative white and black dots in Figures 23 and 24. Again, the back legs of English chairs are generally well raked toward the rear, while the front legs approximate the perpendicular. The legs of American Windsors have a pronounced rake, not only front and rear, but sideways. Again, the English legs seldom pierce the seat, while the American almost invariably do. The legs themselves are another quick means of identification. The legs of all English Windsors follow the same general lines. Once noted, this basic design will be instantly recognized. And no American legs approximate to it. Because of this leg design, moreover, the English rungs and stretcher are placed much higher from the ground than are the American. The seat itself is a mark of identification. The English seat is usually made of hard wood; is very thin through; and (while differing considerably in finish, refinement of lines, and amount of "pommel") follows the same essential design (see Figure 23) from first to last through all the types. The American seats, on the other hand, are usually of soft wood; are always of considerable thickness—at times as much as three inches—and are of four well defined and instantly recognizable types. The incurved arm supports (see Figure 18) are also typical of the English Windsors; and the back splat, when present, is an infallible sign. However, the accustomed eye is seldom driven to taking separate note of these marks of difference. An English Windsor is just about as much like an American as a Chinaman is like a Jap.


Figs. 20, 21, 22. From left to right, English Windsor with splat; typical English Windsor side chair; and English side chair with arms added

And now for the American chairs.

I have already said that once we get six types of back and four types of seat well fixed in our minds, we can instantly "read the palm" of any American Windsor. Let

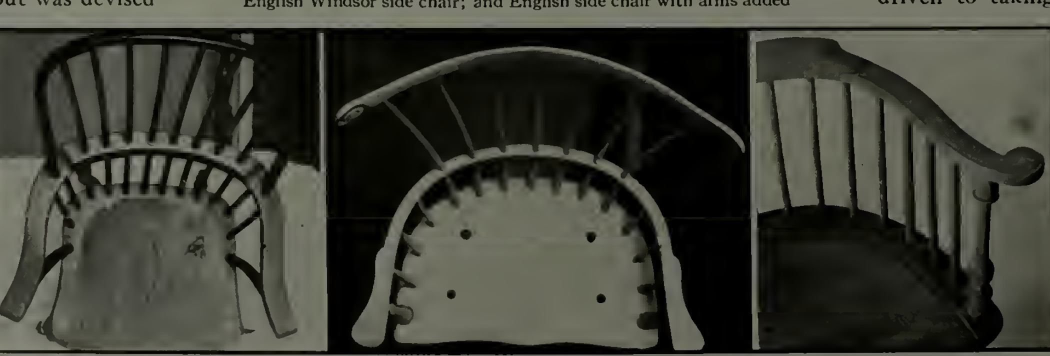


Fig. 23. Typical English Windsor seat. White dots show placing of legs

Fig. 24. Early comb-back seat. Black dots show typical placing of American legs

Fig. 25. Showing typical low-back rail construction

*Figs. 11, 12, 14, and 15 are illustrations from Lockwood's "Colonial Furniture in America," copyrighted by Charles Scribner's Sons; Fig. 17 is from Lyon's "Colonial Furniture of New England;" and Figs. 20, 21, and 22 from Lockwood's "English Furniture of the Seventeenth and Eighteenth centuries."

Fig. 26. Crude writing chair of the early comb-back type

Fig. 27. Early New Jersey comb-back with low-back seat, no ears

was a still later refinement of the hoop-back, that the fan-back was an early devisement to supply a side chair for the comb-back arm chair, that the hoop-back was a late New England complement to the local New England arm type, and that all variations from these basic types are in some degrees mongrel and can be roughly placed as to period and locality by the structural elements which they contain. I now purpose to take these types up in order, and will give my reasons for the above statements as I go along.

Fig. 28. Similar to Fig. 27, but with reversed scroll

Fig. 29. Late example of New Jersey comb-back; low-back seat

us begin by noting these features as here illustrated. Figure 1 shows the back of the low-back. Figure 2 shows the back of the comb-back. Figure 3 shows the back of the hoop-back. Figure 4 shows the back of the New England arm chair. Figure 5 shows the back of the fan-back; and Figure 6 that of the hoop-back. As for the seats, Figure 7 shows the seat of the low-back, which appears also in all the early comb-backs (Figure 24). Figure 8 shows the seat of the hoop-back, which is a refinement of the earlier form. Figure 9 shows the New Jersey fan-back seat, and Figure 10 shows the refinement of it that always indicates New England origin and that I shall call the New England seat. In the early stages of American Windsor making, these backs and seats always went together as indicated by the names by which I have designated them. Later on, as we shall see, they got more or less mixed up. I believe that the low-back was the earliest form of the American chair, and was directly derived from the roundabout, that the comb-back was the first (and an almost immediate) development of the low-back form; that the hoop-back was a somewhat later chair, arrived at by grafting the English hooped head rest on to a refined comb-back underbody; that the New England arm chair

1. The low-back. I have never seen an English low-back, nor a picture of one. I am inclined, therefore, to think of the chair as a native American adaptation of the roundabout. At any rate it is certainly the earliest American Windsor type. Tradition assigns this place to it. But we are not dealing with tradition. And my reasons for the statement are as follows: the American Windsor industry started in Philadelphia and for many years—twenty or so probably—the Philadelphia makers set the fashion and had a practical monopoly of the trade. Maryland, Pennsylvania, New Jersey, and, to a large extent, New York City, were supplied from there. An overwhelming majority of all low-backs (Figure 1), low-backs with combs (compare Figure 26), comb-backs with low-back seats (Figure 2), and fan-backs of the so-called New Jersey type (Figure 5) have been found in these states. And little else is found there except hoop-backs (Figure 3) and comb-backs with hoop-back seats (Figure 35). But the comb-back is, as we shall see in a moment, merely a low-back with a "comb" extension added and with a bent-wood rail substituted for the clumsier roundabout and low-back construction. And the fan-back is simply a side chair devised to match the comb-back arm chair thus arrived at. The low-back, therefore, must have come first. And their vogue was apparently short lived. Specimens are rare. The comb-back modification probably displaced it almost at once in popular favor. This is indicated by the fact that surviving low-backs show no variations from type. Examine the legs in Figures 1 and 16. Compare them with the legs of Figure 11. Their design is manifestly intermediate between the latter and the form (see Figure 3 for example) followed in all later American chairs. All low-backs have these legs. So have most comb-backs with low-back seats. Moreover, the low-backs and these early comb-backs alone show the perpendicular arm supports (see Figures 1 and 2) of the roundabouts. These evidences of priority are, to my mind, decisive.

Figures 1 and 16 show typical specimens of the early low-back. Figure 31 shows a rare example of a low-back settee "built for two." Note the odd legs and the total absence of rungs and stretcher. Figure 30 shows an exceptionally fine settee of the low-back type; and Figure 32 another, in which the raised portion of the back reaches the arms, which end in fingers. Figure 13 shows a writing chair of low-back construction, perhaps as handsome a specimen of its type as exists. That this elaborate chair is not of the earliest period is, however, shown by its legs.

2. The Comb-back. The earliest comb-backs retain the three-piece back rail of the low-

Fig. 30. A seven-foot low-back settee with unusually graceful lines

Fig. 31. Two-seated low-back settee

Fig. 32. A six-foot low-back settee with fingers

Fig. 33. An old comb-back with English style of seat and arm supports. A rare type

Fig. 34. New Jersey comb-back with early lines, but with fingers and near-hoop-back seat

Fig. 35. A New Jersey comb-back with hoop-back seat and fingers. An early example of the type

Fig. 36. A typical New England comb-back. Note the earless comb and the hoop-back seat

Fig. 37. A freak New England comb-back. Note the cocked ears and the New England seat

Fig. 38. Details of comb scrolls. From left to right, simple, elaborate, rare, and Pennsylvania Dutch types

back, the central portion being pierced for the spindles to run through and support the comb. Specimens are extremely rare; and, while I have seen and examined several, I am unable to supply an illustration. Figure 26, however, will serve. This shows a writing chair of the type, probably made somewhat later by a local New Jersey workman. Note the legs and the crude arm supports; also the clumsily fingered arm. The rarity of this transitional type is probably due to the fact that the Philadelphia makers hit upon the bentwood back rail refinement (see Figures 2 and 24) almost as soon as upon the comb idea. But the shape of the seat in these early comb-backs, the perpendicular setting of the arm supports as well as their design, and the number of spindles (always three and sometimes four on a side) that do *not* run through the back rail, are too completely reminiscent of the low-back chair to allow us to doubt the relationship, as will be seen by referring to Figures 2, 7, 24, and 29.

Figure 27 shows an interesting transitional type. Note the low-back lines; the curious arm supports; the comb without ears, or scrolled ends. Compare with Figure 17. I own the wreck of another similar chair, evidently made by the same hand as Figure 27. Both turned up in New Jersey. Figure 28 is another New Jersey example with curious ears, showing a reversed scroll (see Figure 38, third detail). I have seen three of these, all evidently made by the same man, and all discovered in New Jersey. The first two details in Figure 38 illustrate the normal ears of the typical comb-back. Figure 33 shows a chair of extreme rarity—evidently an early attempt to make a comb-back chair on English lines. Note the incurved arm supports and the English seat. A graceful chair with a flaring, seven-spindled comb is shown in Figure 29. The usual number of comb spindles is nine. Figure 26 shows five; Figure 33 shows six; Figure 36 shows eight; Figure 37 shows seven. These are all departures from normal. Figure 35 has nine, although they do not show in the illustration. Please notice that *nine* spindles, run through the back of any low-back here illustrated (Figures 1, 7, and 16), would leave four short ones on each side. Compare Figure 2 with these. Later chairs show progressively fewer spindles.

The comb-back, as we have seen, was a Philadelphia development, and in its early form (with the low-back seat and perpendicular arm supports) seems never to have been made except in the territory tributary to that city. When, many years later, and for the most part after the Revolution, the New England makers entered the field and took the leadership in design, they made few comb-backs, and those made by them were invariably describable as "hoop-backs with a comb substituted for the hooped head rest." Examine, for example, the New England chair shown in Figure 36. Note the hoop-back seat (Figure 8); the forward rake of the arm supports; and the two spindles on each side that do *not* run through to support the comb. Note, also, the unscrolled ear of the comb, which is typical of the New England practice. An occasional New England comb-back like Figure 37 is also found. Note the cocked ears and the typical New England seat (see Figure 10). This chair, of course, is a half-breed freak. The later New Jersey comb-backs were also made with hoop-back seats (see Figure 35). This example shows arm supports very little raked, and three spindles on a side before reaching the comb spindles. It is, therefore, an early example. Later ones show the typical hoop-back points. But, like the New England comb-backs, they are not plenty. The comb-back type was evidently going out of fashion. Practically all comb-backs with fingers will be found to be of this type. Fingers were a later embellishment. Figure 34 shows the closest approach to a low-back seated Windsor comb-back with fingers that I have ever seen. Broadly speaking, this chair is built on early lines. But the seat, you will notice, is already verging on the hoop-back type. Beware, by the way, of hoop-backs with fingers that have been altered into comb-backs. They show the filled-in holes where the hoop ends were originally doweled into the arms.

Fig. 39. Rare New England hoop-back and comb-back combination

Fig. 40. A New England hoop-back with a small comb, flanked by a pair of child's hoop-backs

Fig. 41. Profile view of the same interesting chair shown in Fig. 39

3. The Hoop-back. These chairs (see Figure 3) are more plentiful than any other American Windsors excepting the New England loop-back side chairs (Figure 6). Moreover the hoop-back is the one Windsor form that seems to have been made everywhere, in England and New England as well as in the Philadelphia-influenced region. And —perhaps for this reason—it is the one Windsor as to which the meagre literature of the subject offers us a theory. Mr. Lockwood claims that it is the earliest of the American forms, and says that the historical sequence of the illustrated advertisements bears out the claim. My own searchings of the old Colonial newspapers do not so indicate. The earliest Windsor illustration (and the earliest by many years) that I have found, shows a comb-back with the low-back type of seat, the curved arm ends and perpendicular arm supports of the low-back, and the legs (see Figure 1) of the low-back orthodoxy. This appeared from April, 1765 till the end of 1766 in the New York *Gazette and Weekly Post Boy*. But at best the testimony of these advertisements is a poor guide. They came too late. Prior to 1760 illustrated advertisements were almost unknown in the Colonial press.

Figs. 42, 43, 44, 45, 46. From left to right, a mongrel hoop-back, interesting to analyze; typical New England arm chair; brace-back example of same; New England arm chair with comb; same, but showing a hoop-back seat. The post-Revolutionary New England Windsor makers gradually pushed refinement into foppishness. The adding of small combs to the normal types of chair was one of their pet devices. As a rule these combs indicate a late eighteenth century New England origin

A few wood blocks of sailing vessels printed among the shipping notices in the '50's are about all that one ever sees. And by 1760, Windsors had been in use in the colonies for a quarter of a century. By 1765 they had certainly been made here commercially for twenty years. As to what went on before that date the chairs themselves must tell us if they can.

The strongest claim that the hoop-back makes to priority is the fact that its hooped back is practically identical with that of the early English arm chairs (compare Figure 3 with Figure 10), and that this is the only close resemblance existing between the English and American chairs. (The loop-back side chair, which also resembles the English models, is a late New England contribution to American forms.) But if this claim were valid at its face value—if the hoop-back was really the first American form and derived directly and solely from English sources—the seats and legs of early hoop-back specimens ought also to show English influence, and the low-back and early comb-back seat and legs ought to derive from them. Neither of these things is true. In the back alone does any American hoop-back resemble the English chairs. And the invariable hoop-back seat (see Figure 8) is simply the invariable low-back and early comb-back seat (Figures 7 and 24) with the corners rounded off. The hoop-back legs, too, which are the typical middle-period American legs, are simply the low-back legs with the spear-point, or knob, end discarded and the plain portion, into which the rungs were always dowelled, whittled into a taper. In other words, I believe that the hoop-back first appeared in America after the low-back and the low-back-seated comb-back, and that it was arrived at by grafting the English hoop idea on to a modified American seat and leg construction. It is, indeed, only by assuming that the Philadelphia low-backs and their derived comb-backs had had their day, and had given place to the hoop-backs and hoop-back-seated comb-backs, that one can explain the exclusive influence of the hoop-back on the New England makers, who came into their heyday after 1780. And not only did New England make hoop-backs as freely as did New Jersey and Pennsylvania, but all New England chairs that do not show the typical New England seat (see Figures 10, 37, 45, 51 and 56) invariably show the hoop-back seat (see Figures 8, 36, 46 and 58). The hoop-back is really the link and common meeting ground between the late Philadelphia school and the early New England makers.

Figure 40 shows a New England made hoop-back with a three-spindled comb, and two child's hoop-backs that came from an old Boston family. Figures 39 and 41 show two views of a fine New England hoop-back-comb-back combination. Figure 42 shows a curious mongrel that we will discuss later.

4. The New England Arm. This is a comparatively late (probably post-Revolutionary) and an exclusively New England form. It is found throughout New England and in those parts of Long Island and the New York State mainland adjacent thereto. Just as the early Philadelphia makers substituted a single piece of bent wood for the three-piece construction of the low-back rail, so the New England makers replaced (compare Figures 3 and 4) the two-piece construction of the hoop-back by a single piece of expertly bent wood. Figure 4 shows a typical specimen. Figure 43 shows the same chair from the side. Figure 44 shows a fine brace-back example. Figure 45 shows a chair of this type with a five-spindle comb. All these chairs, you will note, have the typical New England seat. Figure 46 shows another chair of the same kind, also having a five-spindle comb, but made, you will notice, with the hoop-back seat. Compare the bent-wood rail of Figure 45 with those of Figures 43, 44, and 46. Note the easy curves of the latter and the almost angular effect in Figure 45. These well-studied angular effects are generally found in up-state New York chairs. Perhaps they were made there. Perhaps they came from Connecticut.

Fig. 47. Old New Jersey fan-back, with English type seat and brace back

Fig. 48. A late but handsome example of the New Jersey fan back

5. The Fan-back. This was one of the early Philadelphia developments. But in view of roundabout-low-back-comb-back evolution, it seems needless to insist further upon the fact that the fan-back was not an original form, but was devised as a side chair to go with the comb-back arm chairs. The New Jersey form (Figures 5 and 48) have the scrolled ears and the less ornately designed seat shown in Figure 9. Their rarity is far from being appreciated. They are little, if any, more common than the comb-backs themselves. This is doubtless due to the fact that in the early days Windsors were used as hall, porch, and garden chairs, and not for dining room and other living room uses. They did not come in sets, therefore, and few people had need of many side chairs of the type. Sets of Windsors for household use was a later, New England, fashion.

The New England fan-back (Figures 49, 50, and 51) are manifest refinements of the New Jersey prototype. Note the New England seats on these specimens. Also the unscrolled ears of the New England custom. Figure 50 shows a rare ear variant. Figure 51 is brace-backed. This brace-back affectation is an English suggestion (see Figures 21 and 22) that seems to have appealed especially to the late New England makers. It is very rare on the fan-backs, but often occurs on loop-backs. Figure 47 shows an old New Jersey experiment with an English type of seat and the brace-back device. But the Philadelphia makers never used this form in commercial practice. I have seen two specimens like Figure 47, both bearing structural evidence of having come from the same work-bench as the comb-back shown in Figure 33. Figure 52 shows a fan-back of characteristic Pennsylvania Dutch make. Note the low-back legs (to which these makers clung to the end); the inappropriate hoop-back seat; and the effective ears (Figure 38, fourth detail,) devised by these local workmen.

Figs. 49, 50, 51, 52. From left to right, New England fan-back of delicate lines and with unscrolled ears; New England fan-back with cocked ears; brace-back New England fan-back; and Pennsylvania Dutch example. Note in the latter the low-back legs, hoop-back seat, awkward fan, and odd ears

6. The Loop-back. This is the side chair (see Figure 6) that the late New England makers used to supplement the New England arm chair. It is presumably adapted from the English side chair. By the time it came into use the Windsor had become the popular local form for inexpensive household furnishing. They were made and sold in sets—two arm chairs and enough side chairs to accommodate the family. And families *were* families in those days. That is why the loop-back is the commonest of the Windsor

Figs. 53, 54, 55, 56. Left to right, New England loop-back with brace-back; Pennsylvania Dutch example (note low-back front legs, crude seat, and awkward loop); typical New England loop-back with arms added (Sheraton influence); and a New England loop-back with arms added, showing a comb

types. I own a set of two arms and four sides (Figures 44 and 53) that are of the brace-back type and show the New England technique at its most meticulous.

Toward the end of the pure Windsor period, loop-back chairs were made in the old Philadelphia territory. This is the sole instance of reflex influence from New England. Loop-backs with New Jersey seats are not uncommon in New Jersey. Figure 54 shows a Pennsylvania Dutch specimen. Note the low-back legs in front, and the "Dutchie" back.

Figs. 57, 58, 59, 60. Left to right, New England fan-back with arms added (Sheraton influence again); another type of same, having Windsor lines throughout, but a mongrel; still another very late type of same, with comb; and yet another, showing the characteristics of the New England decadence, with New Jersey ears, Chippendale arms, hoop-back seat, and brace-back conceit

7. Side chairs with arms added. In speaking of the English chair (Figure 22) of this type, I said that the American specimens would prove the form to have been a late development. They prove it through the fact that they are all in some degree mongrels, and that the great majority of them already show traces of that diluted Sheraton influence which finally produced the so-called "Windsors" of the years following 1825. Figure 55 shows the commonest form of the American chair. Compare it with Figure 43. Knowing what we do of the origin of the New England arm chair and of the loop-back, we see at a glance that Figure 55 is a late and lazy-man method of obtaining the old effect. But if you doubt this statement, look at the chairs shown in Figure 61. These are manifest hybrids, besides being examples of the rarest and most beautiful chairs known to American collectors. They are Windsors with a strong dash of Chippendale blood in their veins. Note the ladder-back construction. Note the wavy line of the arm chair back rails. Note the hint of this wave in the loop-back side chair. But, more especially, note the shape of the walnut arms on the painted arm chairs and the S arm-supports on which they rest. And then look at the arms and the S arm supports of Figure 55. Figure 56 is as fine an example of the type as I have ever seen. But note the unorthodox form of the comb. This is evidence of a late origin. And examine the arms. Note, moreover, the single spindle between the arm supports and the back. No early Windsor, comb-back, hoop-back, or New England arm, ever shows less than two. You will find that the arm chairs in Figure 61, as well as the fan-backs with added arms shown in Figures 57, 58, and 59, all show this single spindle.

Fig. 61. Three eighteenth century chairs of extreme rarity. The workman's hand is that of the Windsor maker, but the voices are those of Chippendale and Sheraton

Figure 57 shows a New England fan-back with arms added. Note the typical seat and comb. But mark the modified end spindles devised to receive the arms; and note the tell-tale arms themselves. Figure 58 shows another and less graceful specimen. Here all the elements are Windsor elements. The arms are Windsor arms, and the end spindles of the fan have not been modified to accommodate them. But the chair is a mongrel, just the same. It is a fan-back with a hoop-back seat. And it has the single spindle between the arm-supports and the fan. Figure 59 is too evidently a degenerate offspring of a noble race to require comment. Its legs show breeding. Its seat has a New England conscience. But the rest is hodgepodge and its back already prophesies of the horrors to come. Its rockers, however, are not among its original sins. You can see that they have been added, as they have been on all Windsors on which they are found. The rockers on old Windsor chairs, like the round holes often found in their seats, are "modern improvements."

Figure 60 is a freak, though a handsome one. It has Chippendale arms, a New Jersey comb, special design end spindles in its fan-back, and a hoop-back seat with brace-back attachment. It represents the flower of the New England decadence.

And now if you wish to put into practice the analytical hints supplied in this article, I commend you to the amazing mongrel illustrated in Figures 42. It has, you will notice, the S shaped arm-supports and the ladder-back wave to the comb that mark the final breakdown of the Windsor tradition. But it has, too, the low-back seat of the Philadelphia golden age. It has also the hoop of the middle period. Its front legs are set into the seat almost in the English mode and approximate to the perpendicular; while its back legs are set American fashion. Again it goes all the chairs we have discussed one better by having *no short spindles at all* between the arm supports and the back. And it appears to have been made by a thumb-handed blacksmith. My pet name for it is "The Melting Pot."

The REAL SWISS CHALET

By HARRY E. WARREN

ALL readers of the magazines devoted to home building are more or less familiar with the American bungalow of the so-called Swiss chalet type. A glance at the genuine prototype, however, would convince one that we are less well acquainted with the most attractive ancestors of this style of house. One would also realize that a closer study of them in designing our own, even after adapting them to our requirements, would inevitably lead to more artistic and picturesque results. The accompanying views, taken about twenty-five miles from Lucerne, and a description of the subjects may be interesting and instructive to those who contemplate building after this manner.

The Swiss builders are essentially workers in wood and have developed to the highest standard their skill and ingenuity in framing and joinery. Very little masonry is used except in the low foundations, while upon the interior, even the plaster so commonly used in other countries gives place to wood sheathing. This deprives them in a large measure of the cold-resisting value of such a material as plaster which, from its very nature, seals all cracks and crevices. To overcome this lack, several methods are used, such as, in the rougher work, chinking with plastic materials, and covering the vertical joints between the boards with battens or narrow strips of wood. In many instances, house and barn are under the same roof, great protection against the cold being obtained by storing the hay around and over the living rooms. This arrangement is, of course, available only in the country. In the villages, the houses are built with greater care in this particular regard. But anxious as the Swiss people are to exclude the winter elements, just as eager are they to take full advantage of the delightful summer, and this desire is expressed

It is an unusual thing to see a Swiss house with its side to the road, but here is one

A typical large Swiss farmhouse. Note the roof sheltering the driveway

Another farmhouse. The real Swiss chalet is blessed with a wealth of windows

in the exteriors of their houses, as will be shown later.

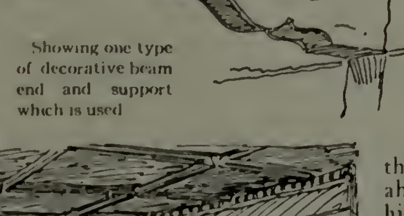
The interior arrangements of these chalets are of the simplest, and there is little to be learned from them for practical application to our problems. It is the exteriors in which we are mainly interested.

The prominent features of almost all houses in the region where the views were taken are the broad, unbroken roofs, the balconies on each story, and the many windows. The houses are very wide for their length, sometimes, as in the case of the Bear Inn, nearly square. To cover such plans requires the enormous roofs. These are seldom broken or ornamented by more than tiny ventilators, and even these are by no means the rule. The great roofs, sweeping down, always to the top of the first story and generally over the sheds or outbuildings if there are any, are accountable for the characteristic sheltering, home-like impression always created by the Swiss house. The overhang of the roof is usually several feet, often six or seven, necessitating very heavy beams and braces for sufficient support. What little ornamentation there is, is worked out on the structural members with an entire absence of superfluous or purely decorative features.

It is almost a rule to place the house with the gable end toward the street. Correctly speaking, there is no gable, for the peak of the roof slopes back from about the ceiling line of the upper story. On the rear, the roof generally commences to rise from the eaves line of the main roof. The one illustration where the house is shown with its side to the road, on account of the narrow lot against the hillside, shows clearly the entire roof arrangement. It is noticeable how often the slope of the surrounding hills seems identical with that of the roofs, which is practically the same angle in all houses of this type.

The wide, overhanging balconies are a necessary part of every house, and probably the developement of the great roof projections is due to the desire to shield the balconies from the weather. This is very important, inasmuch as the balconies are used a greater part of the time, not only for recreation but for all work which the housewife can perform outside of the house, such as the preparing of meals, washing and drying of clothes, airing of bedding, etc. The balconies run the entire length of the side on which they occur, those of the second story being on the sides and that of the upper story extending from roof to roof under the receding gable. On a four-story house, there are two balconies along the sides. Occasionally the balcony of the second story extends across the front as well as along the sides, but this is the exception, as is also the absence of a side balcony on the hillside house already mentioned.

Double mortise and tenon. Nails have no place in Swiss construction



Showing one type of decorative beam end and support which is used

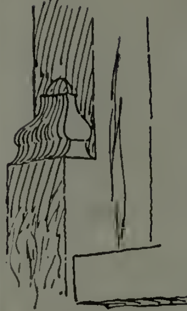
A Swiss interior finished entirely in wood

The third prominent characteristic of the Swiss house is the multiplicity of windows. Generally the entire space between the necessary supporting timbers is occupied by casements of tiny panes. The projections of roofs and balconies are ample to protect the windows, even when open, from the frequent showers. The many windows not only render the house most attractive, but they are in keeping with the love of the people for outdoor air, and are really necessary for light because of the shadows cast by the heavy projections. There is little or no wall surface to be covered with shingles or clapboards as in our wooden houses. Where wall spaces do exist,

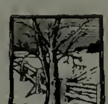
A hillside site emphasizes the sheltering effect of the long roof line

The Bear Inn near Barau. Note arrangement of boards in panels between framing timbers

A typical four-story village house with its enormous roof overhang



Type of corner post



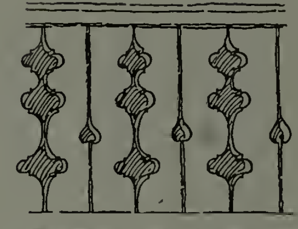
Three-story village chalet. Notice projecting timbers of the balcony support

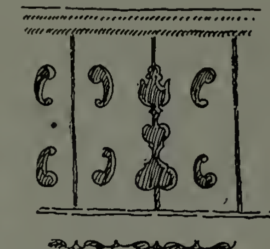
as in the Bear Inn, the boards are arranged in a decorative manner in flush panels between the framing timbers. It is interesting in this example, as well as in others, to note the ends of the timbers projecting through the walls at the intersections of the floor beams and uprights, and a closer inspection would reveal the great oak pins securing them, the joint usually being a double mortise and tenon.

The balcony fronts are constructed either in long horizontal panels with heavy cap moldings, or with wide vertical slats closely spaced. These slats are often pierced with good decorative designs which give a sparkle to the weatherbeaten color of the whole building. On the Bear Inn, the slats are inclined in sympathy with the roof. It will be noticed that ornamentation is not one of the characteristics of the Swiss house. In fact, it is quite devoid of detail, yet each carved beam-end or bracket or molding has a sufficient and telling effect, leaving nothing to be desired in the way of decoration.

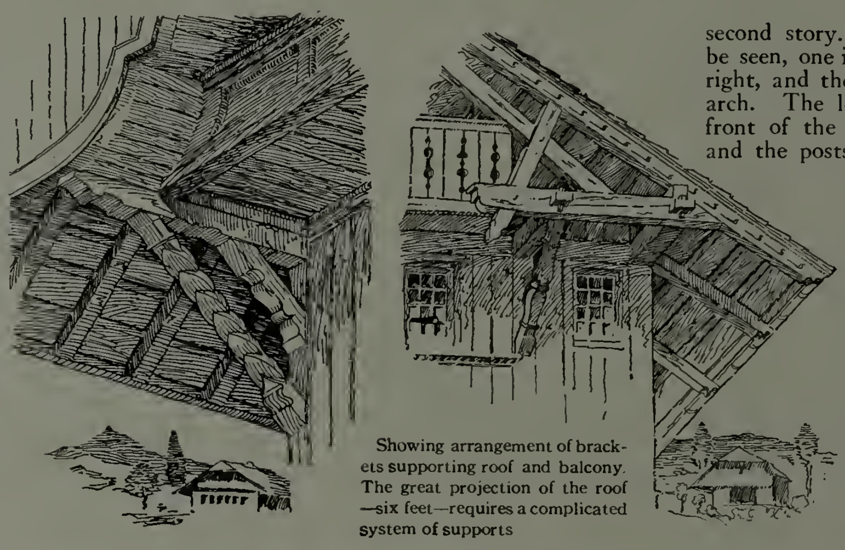
The small house at Barau, while not absolutely typical, is most charming and worthy of detailed mention. The absence of a cellar and a chimney suggest that it is occupied only during the summer. The lower story is used only for storage, the rear lean-to being a stable, while the roof sweeps down to form a shelter for the farm carts. A concealed door at the right end of the front platform gives access to two stairways which lead to the second story. The slopes of these stairs may be seen, one in front view in the shadow at the right, and the other in the side view under the arch. The lower balcony extends across the front of the house as well as along the sides, and the posts supporting the upper balcony are more numerous and heavier than is customary.

The interior and exterior walls are built of plank which are four inches thick and laid on edge; these are dovetailed into one another at the angles in much the same fashion as the timbers in a log cabin. The great sills, which measure 7 x 13 inches, and the roof beams and brackets are plainly visible in the side view. One can hardly imagine a house more charming or richer in sources of inspiration for design than this little building at Barau.





Some types of balcony railings that one comes across on these old houses



Showing arrangement of brackets supporting roof and balcony. The great projection of the roof—six feet—requires a complicated system of supports

Side and front views of a small house at Barau. Unlike the larger houses pictured above, there are no windows on the first floor, which is given over to storage, the rear lean-to being a stable, while the roof sweeps down to form a shelter for the farm carts

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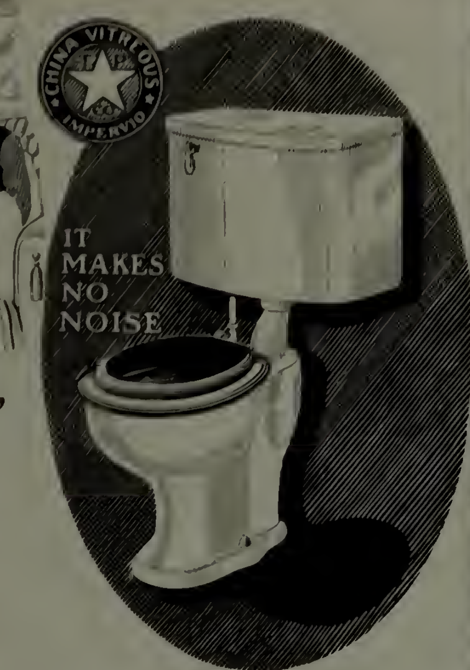

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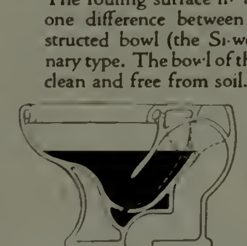

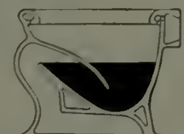

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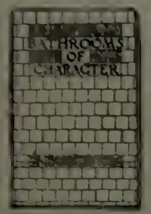

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HERE AND THERE

Wire Dragging For Neptune's Secrets One of the most interesting of the peaceful activities of the Government—and one which is carried on whether the peace is kept or not—is the charting of the waters of our coasts. This is not a job which when done is finished for all time, for Neptune has a way of obliterating old channels and digging new ones where no waterways grew before, necessitating recharting of the affected areas. Nor does the wielder of the trident always indicate by surface conditions just where he has placed dangerous pinnacles of rock to encompass the destruction of seafarers. It remains then for the Hydrographic Office to follow his trail and discover his secrets by means of lead and line and the wire drag.

Of the two methods of taking soundings, the drag is much the more efficacious, but it is so tedious and costly an operation that it is used only in the most vital spots. Briefly, it consists of combing harbors at a depth greater than the deepest draft of vessels using them, by towing a buoyed drag between two small tugs or motor boats. A drag may be of any length up to five miles. The lower steel wire, suspended at a depth of twenty or thirty feet (or any desired depth) catches on any pinnacle rising to a lesser depth and momentarily straightens out the upper wire and its line of buoys, calling the attention of observers on the boats, who plot the danger spot by means of cross angles, and thus fix its position for future editions of the charts.

Rocks and restricted shoals in New York and Boston harbors which have eluded the lead and line for three centuries have been discovered by the wire drag and charted during the last ten years, to the eternal satisfaction of deep-water skippers. One pinnacle picked up in this way in the East River lies just out of the fairway of Sound steamers, and it is only by the mercy of Providence that it hadn't previously been found by a ship's bottom. During the summer just past, and continuing up to October 15th, this highly important work has been carried on by the Government along the Maine, New Hampshire, and Massachusetts sea-coast from Cape Neddick to Cape Ann, including Portsmouth Harbor.

Prodigal Uncle Sam Cleopatra, legend relates, dissolved the two largest pearls in the world in a wine glass of vinegar and drank the potion in the firm conviction that she was setting a reckless pace. Nero dined on dishes of lark's tongues. But these and other profligates of the ancient world are being outdistanced by a certain old gentleman known to fame as Uncle Sam. This prodigal old person insists on giving every Mexican peon who crosses the border a bath in gasolene. This formality is intended as a precaution to protect the health of the border country, but consider the profligacy of one who employs gasolene at its present—and ever ascending—price for so humble an operation. We recommend our Uncle to make an investigation of the comparative cost of attar-of-roses or tincture of gold dust or some other inexpensive fluid.

Tags for Motor Boats Last year the motor boatmen of the country arose in mighty wrath, and through the efforts of their spokesmen in Congress, succeeded in quashing the Tag Bill before it became a law. By the provisions of this bill, every motor boat would have been required to wear a number plate on its white sides, and it was the offence against the esthetic, rather than the trouble involved in registering, that aroused opposition to the bill.

In time of war, however, laws and such have a way of changing overnight, without reference to the wishes of the governed. So it happens that by the simple signing of an executive order a few months ago, every privately owned motor boat in American waters was elected to the automobile class and made to carry a license number. Simple and sweeping though this order of Secretary Daniels's is, it has been framed with a wise regard for the ruffled susceptibilities of the tribe of boatmen, and the number plates need not be attached outboard but only carried where they may be quickly shown to an inspecting (and suspecting) officer.

Needless to say, the new ruling is a good one, for it permits the Navy Department to keep close tab on motor craft, thereby preventing Teutonic sympathizers (of which there must be many, judging superficially from the character of the rosters of numerous boat clubs) from giving aid to the enemy.

Numbers are allotted to boats according to the Naval Districts in which they belong, numbers 1 to 10,000 being in the First Naval District, 10,000 to 20,000 in the Second, etc., thus facilitating the identification of any boat by the inspectors.

This license regulation, no less than the orders forbidding the navigation of certain strategic waters, is one of merit, and motor boatmen in general have willingly observed it for the good of the cause.

What Our Farms Need There is an interesting similarity in the main problems confronting the farmers in different sections of the country, according to summarized reports from many county agents. The requirements for the different divisions are:

Eastern Division of States: The need by the soil for lime, for the addition of humus, and for drainage; the growing of alfalfa, proper crop rotation, seed improvement, and better marketing methods; and, as to live stock, the introduction of better sires, improved feeding methods, and the elimination of unprofitable cows.

Central Division: The need for humus, lime, and drainage; the growing of legumes, proper rotation, seed improvement; more live-stock, improved feeding methods, pure bred sires, and hog cholera control.

Western Division: The need for humus, drainage, and the better management of alkali soils; proper rotation, control of insect pests and plant diseases; better sires and feeding methods, and the elimination of unprofitable cows.

A LETTER FROM HERBERT HOOVER

MY COUNTRYWOMEN:

I ask your help.

The President has laid upon me and has asked me to assume great responsibility in the conservation of the food supplies of our country. It would be an unbearable burden but for two reasons:

One is that I am sure every loyal American will at this time undertake unhesitatingly and whole-heartedly whatever service is required of him.

The other reason is—the American woman. I believe you have only to understand the food needs of this nation, of the Allies, and in fact of the entire world, in order to enlist your immediate and intelligent support.

I realize full well that 70 per cent. of our households are conducted with thrift and without waste, but even in these we need to secure the use of equally good food in substitution for those commodities which are of so concentrated a character that they can be shipped over the seas in these times of short shipping.

Among the 30 per cent., it is true enough that we have deserved the reputation of the most wasteful housekeeping in the world, and the time has come to turn our faces squarely in the opposite direction, and make our country throughout a model of economical management.

Indeed, if our American ideal of a square deal is right, we can do no less.

For three years now the people of the Allied countries have borne the burden of this struggle for life and liberty, and are bearing it with pain and privation. There are millions of women in Belgium and northern France to-day who for three years have heard no word of their husbands, their sons, or their brothers, who go about their daily tasks provided with the most meagre allowance of food for their children, with a smile on their lips.

It is for women such as these, for soldiers gallant beyond description, for little children of Europe, that you now face the immediate duty of taking up arms, as it were, in your households. You are a great army drafted by conscience into what is now the most urgent activity of the war—that of increasing and conserving the food supply.

Conditions which have brought about a world shortage of food have placed upon the shoulders of you, the women of America, to a great degree, the responsibility of winning this war, for the wolf is at the door of all the world except our own country, and we have a superabundance.

We are not appealing alone to the women; we are actively organizing so far as possible without legislation, the men in trades, hotels, restaurants, and in food distribution, hoping not only to eliminate waste, but to moderate the burden of speculation and extortionate profits.

It stands to reason that your first duty is to the members of your family. They must have all the food they require to keep them in good health and capable of performing efficiently their daily tasks. Information for your guidance as to the food needs of the average family will be put in the hands of every earnest woman in America.

In confidence I turn to you so to conduct your affairs, and so to influence the activities of your community, that we may largely pay for the war as we go along out of our savings in food and in human productio .

With deep gratitude for the earnest support already given me, I am,

Faithfully yours,

Herbert Hoover

EDISON WEEK

October 21st to 27th

OCTOBER 21st 1917 is the 38th anniversary of the invention of the incandescent electric light by Thomas A. Edison. The entire week of October 21st will be observed by a number of the industries founded by Mr. Edison

Mr. Edison's Favorite Invention

It is well known that the phonograph is Mr. Edison's favorite invention. He has steadfastly refused to dispose of any of his phonograph patents; nor will he permit outsiders to become interested financially in the manufacturing laboratories where the Edison Phonograph is made.

In the United States and Canada there are 3700 merchants who have been licensed by Mr. Edison to demonstrate and sell

The **NEW EDISON**

"The Phonograph with a Soul"

These merchants will observe Edison Week in various ways that will be announced by them in their local papers

$2000.00 In Cash Prizes

A great deal has been said about the New Edison in the newspapers This new Edison invention has been tested before one million music lovers in direct comparison with thirty great singers, for the purpose of determining whether the New Edison's Re-Creation of an artist's voice can be detected from the artist's real voice. Similar comparisons have been made with instrumentalists. The music critics of 500 of America's principal newspapers have attended these tests and described the results in their respective papers. Prizes are now offered for the best patchwork advertisements composed entirely of quotations from these newspaper accounts. You do not write a single word yourself. Instead you read what the newspapers have said about the New Edison and then piece together a complete advertisement from that material. Perhaps you will quote from a dozen different papers; possibly you will confine yourself to two or three. That is for you to determine. The prizes are as follows:

$1000 Cash for best patchwork advertisement
500 Cash for second best
250 " " third best
100 " " fourth best
50 " " fifth best
10 " each for ten that earn honorable mention

Professional advertising writers and persons connected in any way with the manufacture or sale of Edison Phonographs are not eligible to the competition.

No advertisement should contain more than three hundred (300) words. Nothing will be considered except the actual text of the advertisement. It is not necessary to send what is technically known as a "lay out." The prizes will be awarded solely on the "wording" of the advertisements. Even "headings" do not count.

You pay nothing to enter the contest and assume no obligation by doing so.

The Edison Week Bureau will give you complete instructions and send you the booklet "What the Critics Say," from which you can select material for *your* "patchwork" advertisement.

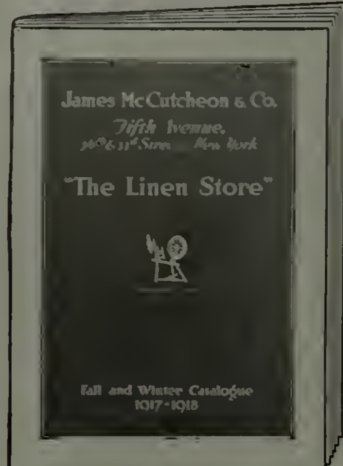
The Edison Dealer In Your Locality *Will Help You Win a Prize*

Go to his store and hear the New Edison. He may be willing to lend you an instrument for a few days, so that you can study it at your leisure in your own home. He may also be able to give you some good tips about your advertisement, but don't ask him to help you compose it, as he will have to certify that he did not do so.

The Contest Closes October 27th

Edison Week ends October 27th and the contest closes the same day. Write today for Instruction Blank and copy of booklet "What the Critics Say." Address Edison Week Bureau, Orange, N. J.

McCutcheon's New Catalogue Mailed Free



Replenish Your Linen Chest For The Winter

The orderly and systematic way to keep track of the wear and tear on your Household Linen is to count it over and check it up at the beginning of the winter season. Then put in a complete order for the necessary new supplies to bring your outfit up to standard.

Such an annual inventory may save the excessive use of the expensive "best" Linen; it may disclose undue laundry damage

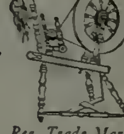
We carry the largest range of exclusive patterns to choose from and the widest choice of qualities. We guarantee that the Linen is *Pure Linen.* This sixty-year-old principle of dealing in Pure Linens only has not been deviated from one iota even in these difficult times. These facts combine to make "The Linen Store" the natural place to come to with your buying list.

Incidentally, we are very slow to discontinue a desirable pattern once adopted, and your purchase in all probability can be matched five or ten years hence.

Table Cloths and Napkins
Fancy Table Linens
Bed Linens and Spreads
Blankets and Comfortables
Towels and Bath Mats

Fall Catalogue. Despite the handicap of war conditions our stocks are so complete that we have been enabled to issue this year the best catalogue we have ever published. 64 pages. Profusely illustrated. Orders can be made from it by mail with ease and complete satisfaction.

James McCutcheon & Co.
Fifth Ave. and 34th St.
New York


Reg. Trade Mark

The start of a race at San Pedro, Cal., from the Government breakwater and lighthouse

YACHTING *in* SOUTHERN CALIFORNIA

By PAUL JEFFERS

Photographs by J. E. Ward

YACHTING in southern California is an experience that, to most people, would suggest an enchanted world; but it is surprising how few of the fortunates who claim this section of the country for their homes during the whole or a part of the year avail themselves of the opportunity of proving the charm.

The few who have enjoyed this greatest of outdoor sports in our south coast waters know that, with a single exception, all the pleasures of yachting may be enjoyed with but few of the disadvantages. The one thing that is lacking to make this a yachting paradise is the small harbors which abound on the Atlantic Coast, especially in New England. To compensate for this loss, we have ideal weather conditions. Here one need never worry about squalls. There is never rain during the summer. Fogs and calms are of rare occurrence. The shallows, shoals, and tides of the Eastern coast are unknown. Moreover, one can, within a hundred miles of Los Angeles, find any kind of weather from the gentle zephyrs of San Diego to the thirty- or forty-mile winds that play around Santa Rosa.

Small harbors that are the delight of the yachtsman are not altogether lacking. The lee of the Channel Islands affords a quiet anchorage, and there are a few good harbors on every one, Santa Cruz being especially attractive in this respect.

Weather conditions are almost as regular as the sun throughout the year. During the yachting season one can nearly always count on light southeasterly winds during the morning and evening, and winds from the west or southwest during the afternoon. These latter usually hold until after sundown and are a source of comfort to those who depend upon sails alone for locomotion. After the westerly drops, a light land breeze springs up which is enough to prevent one from having to stay out all night. During the winter months the winds are liable to be light unless it is stormy. This allows the power-boat man to enjoy the warm winter days in his boat, but does not provide much amusement for the windjammer.

The opening of the yachting season is about the first of May. As a rule, the new year is not very far advanced before the crews feel themselves drawn toward the water, and scraping and punting begin, so that by the opening of the season the boats are in fine shape. Racing is at its prime during the first part of the season, as few week-end trips are made before the

La Jolla, one of the fast boats

Transite
ASBESTOS SHINGLES

Residence of Ernest Scaring, Esq., Merion, Pa.
Druckenmiller & Williams, Architects

Asbestos Shingles Cannot Burn—They are Fireproof

JOHNS - MANVILLE Asbestos Shingles are approved and labeled by the Underwriters' Laboratories, Inc., under the direction of the National Board of Fire Underwriters.

BECAUSE they're made of Asbestos Fibre combined with Portland cement, there's nothing in Johns-Manville Asbestos Shingles to burn, rot, curl, split or wear out. With these shingles on your roof, your house is safe from roof-communicated fires. Moderate in first cost, they pay dividends in long years of service with little, if any, upkeep expense.

You may select your roof color from a choice of Indian Red, Soft Gray or Brown Shingles; or combinations of these colors for beautiful mottled effects.

Johns-Manville Asbestos Shingles are made in a variety of sizes in both square and hexagonal shapes and in two thicknesses, with a choice of rough or smooth edges. They require no special skill to apply. Your carpenter, roofer or slater can handle them as easily as wood shingles, tile, or any other applied roofing—and on the same weight roof rafters — because these shingles are light in weight.

Johns-Manville Roofing Responsibility

By an exclusive system of registration your Johns-Manville Roof is entered in our records and it is then our obligation to see that it gives you the full service promised.

H. W. JOHNS-MANVILLE CO.
New York City
10 Factories—Branches in 55 Large Cities

J-M TRANSITE ASBESTOS SHINGLES

An attractive shingle booklet will be sent free on request

From Stormy North to Sunny South the "Great White Fleet" uses Valspar

The United Fruit Company first tried Valspar on several thousand steamer-chairs. Here the service was very severe. Standing on the decks they were exposed to the extreme of cold salt spray, rain and snow. Almost overnight they went into the other extreme—tropical sunshine.

This severe test, including rain, snow, salt water, sun—all ruinous to ordinary varnish—demonstrated the unusual quality of Valspar. After months of exposure the varnished surface was as bright as new, unharmed and unspotted. Imagine how long your varnished floor or dining-table would last under this treatment!

The result of practical tests was so conclusive that the "Great White Fleet" now uses Valspar on all its steamers for every bit of varnished work, inside and out.

You need Valspar in your bathrooms, kitchen, laundry, pantry; in your halls, on the front doors, and on all your furniture, because it is spot-proof and water-proof—in fact, the way to keep Valspar bright and new is to wash it freely. Examine your woodwork carefully, note the many shabby spots where Valspar if used would not become shabby. Valspar has no substitute.

Special Offer

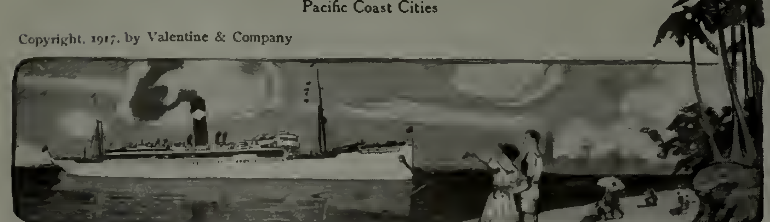
We will supply a small can of Valspar for 20c in stamps, enough to make a real test in your home. Send to-day, to Valentine & Company, 442 Fourth Avenue, New York.

VALENTINE & COMPANY
Established 1832
Largest Manufacturers of High-grade Varnishes in the World

New York Chicago Boston — TRADE VALENTINES VARNISHES MARK — Toronto London Amsterdam

W. P. FULLER & CO., San Francisco and Principal Pacific Coast Cities

Copyright, 1917, by Valentine & Company



Mischief II and *Alert*, the latter said to be the fastest sailing yacht on the Pacific Coast

first of July. Up to that time the races have many entries. Later in the summer cruises are more in evidence.

Sometime during July or August there is a regatta at San Diego or Santa Barbara, at which boats from all the southern clubs are entered.

Yachting about Santa Barbara has had a fluctuating popularity. The city has no smooth-water anchorage, and it is sometimes difficult to get to and from the boats; but the club there is composed of enthusiasts who are ever ready to show what they can do ashore and afloat. The weather conditions for sailing are favorable, as they have very little light weather, and a good sail down breeze is usually in order.

The harbor of Los Angeles boasts three clubs, the Southern California Yacht Club, which is the oldest and best known, the Los Angeles Yacht Club, which has its anchorage at Long Beach Harbor, and the Los Angeles Motor Boat Club, which is the youngest but is fast becoming the largest, as most of the recruits in the boating game are power-boat men.

The Southern Coast Yacht Club has been a big factor in boosting the sport. It took over the Trans-Pacific races when the fire made it impossible for San Francisco to foster them, and carried them on with such success that at least three boats started in every race. During the Panama-Pacific Exposition a race was arranged through the efforts of Commodore Soiland in which five boats made the trip from Los Angeles to San Francisco. The largest of the five was less than eighty tons, the smallest less than forty.

Off-shore sailing is still popular, as is shown by the fact that there are two annual races of more than fifty miles, sailed under the direction of the Southern Coast Yacht Club. These are for the Montgomery Cup and for the Nordlenger Trophy.

The Los Angeles Motor Boat Club is composed almost entirely of men who enjoy cruising and fishing. As a result there are few speed boats, but the enthusiasm of its members makes up for any lack of the excitement of racing.

A new club has been started at Newport—the Newport Yacht Club. This club has every chance of becoming one of the leaders, as it has a delightfully quiet bay unmolested by commerce, and will soon have an easy passage to the ocean. At Newport it is possible to anchor one's boat at the back of his summer home, a privilege not enjoyed elsewhere in southern California.

San Diego bay has three clubs, the San Diego Yacht Club, the Chula Vista Yacht Club, and the Coronado Yacht Club. This insures plenty of racing and keen competition. There are fewer of the cruising boats and more of the racing class in the San Diego clubs, as their nearest point is Avalon, which is seventy-five miles away.

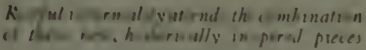
Sailing around San Diego is pleasant but not strenuous. The wind is seldom heavier than twelve miles per hour, so the boats have enormous rigs and as a rule very little spray is taken.

On the whole, each year sees a lessening interest in racing. Those who a few years ago were its backbone have now given up the sport or own cruising boats, and the younger generation are going in for power boats.

Stern view of *La Jolla*, with all sails spread

STYLE TENDENCIES *in* NEW FURNITURE

A COLLECTION OF INTERESTING PIECES WHICH SHOW THE HEIGHTS THE MODERN DESIGNER IS ATTAINING—*From Berkey & Gay*



[illegible] the combination of [illegible], historically inspired pieces

TODAY there is a decided tendency toward furniture which preserves adequately our artistic heritage in design, and which, at the same time, is expressive of our vigorous modern life.

HOW THE NEW NOTE IN THE LIVING-ROOM ORIGINATED

The more closely we analyze the modern treatment of the living-room, the more clearly we see that the newest tendency is towards a combination of varied styles.

That we are attaining in this country much of the informal, intimate background of the English living room is due to the ability of our gifted American designers. From Berkey & Gay furniture it is possible for you to select pieces that are inspired by different historical periods, yet which have that kinship which makes their combination successful.

A DISTINCT DEPARTURE IN THEME FOR THE DINING ROOM

One designer has struck a genuinely refreshing note in dining-room furniture as is evidenced by the illustration in the center.

This style is the latest expression of the originality of Berkey & Gay's designers. Back to mediæval Spain they went for the motif and so successfully have they bodied forth their new creation, that it stands to-day as the most vital modern representation of Spanish art in furniture

This new Span-Umbrian furniture, with all the dignity and richness of colorful mediæval days, fits graciously into the modern home

Simple lines and the delicate touch of fine carving recall the beauty of old France

In every piece of this new Span-Umbrian furniture, one notices a material departure from generally accepted forms. A delightful court cabinet replaces the conventional china closet, while the novel linen chest is convenient and extraordinarily attractive.

THESE NEW PIECES FOR THE SLEEPING-ROOM EXPRESS FINE OLD IDEALS

Perhaps the most difficult task fashion imposes upon the furniture designer to-day is the re-creation of historical ideals. Observe how successfully it has been accomplished in this new conception of the Louis XVI style—that design whose restful simplicity was welcomed by the gay court of Marie Antoinette, weary of ornateness. Just so, we find in this modern interpretation the welcome simplicity, the harmony, that give unending satisfaction.

Write Berkey & Gay for the name of a shop near you where you may see their new work, or ask at your favorite shop for a letter which will admit you to their permanent Exhibitions in Grand Rapids or New York

What room would not gain distinctive charm from any of these interestingly varied new pieces, gracefully designed, beautifully carved?

Their Leaflet Library will save you mistakes—costly ones, perhaps. This consists of intimate talks on the new treatment of rooms illustrated with over 500 pieces of furniture. It will be sent to you for $1.00. Write Berkey & Gay Furniture Co., 180 Monroe Avenue, Grand Rapids, Michigan

Quality is Economy

The Murphy Varnishes

"the varnish that lasts longest"

They are as brilliant as any—more so than most.
They flow as freely as any—more so than most.
They cover as much surface as any—more than most.
They are as dependable as any—more so than most.
And they last the longest—not as long as any, even the next best—they last the longest.
Really and truly the longest.

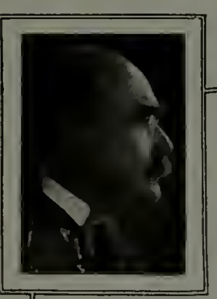
Ask your dealer or your painter

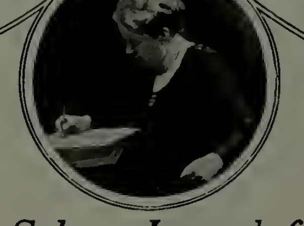
Murphy Varnish Company

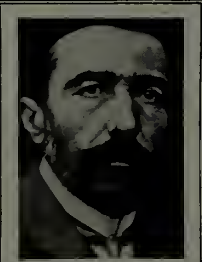
Franklin Murphy, jr., President

Newark Chicago

Dougall Varnish Company, Ltd., Montreal, Canadian Associate







Kipling

A new volume of short stories the first by this master since "Rewards and Fairies," nearly seven years ago.

A Diversity of Creatures

containing fourteen new stories, with as many new poems, is one of the literary treats of the year. (*Net, $1.50. Pocket Red Leather Edition, Net, $1.75.*)

Send for Free Kipling Index

Selma Lagerlöf

The Swedish woman novelist whose fame has spanned the world.

The Northland Edition

presents for the first time in uniform binding, nine volumes of her works.

Translated by Velma Swanston Howard:
The Emperor of Portugallia; Jerusalem; The Wonderful Adventures of Nils; The Further Adventures of Nils; The Girl from the Marsh Croft.

Translated by Pauline Bancroft Flach:
The Miracles of Antichrist; The Story of Gösta Berling: Invisible Links.

Translated by Jessie Brochner:
From a Swedish Homestead.

(*in limp leather, each vol., net, $1.75. Also in cloth editions.*)

Send for Free Lagerlöf Booklet

Conrad

Conrad has written a tale which ranks with the great sea masterpieces—"Typhoon," "Youth," and "Nigger of the 'Narcissus.'"

The Shadow Line

is the dim border line between youth and manhood which a young captain is three weeks in crossing: with a fever-stricken ship in the Gulf of Siam and no quinine in the medicine-chest! (*Net, $1.35. "Deep Sea" Leather, Net, $1.75.*)

Send for Free Conrad Booklet

Your Bookseller Will be Glod o Show You the Works of These Authors

Published by DOUBLEDAY, PAGE & COMPANY, Garden City, New York

WHEN TO PICK THE FRUIT

ONE great advantage in growing one's own fruit is the fact that it can be picked at exactly the right time—if one knows when that time arrives. The quality of high-grade fruit is often impaired because it is not harvested at just the right moment. There are a few simple rules which govern in this matter. Winter apples, for instance, must not be picked until they are fully mature, averaging about October 10th. They should be of full size and well colored, but not overripe. Some people think the Spy is improved by allowing it to hang on the trees a few weeks after the first frost. Summer apples are better picked before they are ripe. They should be mature and well-colored, but not soft, as a general rule. Apples should be picked on a bright, airy day, handled carefully, and stored in a cool place as soon as possible. The best apple trees are headed low. Mr. J. H. Hale, the famous Connecticut horticulturist, has hundreds of trees on which 90 per cent. of the apples may be picked without the use of a ladder. This means constant cutting back. The Williams apple is often allowed to drop on straw spread under the trees.

Pears are ready to be picked when they can be readily separated from the branch by bending them gently to one side with the hand. They should break at the spur; if the stem breaks below the spur, picking should be delayed. When this rule is followed, it will be found that the pears are not fully ripe. Some of the best varieties rot at the core if allowed to ripen on the tree. For home use, the pears should be ripened in the house. A good plan is to wrap them in porous tissue paper and store them in a cool place. Just before they are to be eaten, they should be brought into a warm room, but not unwrapped. If there are many of the pears, they may be placed between layers of woolen blankets in an unused room in which the windows may be allowed to remain open.

Plums may be permitted to hang on the trees until they are ready to eat, although some varieties will submit to earlier picking when it is necessary to ship them. Those that remain on the trees until fully ripe are decidedly the best.

Cherries should be ripened on the trees unless there is some special reason, like rot or small boys, to encourage their earlier picking. If rot develops just before they ripen, the cherries must be harvested at once in order to prevent loss. The late Rev. E. P. Powell recommended planting a few mulberry trees to absorb the attention of the birds at cherry-picking time, as the birds seem to prefer the mulberries.

Grapes do not improve in quality after they have been picked, as do some fruits, and so should be allowed to remain on the vines until fully mature. In many home gardens they need to be protected from frost, so that they may become fully ripened on the vines. This protection may be offered by hanging blankets over the vines, or by standing corn stalks or pine boughs around them.

If the grapes are to be kept for some time, they may be packed in single layers in boxes with dry cork waste or sheets of cotton. They should be stored in a cool, dry place, but where they will not freeze. A damp place is particularly to be shunned.

Peaches are tested by pressing the thumb gently against them; if the peach yields to the pressure, it may be picked with safety. This test is not needed in the home garden, however, where it is best to leave the fruit on the tree until it is fully ripe, for in no other way can the genuine peach sweetness and flavor be secured. Some of the early varieties may manifest a tendency to rot, in which case the crop should be gathered, even though they are only beginning to get their ripened color. The really luscious peach, though, is the one which hangs on the tree until it is just ready to drop, and falls into the hand when it is touched.

E. I. Farrington.

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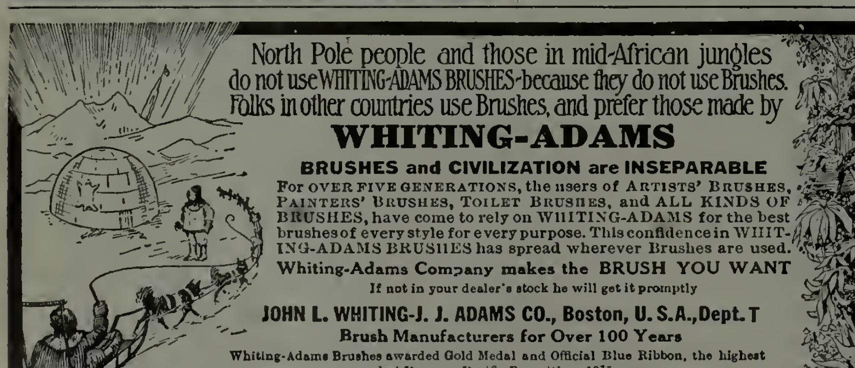

BUSTER

WE FOUND him in a veterinary hospital in New Orleans. He was a fine, big dog, apparently half bull and half terrier. His head and jaw were magnificent, and his body beautifully made. For six months he had been kept at this hospital, in a wooden box about six by two feet, scarcely of a depth to permit his turning around in comfort. He had received such occasional exercise as was given him by the darky who looked after the cleansing of the kennel, and from long confinement and improper feeding had become so cross that even the darky scarcely dared go near him. His unusual appearance, and the obvious fact of his ill treatment, made us want him badly, and after a little parley, the veterinarian let us have him for the payment of his board bill for the six months. He said that the owner had left him there six months before to be boarded, and had never returned for him. As the dog was very obviously one which no one would give up, or leave in such a place unless under grave misapprehension as to its character, we doubted the strength of this tale, particularly when the darky brought in the dog's collar, which bore the name of his owner. We were in New Orleans for only two days, and tried to find the man whose name was on the collar plate, but without success, so we left our name and address at the kennel, in case he should turn up.

We took Jack, as we called him (the name on his collar was Buster) to Pass Christian, Miss., and for some days, the only persons who could approach him with safety were his new master, whom he loved at once, and the cook. For the cook, who fed him every good thing she could think of in the effort to help us build him up, he had a blind devotion. After a day or so had passed, he came to the bed one morning, and laid his soft black muzzle on his mistress's hand. It was his first manifestation of affection for her, but from then on he became her devoted slave. After about a week had passed, and he was more than firmly established in the hearts of the family, he astonished us all by bringing the morning paper to his master, wagging his tail in a perfect ecstasy of delight at his knowledge of what to do with it. Later that same day, he went out from shore and brought back a lost "bobber" which had fallen from one of the fishing poles, laying it with great pride at our feet. He would take his mistress's skirt, or his master's trouser leg in his mouth, and lead them wherever he wanted to go at the moment. Candor compels us to admit that his journeys usually led to the ice box.

He was perfectly happy when in an automobile. The faster we drove, the better he liked it. Some one had loved the dog, and had apparently led much the same sort of life that we do, for he at all times exhibited perfect familiarity with every condition that arose. Trains, automobiles, steamers, all were one to him. His conduct was always perfect.

When the time came for our journey to Panama, Jack was the king of the boat. The sailors adored him, and spent hours playing with him, and marveling at his teeth and strength. By this time he was sleek and plump, with a coat like silk, and the disposition of an angel. We brought down two wolfhounds at the same time, and for them and for Jack we had a concrete kennel constructed, which they seemed to like mightily. He played a great deal, and seemed to enjoy his swims at the bathing beach more than anything else. He was bred to a fine bulldog here, Princessa, the property of Señor Lavilla of Panama.

After he had been here about six months, the symptoms of advancing age began to manifest themselves, and he became a bit crotchety, as the old sometimes will. We could not allow him to go out with his master in the street as he had done. There seemed to be a fatal attraction which drew together the brown Panamanian shin and Jack's jaws. So he became the house guard, and the well-beloved of all the darkies on the place, toward whom he never displayed the slightest animus. None, however, could touch anything which he knew belonged to his master or mistress. A low growl and a lowering of the massive head told the offender that he was on dangerous ground. He formed a fast friendship with three squirrel monkeys, and his particular *bete noir* was the little man who brought our ice. Waking or sleeping, Jack never failed to hear the wagon when it

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The New COUNTRY LIFE
GARDEN CITY NEW YORK

drove up, and his deep voice did not cease to complain until it had passed from his sight.

In June of this year, he developed that malignant horror, dumb rabies, and had to be given his passport into the Heavenly Kennel, where we hope one day to find him again.

We would like to find his former owners, somehow, were it possible. Everything about the dog pointed to the fact that some one, somewhere, had given him loving care, and we have always believed that either loss or robbery led to the plight in which we found him. We have two of his pups by Princessa—beautiful little dogs—and could we find Jack's former master or mistress, we would like to give them one. The high intelligence of the dog is at least not lost.

Stevens Gauson.

HAVE YOU ANY GOOD SEED TO SELL?

THE fact that in some sections there is a shortage of good seed while in others there is a surplus makes it possible for the Committee on Seed Stocks of the United States Department of Agriculture to help in the distribution of these surpluses. The Committee wishes, therefore, to locate all available stocks of good seed of agricultural crops, especially wheat, oats, rye, crimson clover (in the hull or hulled), and hairy vetch. The Committee will be glad if anyone, farmer or dealer, will send information in regard to the quantities and prices of seed of the above sorts which he can offer for sale f. o. b. his shipping point, bags extra or included as the case may be. The information should give in each case the name of the variety (especially in the case of grain crops), condition of the seed as to purity, year grown, and the price. The Committee will then undertake to get such information into the hands of those who want the seed.

The Committee hopes that this request will receive wide circulation and an *immediate* response, as it is now time to get seed in the hands of planters for fall use. Address Committee on Seed Stocks, U. S. Department of Agriculture, Washington, D. C.

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PROPERLY constructed, concrete makes an admirable floor for a poultry house. For a permanent building, a trench two or three feet deep should be dug for the foundation of the house, and filled with small stones or cinders. The foundation wall should be about eight inches thick, and extend well below the surface. Inside this, cinders six or eight inches deep may be placed, and on these, two or three inches of concrete mixed in the proportion of one part cement, three parts sand, and five parts cinders. Mix these thoroughly before wetting, and when all is thoroughly wet, spread evenly and tamp down firmly. Finish with a layer about an inch thick made of one part cement to three parts sand, leveling it off perfectly smooth and even. Such a floor will be vermin-proof, rat-proof, and durable. A thickness of roofing felt or paper beneath the concrete will aid in excluding moisture if the location is such as to render it liable to dampness. A thin layer of asphalt would accomplish the same purpose. An inch or two of dry earth on the floor, with plenty of good litter, will give excellent results. The concrete work should not be done when it is so cold that the concrete will freeze before it dries.

F. H. Valentine.

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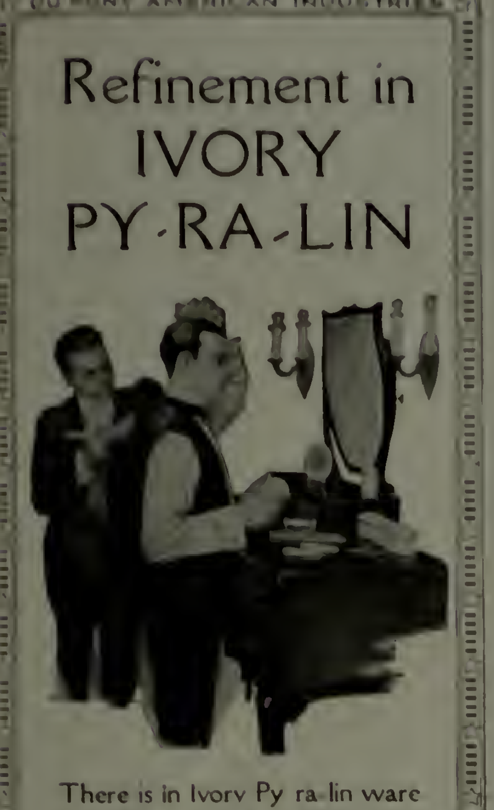

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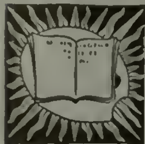

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HOLT had carefully prepared the charge, lit the fuse and, shutting the back door behind him, ran as hard as he could.

He didn't know that an old man and a boy were in the house—not until he collided with Dingby, wet and breathless, half-way up the slope.

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The Great Tab Dope

Garden City **DOUBLEDAY, PAGE & COMPANY** New York

GOLF SCORING

TWENTY years from date I can write as clear an account of Walter J. Travis winning the Florida golf championship last year from Reginald M. Lewis, the young Wykagyl wonder, as I did the night of that match. I can do this because the scoring system which I use records exactly each play—the nature of the lie, kind of club used, how far and in what direction the flight went, was it sliced, pulled, or true, who had the honor at the tees and what happened on the greens—the tell-tale of every match, where hopes are born anew or die ignoble deaths, be the putter gooseneck or Schenectady. Every detail of play is set down so carefully that, had you not been of the gallery, you could follow the match stroke for stroke at any time thereafter, with more complete understanding, I fear, than had you been told all about it at the nineteenth. Fortunately, the plan has been put to more practical use than the mere recording of matches but—more of that later.

The idea was born of necessity. I had found the reporting of golf from my notes and score-cards to be no sinecure. Granted that you can fill your readers to overflowing with thrills and pad your story with putting psychology, it is nevertheless true that your golfer demands that his golf literature be cold, hard facts. Reduced, this means, "Why did So-and-so win?" My problem was to give the reasons.

This resulted in my improvising a score-card which was nothing more than a topographic map of the particular links, which the particular match I was to report was being played over. Every worth-while club has such a map. Trace it on a sheet of cardboard, and you have your score-card.

Armed with this and three pencils of as many colors, I defy any golfer to fool me about his game. When the game is over you have before you as you write an absolutely accurate record of everything that the contestants did, from anticipation to realization. Maybe you can't punch flaws in the play!

To score a match with this equipment, let us, for example, take the Travis-Lewis meeting at Palm Beach last winter. You write Travis's name across the top of your card with a pencil, say, a red one, and Lewis's with, say, a blue. All through the match you must hold to this color scheme absolutely—the strokes of Travis in red, those of Lewis in blue. You make needed notes with your third pencil—a black one.

Scoring the first hole of that match will explain the scheme. Travis has the honor. Always you note who has the honor by this method: If the fairgreen runs across your miniature links, or score card, the upper stroke leaving the tee is the honor one. If the fairgreen runs up and down, the stroke to the right is the honor one. These strokes, as you will see, are but reproductions with the colored pencils of the actual strokes played in the match.

Travis, using a driver at the tee, sends the ball straight for the right edge of the green and ten yards short of it. You indicate this by drawing a red line from the upper corner of this tee (thus noting the honor) to the point on your map where the ball is found, marking a "D" under this line to indicate what club was used. Lewis's tee shot, made with a midiron, is hooked to the left into a sand pit 180 yards away. With the blue pencil you follow the flight of this ball on your score-card from the lower corner of the tee (to avoid confusing the honor) to the sand-pit, indicating the slice by curving your pencil mark and the fact that a midiron was used by writing "M-I" under this curved line. Thus you record each stroke until you get to the putting greens. It is superfluous to note the club used here. You do indicate, however, under the line of each putt, the number of feet from ball to cup. This will automatically record exactly what the ball does. Should it sink, the line proves that; and should it overrun or stop short or go to either side of the cup, the figure under the next putt will indicate the exact number of feet that the former putt missed.

My diagram shows that Travis won the first hole with a 3 and that he used a putter for his approach from ten yards off the green—the custom on sand greens. Also, that Lewis's mashie out of the sand pit crossed the green, giving him a long putt for a half, which overran

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DOUBLEDAY, PAGE & COMPANY, GARDEN CITY, NEW YORK

the cup. Back of Travis's tee shot from the second, where he used a mashie, are the figures "3–1" (in red), telling the whole story of the first hole—that he won it with a 3 and was 1 up. Thus you score.

Now suppose Lewis had won the fifth with a 4 and was 2 up. Back of the sixth tee you would jot down "4–2" in blue figures. Or suppose, should you look at my score of that match and see the red figures "3–1" at the ninth tee. You are right, this does mean that Travis won the eighth and was 1 up starting the ninth.

The black pencil is a great aid. With it you jot down anything unusual exactly where it happens. These notes can often be made to tell the whole story. Here is one such, "Movie man—W blows." It recalls for all time that at the tee where the note is written a certain famous but temperamental player went soaring when the movie man attempted to register him driving.

Scoring golf in this way and reading such scores is not complex. Any player can do either. It is no trouble whatever to transfer the rough score thus made to a printed topographical map, which can be used both for exhibition purposes at the club or hotel, and as a permanent and infallible record of the finals of a tournament.

Also the plan can be used by the individual golfer to aid his game. Small scale topographical maps of any course can be printed on the regulation score-card, nine holes to each side. On them any golfer can keep an accurate record of his play—just what he is doing with each club. No other critic will be so exacting. One cannot go wrong with such a system, and not note the errors. True, the correction of them is another matter but, after all, golf is like life and he who knows himself is on the threshold of great accomplishments.

SOL METZGER.

A BIRD VISITATION

REMARKABLE and beautiful visitation of birds occurred in Seattle, Wash., on January 2nd of this year; great flocks of bluebirds and robins, intermingling, stopped in their passage northward over the city long enough to feast on the berries of the many madrona trees growing in one of its suburbs on Puget Sound. After feeding, they swept on to the north, keeping well to the shores of the Sound, along which the prolific fruit-bearing evergreen madrona trees are abundant.

On January 4th, about eleven o'clock in the morning, messages reached the editors of the city papers that hordes of birds were coming out of the south, across Lake Washington. The first groups were reported flying in compact companies, like swiftly sailing dark clouds, following each other in quick succession, and speeding north along the lake shore. But no sooner had they passed than the air again was darkened by vast numbers of larger birds which seemed in hot pursuit of the first flocks. On and on they came in thickly crowded lines stretched out for blocks.

They were robins, and unlike the birds fleeing before them, caught the glint of fruit that must have suggested cherries as they reached the lake shore. They swept down upon the trees in the city parks and about the residences of the locality until they were aflame with the red-breasted chatterers. Their noise was amazing as they fed greedily on the various fruit-bearing shrubs and trees for which Seattle parks and lawns are famous.

After gorging themselves and making profligate waste until the floors of the parks were red-strewn with the fruit that fell as they stripped the clusters, they rose, one flock after another, and continued their purpose of following or pursuing the flocks that had preceded them.

But while the invading hosts of robins were sacking the parks and vicinity of their brilliant winter coloring, the advance guard of the winged fleet had invested a strictly residential section of the city and had taken possession of trees, wires, lawns, and even the housetops and rafters of outbuildings there. Messages from that locality told of the thrilling sight of tremendous numbers of Bohemian waxwings dining in stately decorum not only on winter fruit, but gleaning chance insects from the air, and serving one another daintily with angleworms on the lawns, still wet with the morning's rain.

The approach of the robins caused the waxings to rise from their feasts in well-defined flocks and speed away northward.

By two o'clock in the afternoon, the fruit-

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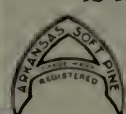

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Now, there has grown up in the City of Baltimore, in connection with a great private day school, a Home Instruction Department, the high object and purpose of which is the education of children from four to twelve years of age, entirely in their own homes and yet according to the best modern methods and under the guidance and supervision of educational experts, who are specialists in elementary education.

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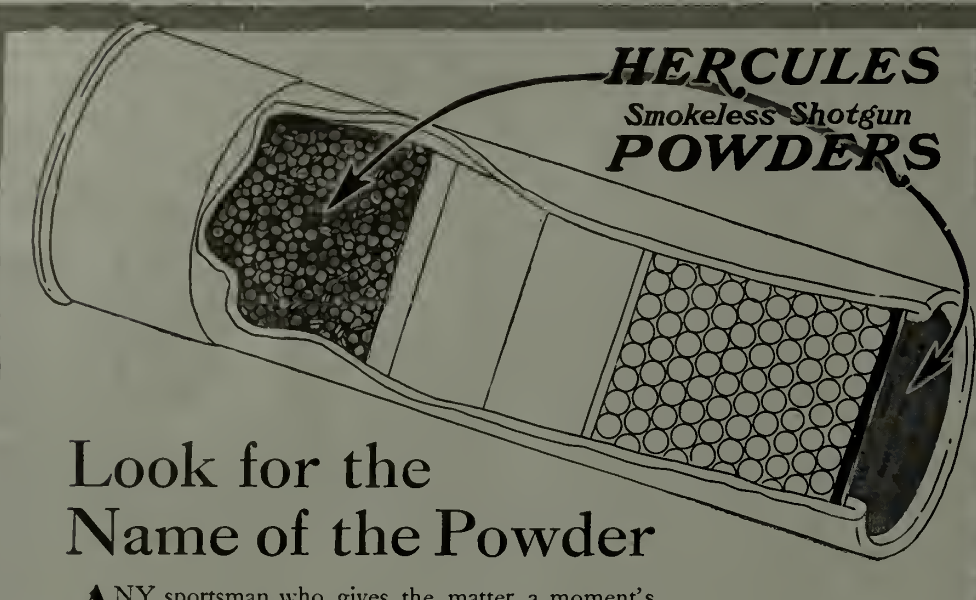

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AT ALL BOOKSELLERS

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strewn lawns, parks, and parking strips were the only evidences of the bird visitation. Authorities in ornithology, known bird students and bird lovers, pioneers, old hunters, and newspaper men were kept busy on the telephone the remainder of the day listening to descriptions of the strange and unusual spectacle and to inquiries as to the meaning of it or what the event might presage. None could offer an explanation nor forecast its significance, for not in the history of the Northwest has such a visitation of birds ever been witnessed before, even when migration either north or south is at its height. Furthermore, Bohemian waxwings are but rare or casual visitants west of the Cascade Mountains in the State of Washington.

To the delight of many who had not witnessed the previous aërial pageants, an opportunity was given them to enjoy the beautiful creatures, for on the following day the birds were reported entering the city again, this time from the north. Up to January 11th they visited the city daily, appearing about noon and taking their departure between two and three o'clock in the afternoon.

While here, they disported themselves among the trees, robins and waxwings intermingling in complete harmony. They fed, rested, and made hurried flights from one feeding place to another. Whether at rest or in flight, the waxwings held social intercourse in peculiar high pitched, sibilant squeaks, very faint, and in a quavering monotone. So faint, in fact, that only the ear of one trained in bird calls would hear it were he to pass among trees sheltering many. But this bird holds first place in the heart of a bird lover for refined elegance and gentle dignity.

The throngs of robins were like all other robins, boisterous and cheery. Many indulged in song, but the notes lacked the unbounded joy of their springtime lays, and seemed phrased for gray skies and leafless trees.

Both waxwings and robins preceded their departure from the city each day with a few aërial movements. The waxwings seemed the better organized and when fully prepared to make the final flight, sped away in spherical, compact masses.

Robin's social habits cling to him in every situation. In the long, loose columns in which they departed for their night lodges, he would lag, speed, or play as his fancy dictated.

No word came from any observer concerning the night shelter of these myriads of birds. It is thought by those who were greatly interested in their movements that, judging from the time they reached the city each day, it must have been in the deep fir forests some distance to the north.

Susan M. Kane.

Editor's Note: The migration of birds at any season of the year, with the possible exception of spring, apparently is determined entirely by the failing of the food supply. Of just how extensive the migrations are, and what vast numbers of birds are at times affected by them, we now and then get a glimpse when the feathered hosts appear by day, or a morning reveals the fact that a great catastrophe has overtaken a multitude of them by night.

As the writer has already recorded in "The Bird Study Book," there appeared one morning in the town of Georgetown, S. C., thousands upon thousands of woodcock. All the birds were in a more or less exhausted condition and it was possible to pick them up in the hand, or kill them with sticks. The explanation of this woodcock inundation was that an unusually prolonged cold snap had frozen the mud of the swamps along the three rivers converging at this point, and the birds, unable to push their bills into the earth, had passed down to the coast in the hope of finding food.

In August, 1893, probably half a million Wilson's petrels were driven ashore in a dying condition on the North Carolina coast between Beaufort and Cape Lookout, ten miles distant. These birds breed in the South Atlantic and come North to pass the summer off our coast. A severe southeast gale had prevailed for three days and a flock of petrels of greater numbers than are usually known ever to gather in any one part of the sea, had been overcome. What the situation was in reference to the food supply, that caused so many of them to be in such a limited area, has never been explained.

On the night of March 13, 1904, Lapland longspurs in unbelievable numbers lost their lives during a snow storm in northwestern Minnesota. Evidently the birds were on their way from the prairies of Iowa to their breeding grounds in the far North. The numbers destroyed this one night ran into the millions, as reported by Dr. T. S. Roberts, the most noted ornithologist of the Northwest.

The extremely heavy snows in the mountains of Washington and Oregon the past winter will doubtless prove to be the reason for the unusual appearance of the waxwings and robins reported by Miss Kane as appearing in Seattle during the month of January, 1917.

T. Gilbert Pearson.

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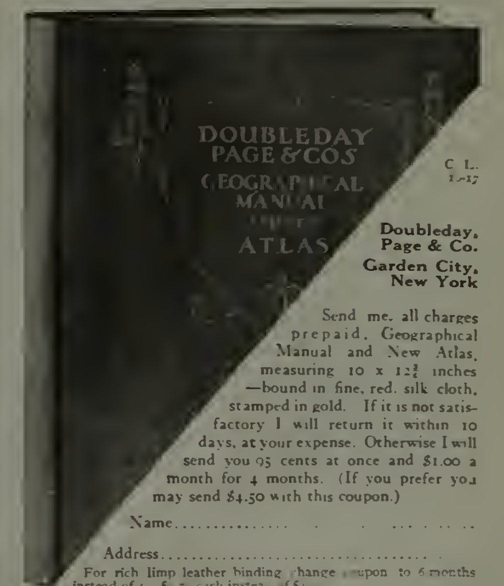

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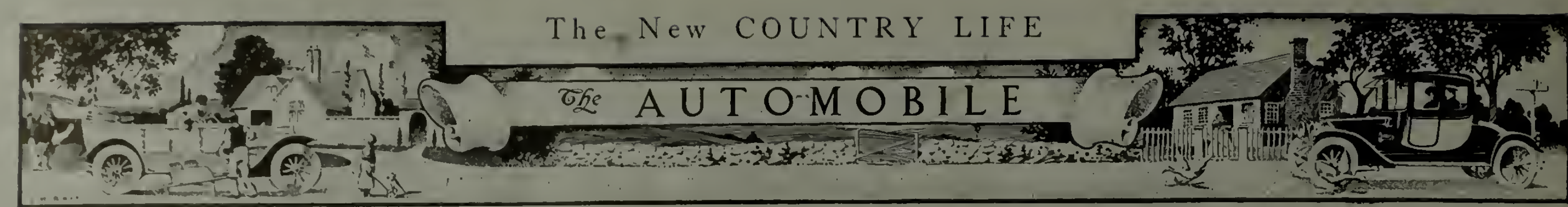

The CLUTCH—*its* CONSTRUCTION *and* CARE

By ALEXANDER JOHNSTON

WITH the rear axle unit, the clutch of the modern motor car probably shares the honor of being the least understood and most abused mechanical element in the make-up of the vehicle. Possibly the transmission may apply for membership in this select circle of the neglected, but that does not alter the fact that the average owner scarcely knows what type of clutch is used in his car. This may be cited as a testimonial to the excellence of design and workmanship embodied in the ordinary clutch, which must be efficient to be thus anonymous. Nevertheless, even the most durable clutch requires some attention to keep it in good running order, and if every owner of a car knew something about the construction and operation of the part, he might be tempted to use it with a little more consideration than it usually receives.

There is no need here to do more than allude briefly to the function and location of the clutch. The purpose of this part is to act as a flexible coupling between the power generating unit and the transmission element. By its means the power is transmitted to the rear wheels or removed from them, as the driver desires. The clutch is invariably located between the engine and the transmission, the logical place at which its function should be applied.

Another tribute to the general efficency of modern clutches is to be found in the fact that, while minor trouble in this part will produce major effects on the operation of the car, yet clutch trouble is not among the common complaints of American motorists. Among the demands made upon the clutch are that it shall not slip in ordinary operation, and yet, on certain occasions, it must be possible to slip the part as an actual help in the control of the car. Here are two very nearly conflicting demands of service, yet the average clutch must and does meet them. The clutch must be so constructed that it will take hold without grabbing—that is, gradually, without shock or jar. This too, the average clutch will do, if it is properly handled. Again the clutch must not spin—that is, it must not continue to rotate for a considerable time after it has been thrown off, otherwise the difficulty of shifting gears will be increased, and in the case of the average driver, this would be like painting the lily. Further demands are that the clutch shall be strong, able to stand punishment, and that it shall have simple means for making adjustments. A fairly comprehensive list of requirements and one that taxes engineering ability to fulfil.

There are to-day three distinct types of clutch in use—cone, disk, and plate. Of these the cone clutch is the oldest and it still maintains a hold on popular esteem, although the past few years have seen a remarkable increase in the use of disk and plate clutches. Giving it its historic position of predecessor, we shall consider the cone clutch and the care it needs before proceeding to the others.

The name "cone" serves very well to describe this type of clutch. The part actually consists of a cone, which fits snugly into a hollow in the fly-wheel, being held in that position by the action of a spring or springs. The means of control of the part is a pedal, pushing which draws the cone out from engagement with the fly-wheel. When the pedal is released the spring forces the cone into the fly-wheel member and the power from the engine is transmitted back to the driving wheels. The surface of the cone is faced with a band which may be either of leather or asbestos fabric.

Altogether the cone clutch assembly is a simple affair, consisting merely of the cone, a clutch shaft with appropriate bearings, and the spring or springs to keep the cone in engagement with the fly-wheel when power is wanted. When only one spring is used, there is a spring casing to carry the drive back to the gearset. The other spring type consists of a number of small coil springs, which perform in unison the work otherwise taken by the one big spring. The advantage claimed for the small spring idea is that the individual springs are easily adjusted, means to that end being provided, while with the single spring type it is necessary to use an adjustment collar and sometimes even this is lacking, and a shim or a new spring must be resorted to in making adjustments.

The clutch member, of course, requires bearings, the ball type being generally employed. The usual type of construction places a ball bearing in the centre of the fly-wheel member. Another ball bearing is used to take up the thrust of the spring.

The principal disadvantage charged against cone clutches is their tendency to grab in engaging. Instead of settling gradually and smoothly into the fly-wheel member, they seem to catch too rapidly, so that a shock results as the power is sent back to the driving wheels. Innumerable designers have spent sleepless nights trying to devise means to overcome this characteristic of the cone clutch. The most successful attempts to cure the trouble have taken the form of flat springs under the leather, plungers actuated by springs pressing against the under side of the leather, and circular springs in the fly-wheel member. The intention is to have the cone take hold by degrees. Many of the cone clutch designs are 100 per cent. efficient, engaging smoothly and firmly, with no tendency to slipping, but the feeling among engineers seems to be, nevertheless, that the disk and plate clutch types are even more efficient on the whole, and there is a decided drift toward their use. A few years ago the cone clutch had practically a monopoly of the field, while to-day it is found on no more than 30 per cent. of the total output of American motor cars.

Within the past year or so there has been introduced a rather curious variation of the cone clutch type in the shape of a cone running in oil. This form of construction has long been familiar in disk clutches, but it is a distinct innovation in cone clutch design. The oil cone does not differ greatly in general form from its dry relative, but it is enclosed in a housing that retains the essential oil. The facing in this case is of asbestos fabric. Two popular priced cars have adopted this design, which seems to be giving reasonable satisfaction.

Now as to the attention that the cone clutch requires to keep it in good working order. The most likely trouble with this type of clutch, as mentioned before, is grabbing, harsh engagement. Sometimes this may be cured by adjustment of the facing springs or by their replacement. On the other hand the car owner will often adjust several times without getting the desired results. In this case it is better to submit the problem to an expert, presumably at the local service station of the car in question. Sometimes the trouble may lie in the clutch facing; the leather may have become hardened and a little treatment with neatsfoot oil may cure the malady. Many motorists find it beneficial to remove the leather, soak it in oil, and run it through a clothes wringer. This squeezes out the excess oil present, and makes the leather pliable and also swells it slightly, which keeps the clutch from slipping after the facing is returned to its place, while the oil still present tends to obviate the grabbing.

This brings us to the second conventional cone clutch malady, which is slipping. In applying oil to the facing, care should be taken not to overdo the application. An excess of oil naturally makes the part so slippery that it fails to perform its essential function. In applying oil to the leather facing with the clutch in place, the best method is to distribute the lubricant evenly over the surface with a fine brush. It not infrequently happens that in the course of ordinary operation, grease collects on the face of the cone clutch in sufficient quantity to interfere with the functioning of the part, which develops slipping. In this case the cure is effected by scraping off the grease or gum with a sharp piece of wood and then applying to the surface a coating of fuller's earth, which may be purchased in any drug shop. It is well too, to give the surface of the fly-wheel member of the clutch assembly whatever attention it needs when caring for the cone facing.

The clutch facing will require renewal from time to time; just how often is hard to say, as the amount of wear will depend largely on the driver's method of using the clutch. In certain cases where clutch trouble has been chronic and all the efforts made to cure it have proved unavailing, the change from a leather facing to one of asbestos fabric has been known to work wonders. It is worth trying as a last resort. Asbestos facings may be had ready cut to fit any clutch.

Another possible location of clutch trouble is found in the spring or springs that are provided to keep the part in snug engagement with the fly-wheel member. The spring may lose its tension, so that it fails to keep the cone pressed tightly against its opposite member. An adjustment is usually provided to compensate for just this loss of power by the spring. In cases where there is no method of adjustment, it will be necessary to instal a shim behind the spring or else a new spring must be inserted.

In health the clutch does not require a great deal of attention, but a certain amount of care must be given it to prevent trouble from developing. There are a certain number of bearings in the clutch assembly which must have lubrication, plentiful and regular—the bearing at the throwout collar and the thrust bearing which takes up the play of the part. Oil or grease cups are provided to care for this, but they are not altogether automatic; the car owner must turn them down and refill them as they need it. On some cars there is installed a tube reaching from these bearings to a position on the dash, and this serves as a constant reminder to the operator that his clutch is not wholly self-sustaining.

There is still another trouble that afflicts all clutches, disk and plate as well as cone, and this is known as spinning. It is simply the tendency of the clutch to keep on turning over for a considerable length of time after it has been released from engagement with the fly-wheel member which gives it its impetus. Many makers instal a small brake on the clutch, which acts automatically to prevent rotation after the part has been released. Fitting a brake of this kind, or some substitute, is about the only way of curing this trouble, which intensifies the difficulty of changing gears.

The next classification includes clutches of the disk type, which

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"AMERICANS" said a foreign critic, "know the *price* of everything and the *value* of nothing."

That was before we entered the War. To-day it is a different story. The past few months have developed a remarkable understanding of the National duty to curb needless waste and extravagance.

A typical illustration is the change in standards of *judging* and *buying* an enclosed car. Only a short time back this type of car had to be everything *but* practical to attract the average car buyer.

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An unfailing gauge of the worth of any fine car today is the way it is selling *today*. The *sales facts* about the Franklin are interesting.

The present and next building schedule of Franklin Cars will not catch up with orders on hand. Franklin Cars are being built at a rate of *three times as many as a year ago* and the demand continues to *exceed production.*

Franklin Enclosed Cars were bound to become more popular each year, even in normal times. The War, forcing *utility* and *economy* before everything else, quickened this movement.

To-day, as for fifteen years, the Franklin Car stands as the *most practical, efficient and economical fine car in America.*

Consider the significance of 179 Franklin Open Cars recording on July 13th, 1917 (under standard efficiency rules) the remarkable average of 40.3 miles to the single gallon of gasoline. High gasoline mileage means economy *all along the line.* Owners' tire reports, *over a five year period,* average 10,203 miles.

And the *same* economies of the Franklin Open Models apply, within a few per cent., to the Franklin Enclosed Cars.

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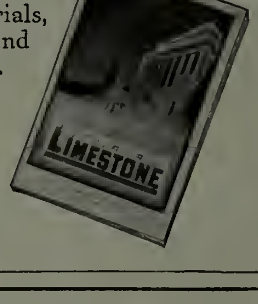

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are in turn subdivided into those which run in oil and those which run dry, though not unlubricated in their essential parts. Disk clutches may have as many as fifty-five of the small metal plates from which the type gets its name. The inside of the fly-wheel member of this clutch is fitted with a drum, on the inner surface of which are a series of keys, whose function it is to maintain the disks in a fixed position in relation to each other. Attached to the fly-wheel are a certain number of disks, known as driving disks, while on the end of the driving shaft are the driven disks, which fit in between the driving members. When the clutch is pressed home, which is accomplished by a spring or springs, the driven disks are engaged between the driving disks, and the power is transmitted back through the mechanism to the rear wheels.

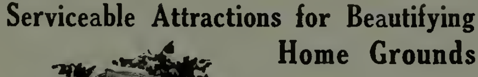
The spring installation with disk clutches differs little from that used with the cone type. Sometimes a single large spring is used, and again multiple springs may be employed. A design in which there are three small springs placed at equal distances around the clutch drum is one of the most popular. Provision is made for adjusting the springs to compensate for wear or lost tension.

In all disk clutches a method of adjustment is provided to compensate for the inevitable wearing of the disks. The principal ill to which the dry disk clutch is heir is slipping. The cure for this is flushing out with kerosene, which cuts excessive oil or grease that may be present. Bearings will need lubrication in the disk clutch just as in the cone type.

Disk clutches running in oil are practically identical in construction with their dry brethren, except that a housing is provided to retain the oil. The principal trouble with this type is the difficulty of maintaining constant running conditions. Oil that is satisfactory in hot weather will be too thick in cold, and *vice versa*. It requires considerable study and experiment to keep the clutch at maximum efficiency. Many of the oil disk clutches have plates fitted with cork inserts. When these inserts wear they must be replaced, an operation which involves squeezing on with a special machine. These are some of the reasons why the oil disk clutch, in spite of certain obvious advantages, has not achieved the popularity of its kindred type.

The last type of clutch to be considered is that which is known as the plate clutch. This type is often looked upon as a mere variation of the disk clutch, but in our opinion its characteristic features are sufficiently accentuated to entitle it to a separate classification. Instead of the numerous small disks, the plate design has three large plates. One of these is the driving plate, while the other two are driven. The driving plate is located on the fly-wheel member, and the driven plates on the end of the power transmitting shaft. The plates are of metal, one of them using cork inserts, or all of them may have fabric facing. There is always some provision for adjustment of the plates to compensate for wear. Lubrication should be attended to just as with the disk clutch. The plate clutch is comparatively a new design but it seems to be making decided progress in popular esteem.

Finally, we would emphasize the fact that a heavy proportion of all clutch troubles is due to bad driving rather than to actual fail[illegible] the part. Very often the clutch ped[illegible]ly adjusted; it does not come far [illegible] back, thereby permitting the clutch t[illegible]e. Many drivers have the bad habit of r[illegible]t lightly on the clutch pedal, driv[illegible] just enough to induce slipping, [illegible] rapid wear of the part. If slipping is [illegible] trouble with the clutch, it will be [illegible] undertaking an extensive overha[illegible] assembly, to see whether the pedal [illegible] adjusted to allow of complete enga[illegible] also whether or not your method of h[illegible] foot is not the basic cause of trouble.



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A SAND-HILL FOREST

OR those of us who live in wooded sections of the country, or even in cities where scattered trees relieve the monotony of brick and stone, it is hard to appreciate what a treeless region really is. Miles and miles of country in western Nebraska stretch away from the railroad with scarcely a single tree in sight, the bunch grass giving way only in spots to clumps of the sand-hill willow, cherry, wild plum, and other shrubs. A fair part of this great sand-hill district, which covers about one fourth of the entire state, can be used for grazing purposes, a small part indeed for agriculture, while a third part, composed of choppy hills, has been considered waste land.

After many years' work in Nebraska, the United States Forest Service has demonstrated, however, that forestation is not only not impossible, but that trees may even be grown to financial advantage in the poorest sections of the hills. Three thousand acres of pine trees are indicative of the success of the undertaking, and those trees planted in the early days of the project are attaining a size suitable for lumber. The Nebraska National Forest had its beginning in 1902 when

The U. S. Forest Service has demonstrated that sandhills, which were once considered waste land, can be profitably utilized for timber raising

two great areas of sand-hill land were set aside for the development of forests. The Bessey division, in the central part of the state, comprises 92,000 acres, and the Niobrara division, in the northern part of the hills, 114,000 acres. In the early history of the work a nursery was established at Halsey, on the Bessey division, and during the past year another nursery has been established on the Niobrara division. Trees grow slowly, and naturally it has taken time, not only to determine the ultimate success of early experiments but to develop methods for carrying on the work.

Yellow pine and jack pine, it has been found, are best suited to sand-hill growth. Broadcast sowing of the seed never proved a success, and the trees are now started in the nursery and then are transplanted to the hills. The seedlings are grown in the nursery for three years, at the end of the second year being transplanted to other beds for a final year's growth before being moved to permanent sites in the hills. What is known as the trencher method is used for the field planting. A trencher consists of a V-shaped piece of iron attached to a plow beam. This implement makes a slit in the middle of the furrow. The roots of the trees are placed in the furrow and the slit is closed by a thrust of the foot. Six men have set as high as 15,000 trees a day in this manner. The major part of the operations, both in the nursery and the field, are carried on during about six weeks in the spring.

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runs about $15 an acre. As a source of timber it is believed that the forest at maturity will allow a net profit of $4 to $5 per acre for each year that it has been in growth.

Not the least important part of the work consists in the free distribution of trees to property owners in the hills, who will agree to plant and care for them. Since this plan was inaugurated in 1912, more than 700,000 trees have thus been distributed. While it is doubtful if Nebraska will ever have a forest comparable to those of many natural-timbered states, at least a modest source of lumber will be left to posterity, humus will be added to the soil, and gradually stretches of woodland will relieve the monotony of the landscape.

R. P. Crawford.

IMPRISONED SUNSHINE

I HAVE often wondered why more people do not preserve their fruits in the sun. Nearly every one has heard of doing so, but very few have tried it. Why not? Why stand over a hot stove on a sweltering day, stewing yourself as well as the fruit, when the sun's golden rays are streaming down outside, waiting to do the work for you very much better than you can ever do it yourself? Why not let the sun do it?

The people I have thus questioned have invariably replied: "I should like to do it but I don't know how. It must be very difficult." It is partly because of this misapprehension, and partly because I wish to share with others the stores of imprisoned sunshine on my pantry shelves that I write this article.

In the first place, have you ever tasted any real sun preserves—strawberries, for instance, transparent, plump, luscious, and of a brilliant color, with a flavor every bit as delectable as the fresh fruit itself? Or have you simply found a few recipes on the subject, each one telling a different way to do the same thing? No wonder that most people go on cooking their fruit on the stove, putting up strawberries as they always have—flabby, brown, and tasteless.

Now let me tell you how I do it:

Weigh the fruit, and to each pound allow one pound of sugar. Boil five minutes, pour into stone platters, cover with glass, and stand in the hot sun for about four days.

That is all there is to it, except that some fruits require less cooking than others. Strawberries should be brought just to the boiling point, removed from the stove for a second, and put back long enough to come to a boil again. Then they will remain whole and perfect. Other fruits, like plums, should be cooked until they can be pierced easily with a fork—about five minutes.

And the number of fruits that one can preserve in this way! At the very head of the list I put strawberries, but raspberries are a close second, and are of an even more gorgeous color. Peaches, if they are of the right sort, have a lingering, flower-like flavor, while blackberries, gooseberries, plums, white currants, green gages, and cherries are all unsurpassed when mixed with this liquid sunshine.

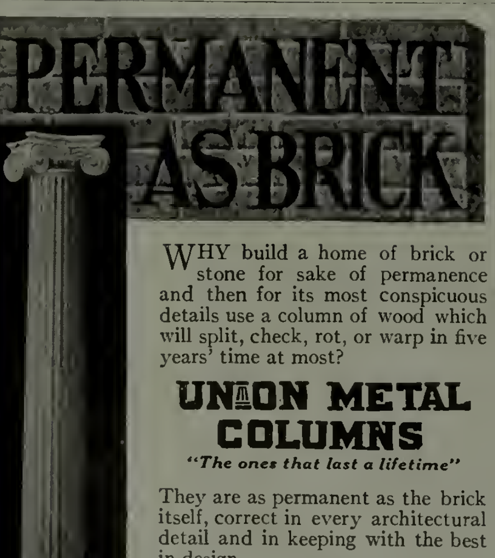
Some authorities advocate not cooking the fruit at all. They say simply to heat the platters, cover with fruit and sugar, and stand in the sun. I have tried this method, but find the fruit apt to be a little dry and leathery, so greatly prefer bringing it to a boil with the sugar first. It is not necessary to add any water, as the juice from the fruit makes the sugar moist enough; but the fruit must be perfect and exceedingly ripe.

In the summer I have a large table out of doors, upon which I place the platters; then I cover them with an old window sash which fits over them so tightly that it is not necessary to bring them in, even should it rain, and I always leave them out at night. Thus I eliminate the only drawback to this method—the inconvenience of carrying the fruit back and forth twice a day.

Each morning I turn the fruit with a silver fork. When it is first put out the syrup is as thin as water, but at the end of the fourth day, provided the weather has been fine, it is as thick as honey. Then it is ready to be put away, without reheating, in jelly glasses, and covered with paraffine.

The bottled sunshine that you thus store up will help to cheer the long winter months, and the tea or supper table will have an added charm when graced with this dish of gold or crimson.

Adelaide Ovington.



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APPLE POMACE FOR MILCH COWS

IT IS a fact, although not commonly known, that apple pomace from the cider mills is of no little value in the feeding of milch cows. Not many years ago the owners of large cider mills were often put to considerable expense and difficulty in disposing of what was then considered wholly a waste product. In New England, at least, farmers now come from miles around to haul the pomace away from the mills, and they pay for it, too. The price varies in different sections, but probably averages about $1 a ton, although it is often sold by the pressing instead of by weight. Last year the demand was so great that the pomace was hauled from the mills by the carload, farmers paying the freight as well as the cost of the feed itself. It is not unusual for big loads to be carted over the road fourteen or fifteen miles.

A farmer near Acton, Mass., is supposed to have been the first man to experiment with the feeding of pomace to dairy cattle, and at first his neighbors called him crazy. After a year or two, however, other farmers began trying it, and before long there was keen competition for the output of the local mill, although a nominal price was put upon it. What had been waste had become a valuable by-product.

Apple pomace is largely used as a substitute for grain and in connection with fodder. Dairymen who feed it say that it makes a good quality of milk and seems to keep the cows in condition. It must be fed regularly, however, and not in too large quantities. The usual rule is about half a bushel a day to each cow. Many times the pomace is put into a silo as fast as hauled from the mill. There it settles and much of the juice which remains when it comes from the mill is pressed out. At first the pomace ferments and turns sour, but after a few weeks it becomes sweet and palatable and the cattle eat it freely.

The use of apple pomace as a cattle feed does not seem to be so common in other parts of the country as in New England. Within the past two or three years the farmers in Hunterdon County, New Jersey, have been taught to feed it to some extent by the owners of a vinegar concern there, but in times past it has been spread on the land for a fertilizer. It has given good results, too, but only when left on top of the ground exposed to the weather for at least a year. If plowed under earlier it would make the soil sour.

Farmers who are able to buy it cheaply for their cows will do well to consider its use. Certainly it should not be thrown away.

E. I. FARRINGTON.

EDITOR'S NOTE: While apple pomace, as Mr. Farrington points out, has an established place as a cattle feed in certain sections, a study of its composition suggests that it is more valuable as a source of variety and succulence than as a substitute for grain. Its similarity to corn silage, potatoes, and soiling co[illegible] nd indeed its relatively greater value than either [illegible] ese is shown by the following figures from "Ba[illegible]'s Cyclopedia of Agriculture." Corresponding figures for corn, oats, and wheat bran, however, show the striking difference between these standard grain feeds and the pomace, especially in respect to the amount of dry matter and total digestible nutrients.

PROPORTION OF DIGESTIBLE NUTRIENTS IN ONE POUND

	Dry Matter	Protein	Carbohydrates and fat	Total Nutrients	Nutritive Ratio
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Corn Silage	.21	.009	.129	.138	1:14.3
Potatoes ...	.21	.009	.165	.174	1:18.3
Apple Pomace........	.223	.011	.164	.175	1:14.9
Corn (av.)..	.89	.079	.764	.843	1:9.7
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	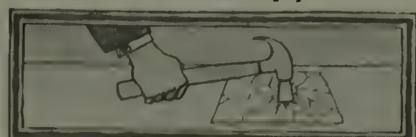
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THE KINGS OF APPLETREEVILLE

UR new neighbors had built their home and were housekeeping before we knew that they had even selected their site, which was an exposed branch of a Duchess apple tree standing close beside the walk leading to the chicken house. It was the man of the house that we discovered first, and Sister Freddy who first noticed him.

"Have you seen that kingbird out there in the backyard, perched on the tip-top branch of that dead plum tree?" she asked one day. "I've noticed him for two days now, and wonder why he is there."

This directed our attention to the newcomers, and soon our whole family was much interested in them. Any time of the day, we could look out and see Mrs. King's dark body in the apple tree, snugly fitted over the large, dish-shaped nest like a black cover with two handles, and Mr. King on the plum tree just across the walk, immaculate in his black evening suit and silver-satin vest and fashionable pompadour—except for his coat-tails dipped in flour. Hour after hour he would perch there, like a big black leaf growing out of the top of that topmost branch. Sometimes he would call a sharp "Chink! chink!" like the squeak of a rusty gate-hinge, to Mrs. King, who answered him, or not, just as she liked. Usually, however, each bird sat quiet as though patiently waiting for time to pass.

Mr. King was always wide awake, though, and kept a watchful eye all about, even if he did occasionally stretch a wing or a leg, preen his feathers, and yawn. Often he would raise his wings, slide off into the air, make a flutter and a stop in mid-flight, and then go over to Mrs. King and poke into her mouth the fly that he had snapped. And twice we saw him take her place on the nest while she went away for a short rest, standing over it with masculine awkwardness, instead of snuggling down on it neatly.

At first, he would chink threateningly at Flossie and Dossie, the two kittens, as they came to take their sun bath under their favorite rose bush near by; but after a few days he stopped calling to them, although always keeping on the alert while they were about. And if a flock of sparrows ever gathered in his plum tree or in the apple tree, he would scold them roundly as long as they remained, though we never saw him offer to do his unwelcome callers violence.

One day, when Mother was looking at the nest through the glasses, she commenced to laugh.

"See that dangling bit of cord, with a tack on the end? Well, about two weeks ago, I brought a big handful of cord out to use for sweet pea supports. I laid it down for a moment, to go into the house, and when I came back, it was gone. There is my lost cord. That nest is almost entirely made of string."

After about two weeks of this patient waiting, Sister Freddy heard excited bird voices in the backyard one morning. Looking out, she found both birds standing on the edge of the nest, gazing down into it and chirping an animated dialogue.

"One of the princes has arrived," she announced. "Listen!"

We heard a long, shrill peeping, not one bit like a sharp chink, but much like a real baby's faint, hungry wail. And above the edge of the nest appeared a wide-opened, red-lined beak, waving wildly. At that, the father spread his wings and hurried off for food, while the mother remained at the nest, talking softly to the fretful baby. When the father returned with a grasshopper, he popped it into his son's mouth. The little one dropped its head, and the mother settled down on the nest while the father flew to his perch on the plum tree. He looked all about, said a hoarse farewell, and slid off into the air toward the garden. Before long, we noticed that Father King had a habit of stopping on his perch, both going to the nest and coming from it, while the mother always flew straight to and from the nest.

All day the parents chattered and worked. Almost any time we looked out, we could see a wide-opened beak above the brim of the nest, and hear the prince's call for "Bugs! Worms! Anything good to eat!"

Then, late in the afternoon, we discovered the two parents again hovering over the nest, chinking excitedly, and looking into two more red, hungry mouths. Soon the father was off foraging, and the next day there was not a moment for him

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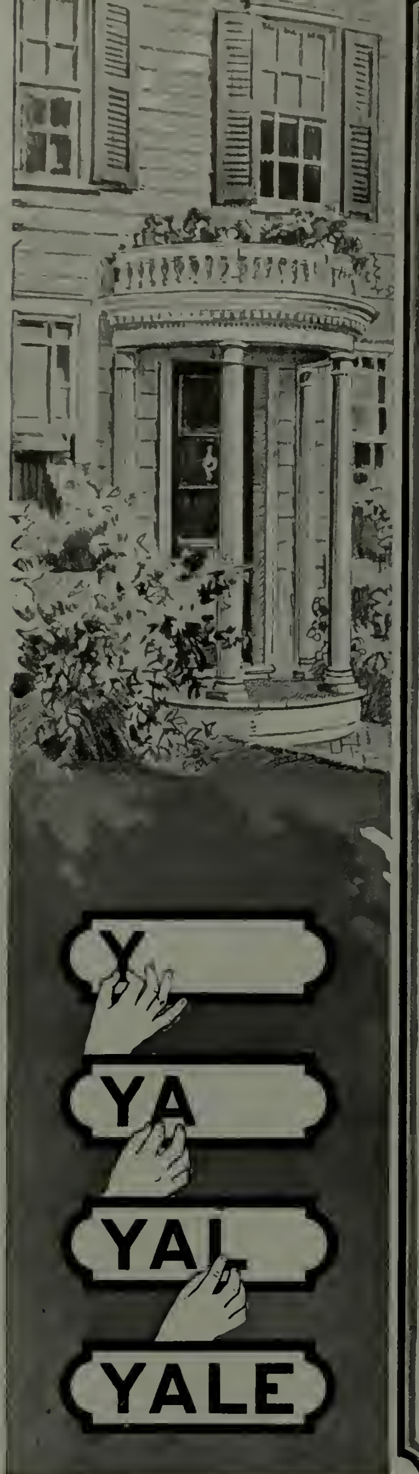

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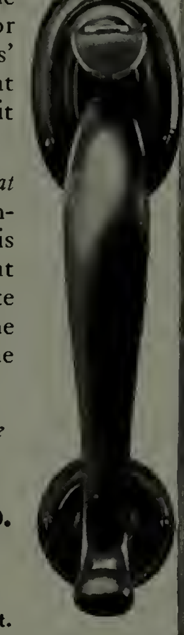

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to enjoy his favorite plum tree tip, for there were three crying nestlings to feed. The mother commenced to help before the third bantling arrived, though she spent more time about the nest than did Father King. Busy as they were, the two parents were never both away at the same time. If Mother King went a-bugging, Father King stood guard in the top of his own tree; if he were away, Mother King perched close to the nest, or on it, covering the little ones from the hot sun. Frequently they took turns foraging, but sometimes Mr. King flew off a second or even a third time for food, leaving the mother on guard. We could tell them apart, easily, by their peculiar mannerisms. Not only did they have different ways of flying to and from the nest, but when about it they appeared quite individual, although so much alike in color and dress. For the father was awkward and ungainly, and apparently nervous and ill at ease so close to his offspring. Once or twice we caught him trying to hover the little ones from the sun, and it was laughable to see his gawky attempts. He half stood, half squatted above the little ones, with none of that snuggly, warm wing-spread that Mother King gave her children.

The very day the third nestling was born, we witnessed a near-accident to the little family. We heard a great shrieking and chinking, and running out, saw one of the birds flying anxiously about the trunk of the tree, which a big gray cat was climbing.

"Help!" Help!" cried Sister Freddy, and started to the rescue with the broom. But before she got there, the cat was running for dear life toward the alley, and there was Mr. King flying round and round his head, stabbing furiously at his eyes and threatening every instant to put them out if the cat didn't hurry. When the cat was over the fence, Mr. King came back to his plum tree twig, chinking triumphantly and fluffing his feathers angrily. Then, when he had calmed himself somewhat, he went over to the nest, where Mrs. King was now hovering the babies, and they talked the affair over at some length.

Finally, Mr. King went back to his tree, where he rested a bit and preened. Then he sailed down into the grass, and gave chase to a big black grasshopper. He bounded in long leaps over the ground, while just ahead his prey kept out of reach. But after several jumps, he overtook the poor fellow in the air, and swooped up to the nest with it. Three hungry mouths cried and begged for it, but before letting them have it, Father King looked them all over carefully, as if trying to remember which was fed last, or to learn which stomach was the emptiest.

After ten days of feeding, the nestlings began to show the effects of their parents' untiring labor. For early one morning, there was one of them squatting on the edge of the nest. It was pretty well feathered, though its wings and tail were short and stumpy. The little fellow was dozing, its head laid back till its beak touched the silky vest gleaming in the sunshine.

When Father King called from his plum tree perch, the baby didn't answer. But when the mother flew down close to the nest with food, he was wide awake and whining for it. But two other hungry mouths wanted it, too, so with a spread of his wings, and a fluttering hop, Prince Silvervest got over on the edge of the nest nearest his mother, and crowded between her and the two nestlings. Still his wide-opened beak got no bug, so after begging a bit more, he took another fluttering hop that landed him on the branch.

Mother King kept close watch of the venturesome little prince, and Father King called out many a warning, or encouragement. Perhaps it was advice, for Prince Silvervest finally got the bug. It was plain that Mother King was not pleased at his coming out of the nest so soon, for after giving him the bug, she peered tenderly into the nest and chinked softly to the disappointed babies there. But Father King was plainly delighted, for he was soon back with a grub which he didn't even offer to the two nestlings, but brought straight to Prince Silvervest. As Father King settled on the branch, it swayed ever so slightly, and Prince Silvervest teetered dangerously.

"Oh, he's falling!" we cried in chorus.

But the little fellow quickly spread his wings, flapped them several times, got his balance, and gobbled the titbit. All that morning the parents were particularly attentive to Prince Silvervest. When the mother was on guard, she rested as close to him as she could get, and even

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spread a wing about him as though wanting to hover him. The father would call from the plum tree, as long as the little fellow would cry back, and redouble the feeding whenever he dozed.

Along in the afternoon, the wind was blowing strong, and Prince Silvervest was often seen flapping his stubby wings for balance. As we studied his clumsy teeterings, comparing them with the easy swaying of his father, we decided that the fledgling had only begun to command the use of his pinions.

When bedtime came, Prince Silvervest was about two feet from the nest, and we were all wondering where he would spend the night. It was a revelation of bird parent wisdom. Prince Silvervest had received the most of the breakfast that morning, but now the two nestlings got nearly all the supper, and when Prince Silvervest was allowed a bit, he had to take a step or two toward the nest in order to reach the morsel. In this way, he was finally tolled back home and into bed.

The next morning, we found Prince Silvervest already sunning himself on the home branch, and a second nestling balanced on the edge of the crib. It perched there some time, as though taking a good look at the big world, then it stretched each wing and leg in turn to get out the kinks, flapped once or twice, yawned, and settled down for a nap. An hour or two later, the Princess, as we named her, tumbled back into bed with the third baby. After awhile, she climbed to the edge of the nest, rested, thought it over, and finally fluttered clear of her crib and got out on the branch, and edged slowly along toward the substantial looking tree trunk.

But Prince Silvervest hitched out near the end of the home branch, and after spending half the morning there, suddenly fluttered his wings, teetered, balanced, and half-flew, half-fell down upon a branch about a foot away. This short flight seemed to encourage him, for after awhile he tried it again, and settled down on a branch still lower. Father and Mother King didn't seem to want their brave son on that branch, and they kept calling and flying back and forth until he had been coaxed to take several little hopping flights which brought him up to a branch above the nest. And there he was at bedtime.

As for the third nestling, the baby, he stayed quietly at home all day, seeming to care only for eating and sleeping. And, indeed, the other two had kept their good appetites, no matter how much they were fed. The babies all had shining, clean little vests, and were as round as pats of butter, but the parents began to show the wear of parenthood, and were slim and work-worn.

When night came, the parents had coaxed Prince Silvervest upon the same branch with the Princess, and there the two birdlings cuddled close up to the trunk for the night. Mother King settled down into the nest, with Baby, and Father King slept beside the two older children. Or so they were resting when we saw them last.

It stormed in the night, and we wondered how the Kings were enduring the wind and rain. Sister Freddy was out early, to find the Baby on the edge of the nest, the Princess still on her old branch, and Silvervest in the top of the tree, basking in the warm sunshine, as though there had been no terrifying storm in the night. And soon Prince Silvervest spread his wings, and fluttered awkwardly, but with a real sail, down into the top of the kittens' rose bush!

"Chink! chink! chink!" called Father King in great excitement, dashing from his perch to a branch just over the rose bush. "Chink—chink!" and he flew down beside Prince Silvervest and back to the branch.

"He mustn't stay there," we decided, and Sister Freddy offered to put him back.

She slowly approached the rose bush, but she had no sooner put her hand on the birdling than a regular storm broke all about her. The Prince squealed loudly, and flew out from under her hand to a lower part of the bush. Immediately, the air above her was full of angry chinks and excited wings, as Father King flew threateningly about just above her head. Freddy threw her arms over her head, to protect her eyes, but almost at once Father King was gone, though his loud cries could be heard farther away. When we found him, he was swinging back and forth on the top branch of an apple tree fully a rod away, and beside him was Prince Silvervest, still squealing with alarm.

"Well, the little fraud!" laughed Sister Freddy. "If he can fly that well, he ought to be pretty safe."

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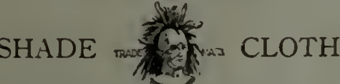

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The Last Hours of Edith Cavell

For 24 hours prior to the execution of Edith Cavell, Mr. Hugh Gibson pleaded for her with the Germans. He emphasized the effect that the horror of executing a woman would have on civilized countries; he ranked it with the burning of Louvain and the sinking of the *Lusitania*. He begged Baron von der Lancken to lay the case before the Emperor for his decision, to which the Baron replied: "I cannot do that sort of thing. I am not a friend of my sovereign as you are of yours." Count Harrach stated his only regret was that they did not have "three or four old English women to shoot."

THE WORLD'S WORK for October will contain Mr. Gibson's story, the first complete authentic story that has come from Belgium of the execution of Edith Cavell. It is a diplomatic document, written in a gripping narrative style.

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Father King and Prince Silvervest finally quieted down, though from the chatter that went on when Mother King returned, she was told all about the narrow escape her eldest child had had. Then Father King seemed filled with the determination to get Prince Silvervest out of that tree. He flew to his own perch in the plum tree, and kept calling and calling. Then he flew back to Prince Silvervest, and scolded awhile. Prince Silvervest whined, and opened his mouth for food. Soon Mother King came with a titbit to comfort the frightened child, but Father King spoke a few words and she flew over to his plum tree with the food, though not on Father King's special twig; she never once went there, that we ever noticed—wise mate. Father King followed her, and took his favorite perch, calling. Still Prince Silvervest would not come, and only squealed for food. So Mother King took the insect to the Baby, who, during this excitement, had left the nest entirely and was on the home branch near by.

Father King went away, and when he returned, first settled down beside Prince Silvervest, but would not give him the bug, in spite of his coaxing. Instead, he took it to the Princess; then went back to his tree, and chinked commandingly. And this time Prince Silvervest obeyed. He spread his wings, squeaked with fright, but came flapping awkwardly over and alighted several branches below his father's perch.

We cheered him roundly, and cheered again when Father King fed Prince Silvervest the next catch. A very good way to get him to obey, we agreed.

All that morning, Prince Silvervest stayed quietly in his father's favorite tree. He seemed to have had adventure enough for one day, and was willing to remain where his father bade. After lunch, we noticed that the Princess was far out on a limb of the home tree, and that the Baby had moved farther away from the nest and seemed ambitious to catch up with his sister.

"Chink! Chink!" called Father King several times, and soon the obedient Princess gave a flutter and a flap, and there she was, on the branch below Prince Silvervest.

We were now curious to know what the Baby would do, and hovered about. By always feeding him on the side toward the plum tree, and by making him hop toward his food, the parents finally got him on the tip of the home branch. And at last the Baby made his first flight, and landed on a twig just below the Princess. When Mother King flew in with a bug, she found all the babies in Father King's tree, looking for all the world as if posing for a royal family group.

Their domestic affairs were interesting, and often amusing. Once, Father King went foraging while Mother King fed Prince Silvervest and mothered them all in turn. When the father returned he was just giving Prince Silvervest the nice fat bug when Mother King caught him.

"Chink-chink-chink!" she forbade him.

Father King took a step or two away from Prince Silvervest.

"Wee-ee-ee-ee-ee!" teased the disappointed Prince.

"Chink-chink-chink!" repeated Mother King firmly.

And if Father King didn't hop down to the Princess and give her the bug! It was her turn, we decided, and Mother King wasn't going to let the doting father give all his prey to the eldest son, of whom he was so proud.

That evening, we sat on the porch a long time, enjoying the birds. The rain of the night before had brought out millions of gnats and mosquitoes. The air was full of them, and not only the kingbirds, but other birds as well, found easy hunting. Whatever direction we looked, we could see birds darting, from trees, roofs, telephone wires, fence posts. Each one would flutter a moment in the air, and return to its perch, either to eat its catch or wait for more. Sometimes a bird would make two catches at one flight, but not often. Mr. and Mrs. King found supper easily prepared that evening.

As we watched, we noticed that the parents were both trying to get the little ones out of the bare plum tree and into a near-by apple tree, thickly leaved. Each parent, when not foraging, would perch in this tree, and call. Soon Prince Silvervest made the trip over, then the Princess, and lastly the Baby. The leaves were so thick that the fledglings were well hidden, but we finally made them out, high up and close to the trunk. The three little white breasts were as close to-

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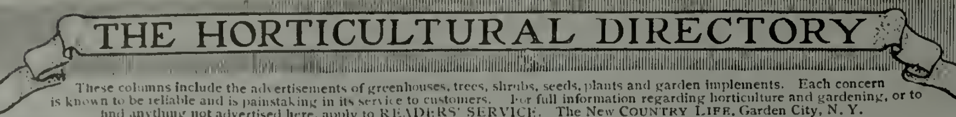

These columns include the advertisements of greenhouses, trees, shrubs, seeds, plants and garden implements. Each concern is known to be reliable and is painstaking in its service to customers. For full information regarding horticulture and gardening, or to find anything not advertised here, apply to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

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gether as they could press, the heads of the outside two pointing one way and the middle one facing in the opposite direction.

The next day the family moved about considerably, changing trees three times. We noticed, too, that two of the little ones had learned to chink, and that Prince Silvervest was now able to fly from his own branch to meet his parents when they settled down on another branch with food, though he did not yet have sufficient command of his wings to go foraging for himself. As for the Baby, he dozed and teetered on a single branch most of the day, and only woke up for food, or to change trees when commanded to do so. Along in the afternoon, they were all herded one by one into an ash in the side yard, Prince Silvervest leading as usual and the Baby bringing up the rear. As the family was now headed south, in relation to the home tree, we wondered if that was why Father King had refused to let Prince Silvervest remain in the tree where his first long flight took him, the day he was so spry in getting out of the rose bush.

All the next day it was rainy, and we saw nothing of the King family, though we searched for them. But the next morning it was bright and warm, and we had not been stirring about long before we heard Father King's familiar chink. We found him on the peak of the gable, while tit-tat-toe, lined up along the sloping edge, were the three little ones! Their shining breasts were turned full toward the sun, and all were chinking a greeting, or morning song, which sounded much like a rollicking round. Later in the day we missed them and, after several days, we decided that they had moved on and forgotten us.

But about a week later we heard Father King's call. There he was, on his old plum tree perch, sunning himself, swaying gracefully with the swinging twig, and chinking lazily to himself. Finally, he spread his wings, and slid off into the air, and we never saw him again, to know him. Later, whenever, in the parks and along the streets, we saw small flocks of satin-breasted kingbirds, young and old, we took a personal pleasure in them, as if greeting old friends. Studying one kingbird family so carefully, day after day, has given us an especial interest in all individuals bearing the name, and a great respect for the dignity and worth of the species as a whole.

Harriette Wilbur.

HUMANITY AND HORSE MANAGEMENT

IN THESE times of international strife when one's faith in the milk of human kindness and the spirit of brotherly love is sorely put to the test, it is significant and especially gratifying to find man's relations with his animal servants characterized by a growing and deepening humanity. Farmers, stock raisers, and animal handlers are not essentially nor, in most cases, intentionally cruel. But expediency and the impetus of business considerations combined with ignorance have in the past often created a carelessness, an indifference, a deadened sensibility that has made the control of animals a matter of forceful domination, accompanied by an entirely unnecessary and unfair infliction of pain upon the animal.

But times and manners *are* changing. A recent number of a practical farm journal prints a dozen or more contributed replies to a correspondent's inquiry as to how to bridle an unruly horse and break it of a habit of refusing to allow its head and ears to be handled. Not so long ago such a group of replies would inevitably have been characterized by a cold brutality, a beat-him-till-he-gives-in attitude—largely because the methods advised therein would have been the first to suggest themselves to the average farmer.

In this collection, however, but *one* reply advocates force—the use of the effective but excruciatingly painful "twitch" on the upper lip; two suggest the whirling of the horse until he is dizzy, when he is less likely to object to being handled; the balance, 90 per cent. or more, advise gentleness, a careful examination of the horse for possible injuries or soreness, and a patient, intelligent, gradual accustoming of the subject to the disliked headstall. This is a true test of the spirit of the average man, in which he is not found wanting; it bears a welcome message of good cheer and higher humanity.

E. L. D. S.

Fruit the Year Around from *your own* Garden

and that garden need not be any larger than 75 feet square! Think of gathering delicious cherries, luscious pears and plums, fragrant quinces and the finest apples right in their prime, fresh from your own trees. Fresh fruit from early in June until February, canned fruits until the new crops come—to help you materialize all this, we offer

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In its entirety, this assortment stands for all the fresh fruits, jellies, jams and preserves the average family can eat.

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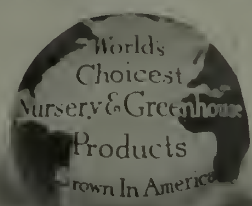

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To some of us the broad acres of the estate or the modest suburban place has become a reality.

But how often we find that the big trees which were to shade our home and under which we were to swing our hammocks and set the tea table on drowsy summer afternoons are missing.

We try to adjust ourselves to our comparatively bare surroundings as we suffer in the intensity of the sweltering heat, but look with envy at our neighbors, who, with ten years' advantage in point of time, are now enjoying what we so sadly lack.

Summer mornings our east rooms, despite awnings and every artificial help, are uncomfortable from the blinding sun, while for several hours in the afternoon the west rooms are absolutely uninhabitable. And the sleeping porch is often useless for the same reason. While the big trees the children were to play under, and whose cooling shade we were to depend upon for comfort, where are they?

Rightly located *old shade* would solve the problems, but old shade takes years to produce, we say, and we must wait. Not necessarily.

But, what then, is the secret? Only that just as an architect will realize your vision of a completed house, so the way has been found to realize all of your dreams of landscape perfection, including your big trees—and *at once.*

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A PIANO WITH AN INTERESTING HISTORY

A FIND of unusual interest to musical circles was that made by Mr. L. T. Sturtevant of Mapleton, a suburb of Auburn, N. Y., when he stopped at a farmhouse in that vicinity in 1912. Through an open door he caught sight of a musical instrument which looked to him to be very ancient, mainly on account of its peculiar construction. He made some inquiries of the lady of the house, and learned that it was an old piano which had been

The case of the old piano is the length of the ordinary old-fashioned square, but the keyboard is only six octaves long

given to her children for a plaything, by the owner of the farm. After some negotiation, the owner consented to sell the piano for $25. Mr. Sturtevant hastily sealed the bargain and took his purchase to his home where he spent several days in cleaning it up and looking it over.

The case is the length of an ordinary old-fashioned square piano, although its keyboard

The name plate. The inside front is of sycamore or tulip wood

is only six octaves in length. It is in a good state of preservation, not a string broken, and the tone is a clear little tinkle, resembling that of a mandolin or zither.

The case is of solid mahogany with the inside front of sycamore or tulip wood. As the picture shows, it has no legs, but heavily carved end pieces support the body of the instrument. These are connected with a solid cross piece having a beautifully carved lyre in the centre. Under this lyre is a round pedestal from which projects the soft pedal.

The outside of the piano is ornamented with gold griffins on black enamel, one on each side of the front, and toward each end of the instrument is a drawer for music.

The name plate bears this inscription: "John Broadwood & Sons, Makers to his Majesty and the Princesses, Great Pulteney St., Golden Square, London." The sovereign referred to is King George IV, and the princesses are the daughters of King George III.

In his search through the piano, Mr. Sturtevant found the manufacturer's number, and this led to his writing to the firm in London asking for information concerning this instrument of such rare build. A letter in reply told him that number 34,126 was built in the early part of 1817. In October of that year this piano and three others were shipped to David Brown, in Boston. Mr. Shedell of Auburn, a dealer in musical instruments, became the owner of number 34,126, and it was bought by Deacon Healy of

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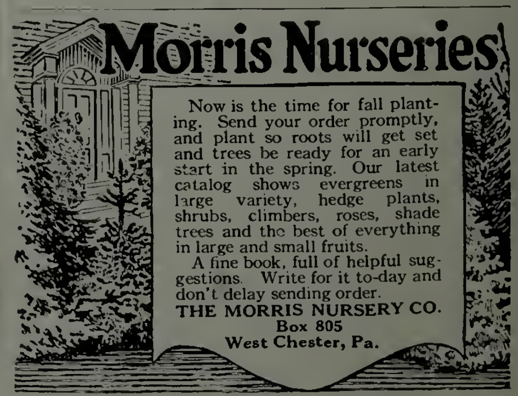
GOING TO FLORIDA?

If you think of buying or renting your winter home this year, it will pay you to look on page 9 of this magazine where a number of Florida properties are described. If you don't find what you want there, write to our Real Estate Department, 11 West 32nd St., New York City.



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Autumn is the best time to plant Lilacs. Write us about these and the other hardy trees and plants we offer for every place and purpose. Send for Catalogue A-2.

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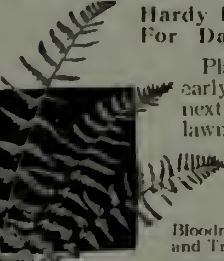

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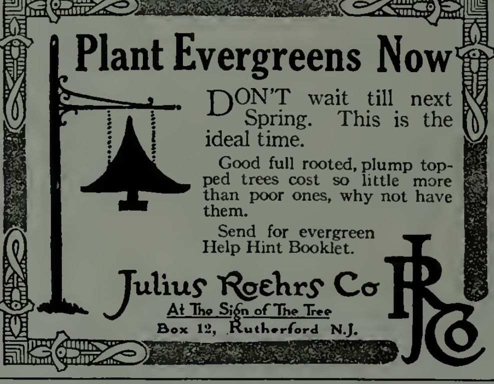

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Sennett, for $1,500, as a wedding present for his daughter.

Subsequent owners failed to realize the value of the instrument, until finally it was thrown aside as worthless, and a newer and later make of piano was installed in its place. Mr. Sturtevant has been offered large sums for this relic whose worth he appreciates, but so far has refused all offers made.

According to the above mentioned letter, this type of instrument was invented by Bartolomeo Cristofore, in 1709, in Italy, and the first time it appeared in a public performance was in London in 1767, as shown by an old play bill.

In 1880, there was found in Annapolis, Md., a harpsichord hidden in the attic of an old college building, and the instrument bore this inscription: "Burkat Shudi et Johannes Broadwood, patent No. 955, London, Fecerant 1789, Great Pulteney St., Golden Square." Parts of this harpsichord were missing, but were later restored. Most important of the parts missing was a coat of arms painted on porcelain, the slender gold frame having excited the cupidity of the janitor of the building, it is said. Inside the works were found two gold rings, also an inscription which proved that the instrument had at one time belonged to Charles Carroll of Carrollton, one of the signers of the Declaration of Independence.

Tom Moore's piano was a mahogany square by the same makers. This also was a six-octave instrument, and was numbered 44,513. This he used when writing his melodies, and it is said to be the one mentioned in "Trilby."

F. L. A.

HOW TO HIVE DIFFICULT SWARMS

IT IS seldom necessary to cut a limb from a tree when hiving a swarm of bees that have alighted on it. The simplest plan to follow, if the swarm is at all accessible, is to scoop it into a peach basket or even a market basket, and then to throw a square of burlap or perhaps an old coat over it. If the basket is held for a few moments in the same place, most of the bees which did not get inside will cluster on the outside, sometimes completely hiding the wood. Then the swarm may be carried to the hive, and dumped on a sheet spread in front of the entrance.

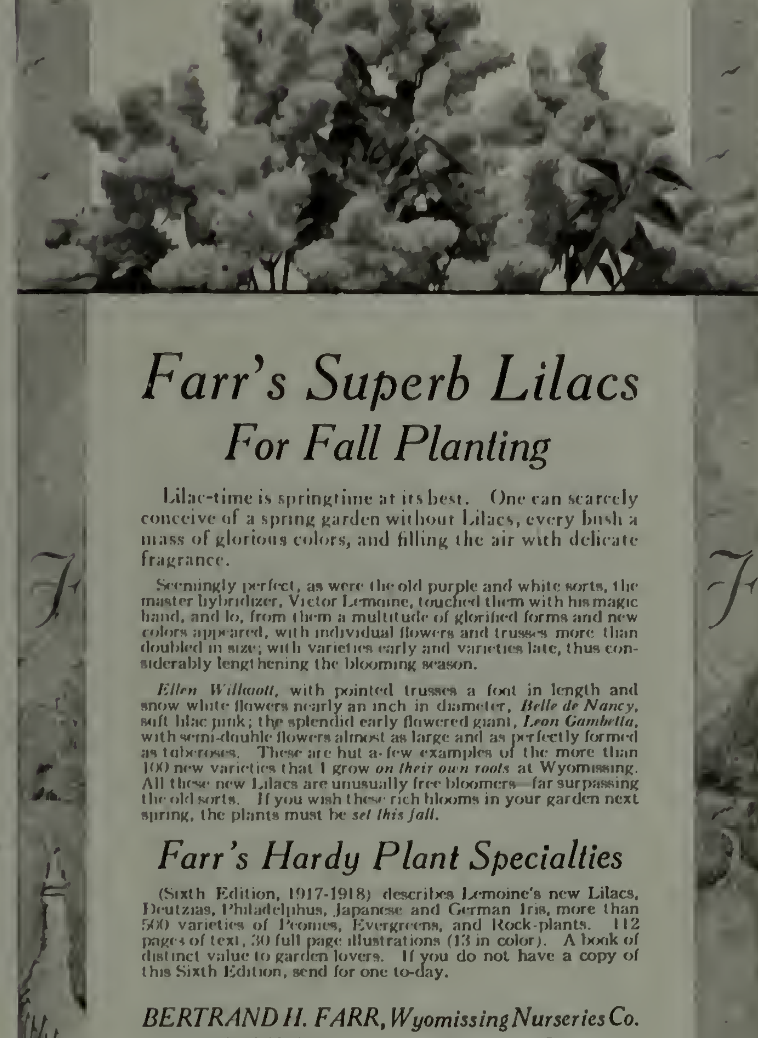
If the swarm cannot be reached with a ladder, a peach basket may be fastened to a pole, and held underneath it, while the cluster is brushed into the basket. In an emergency, a frame containing empty comb may be mounted on a stick and thrust into the swarm, which will usually cluster on it.

Occasionally the bees swarm on a wire fence or in some other place where they cannot be brushed or jarred off. The best way to capture them when that happens is to place a hive so that the entrance board will just touch the outside bees in the cluster. Usually the insects will soon begin to go into the entrance, and the swarm will eventually hive itself.

Water is sometimes very useful in controlling a swarm of bees. If it happens that the insects cannot be hived immediately for any reason, they should be lightly sprinkled, as the moisture on their wings will prevent their flying away. This is a good plan to be followed when the beekeeper is not at home at the time that the swarm issues, for any member of the family can give the water treatment without danger. If the bees are not kept quiet in this way, they are likely to resume their flight in a short time and escape.

If the beekeeper happens to be in doubt as to what colony has swarmed, he can get this information by a very simple process. It is only necessary to put some of the bees from the cluster into a vessel, like a tin bucket, and swing it in a circle several times, afterward throwing the bees into the air. The bees seem to become bewildered by this treatment, and will fly to the hive from which they issued.

E. I. Farrington.



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Some Famous Paintings in the Galleries

AN OPINION OF THEIR DECORATIVE VALUES

Mr. James Collier Marshall, Director of the Decorating Service of *The New Country Life's* Advertising Department, will solve your problems of home decoration—color schemes, hangings, floor coverings, art objects and interior arrangement. Mr. Marshall's long acquaintance with the sources of supply enable 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, *The New Country Life*, 11 West 32nd Street, New York.

WHAT warm satisfaction the layman always experiences in finding that his opinion on art coincides with that of a master and with what added interest does he attend his next exhibition and varnishing day. Without doubt every one senses this feeling at some period and it seems rather a misfortune that painters have not been more frank with the public as to how they, individually, viewed their profession. Doubtless they felt it of no consequence, or were too busy with their work—its style, technique and so forth—to give the idea much thought. Yet a word, a written word, would have attracted public attention, nailed it, so to speak, to the art of painting as nothing else could do. And it is to the general public that art to-day makes its appeal as never before in its glorious history.

Thus it is pleasing to every one to learn that many of the great artists appreciated paintings for their decorative value as much as for those technical qualities that appeal chiefly to the trained taste. Raphael was commissioned to decorate—and with what success! His opinion we have in his works. That Whistler held the decorative idea very highly may be gathered at once in both his art and his deliciously pungent criticisms. Yet most clearly of all did that fine old American, Wm. Morris Hunt, express himself, when he said at the very end of a long life full of honors, that of all his work he most appreciated the commission to decorate the Capital at Albany, as he felt that here was art's great opportunity. And his opinion is particularly interesting in that he was a close friend of Millet, of whom he said: "He taught me to see nature, to appreciate the Bible; and he gave me broad ideas of humanity."

Varied as was Hunt's work—all of it shows his deep feeling for art's decorative value. The reproduction here of one of his late paintings (1878) makes an appeal to every lover of nature and home through its absolute naturalness and a certain wistfulness, if one may employ such a term regarding it, that makes for physical quiet and spiritual repose; while its colors, lights, and shadows further recommend its use in a decorative manner. His work but reflected Hunt's varied life and vivid interests, and his opinion on German art in Düsseldorf, where he studied in 1845 and which was then said to be the art centre of Europe, will interest all Americans to-day. After trying to get their point of view he flung up his work in disgust and said, "If this is painting and it is to lead to work of the German school, I prefer to be a sculptor." And he left for Paris!

Attributed to Giulio Romano — "Madonna and Child" — Courtesy of Satinover Galleries

Brilliantly decorative too, and in an altogether different manner is the landscape by Richard Wilson pictured here. In it, technique, composition, and color impress themselves forcefully on even the casual observer, and the truthfully painted sky furthers its desirability as well as its charm as a painting.

In Wilson one meets one of those pathetic characters who, through lack of public appreciation, the jealousy of his contemporaries, and, his unconciliatory disposition, failed to attain the early success he deserved, though to-day his works will be found in the museums of London, Edinborough, Glasgow, and Dublin. Born in Montgomeryshire in 1714, at an early age Wilson began to draw and at fourteen was sent to London where he was placed to study with Thomas Wright, an obscure portraitist. His success in portrait painting was marked, and he continued it in Italy until a landscape done in his leisure hours was discovered by Zuccarelli, who urged him to take up this work seriously. This he did, making great progress. He was chosen a foundation member of the Royal Academy in 1768, becoming librarian of that institution in 1776, which position he held until retired by ill health.

It is thought that lack of public encouragement affected him somewhat. Be that as it may, few landscapists have equaled and none excelled him, as is clearly felt in viewing his Italian Landscape seen here. One has only to note the sky, that shibboleth of painters, to realize what it will be as the decorative theme of a living room.

For sheer glory of color, aside from its many other charms, the Zuloaga painting, La Morenita, illustrated here, is amazing. The works of this celebrated Spaniard are so well known as to make superfluous any criticism other than as to their decorative uses, and for this purpose they are highly and very generally valued. And it is interesting to know that in at least two instances in this country they not only form the decorative theme, but have had whole settings especially prepared for them. One of these I may mention, The Bullfighter, it is an overmantel decoration in a library paneled in Circassian walnut, the painting forming the centre of one panel. The effect is superb. One realizes at a glance not only the good taste of this arrangement, but that the painting itself has gained infinitely by being incorporated with the rich brown wooden walls. From the first his art has been too strong for ordinary handling, as was realized at his early Parisian hangings. Imagine the mental attitude of the French Academi-

Richard Wilson — "Italian Landscape" — Courtesy of Henry Reinhardt & Son.

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Ignacio Zuloaga — Courtesy of The Kraushaar Galleries

"La Morenita"

cians who found it necessary to redecorate the entire chambers that were to hold Zuloaga's exhibitions! Zuloaga's life story is as vivid and as varied as those of the musketeers.

Though Art has been the mistress for whom he has worked, suffered, and won success, from his early youth when his stern father, the rediscoverer of the art of damascene, forced him to work at his forge, until a final rebellion left him free to start on the long journey that through many years took him to many cities, and showed him many peoples and many sides of life. It is his boast that he had no teacher but Life, and his work shows that he learned her lessons well, for he gives us not imaginary studies, but bits of real life and, best of all, life in modern Spain. He tells it in a way that any one may read and appreciate with a clarity and heat that are reminiscent of his armorer grandfather's swords and his father's forges. Not only is he a great painter, worthy successor of Goya—whose spirit he seems to share, though his color is richer—but with every canvas he has rehabilitated Spanish art, and wrought a closer understanding of his people for the world at large.

Not less interesting, but diametrically opposed in every respect to the Zuloaga, is the Madonna and Child pictured here. This lovely work, long considered to be by Raphael, is now attributed to his pupil and assistant, Giulio di Filippo, commonly known as Giulio Romano. Those who know his Holy Family in Dresden and his frescoes in the Vatican will appreciate the beauty of this painting, which expresses the tenderness of motherhood yet has a joyful playfulness that is most unusual in such subjects, and these qualities adapt it admirably to decorative uses.

The picture belonged to the Pignatelli family whose ancestry included a Pope, which accounts for the papal coat of arms on the frame. A hundred years ago it appeared in England, where it has been owned by several different families, and it has finally come to this country to await a new home.

Art lovers are always glad when the lesser known painters finally win recognition, and in this instance it is Abraham de Vries, a Dutchman, who died about 1662, who is receiving belated appreciation. Registered at the Guild in The Hague in 1644, he did much portraiture in Amsterdam, and like most of the men of his day was considerably influenced by Rembrandt. This is felt in the portrait reproduced here, though from a technical point of view it might well stand on its own high merits. The picture has great charm, the artist having caught that rarely captured prize, the personal magnetism of the subject, and preserved it and him for our pleasant acquaintance. Here, again, and of an entirely different type, have we a masterpiece of art that may be used as a decorative theme.

Wm. Morris Hunt — "The Rapids" (Sister Islands Niagara) — Courtesy of The Macbeth Galleries

One finds the name de Vries quite frequently in the annals of Dutch art of this period, and it would be interesting to learn their relationship. Contemporary with the portraitist of whom we speak, there was an Adrian de Vries who made considerable reputation as a sculptor, and examples of his work in the form of fountains are to be seen to-day in Florence, where he labored for many years, in Vienna, and other cities of Austria where he was greatly sought after. There were still others of the name, but none whose work has enjoyed the lasting and ever-growing fame of Abraham who was indeed worthy his high place among the Dutch Masters.

It is yet too early to announce definitely the various exhibitions at the art galleries during the coming season, though three of these may be mentioned to inform Country Life readers of the joys awaiting them.

Abraham de Vries — "A Dutch Gentleman" — Courtesy of The Ehrich Galleries

The first will be an exhibition of monoprints by Guarino, October 8th to 27th inclusive, at the C. W. Kraushaar Art Galleries.

Later, the Ehrich Galleries will present a number of works by the lesser known artists, among whom Angelica Kauffman, Sir Peter Lely, Sir Godfrey Kneller, Henry Harlow, Nicolas Maes, John Opie, and Matthew Brown are notable.

Loan exhibitions are rare in this country, and the one being arranged by Messrs. Henry Reinhardt & Son for the late fall will find a large and appreciative public. The exact dates of both these hangings will be given later as well as notices of other hangings, all of which promise the art lover considerable pleasure and great opportunity to those who desire such treasures for their homes.

J. C. M.

THE furniture which Duncan Phyfe made in Philadelphia some hundred odd years ago offers, as does none other, a delightsome mingling of Colonial freedom and English Sheraton tradition.

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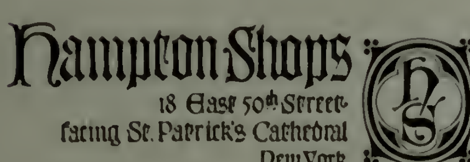

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Decorative Glass Panels

STAINED glass, like cut glass, seems to be coming finally into its own after having suffered a long and unwarranted eclipse, due to the ill effects of its unwise use and the frightful examples so commonly seen during the last years of the past century. Yet its decorative value remains unapproached by anything else, and when properly used it is as suitable to the simple cottage as to the large house. Also, it can be installed quite successfully in the so-called Colonial type of house, though it is its misuse in connection with this very kind of architecture that is chiefly responsible for its fall from grace. However, that is past, and the stained glass to be found to-day is for the most part very good looking and in excellent taste.

As might be expected, it is usually designed to order; that is, the windows are made to order, with insets of tinted glass. One rarely sees whole windows of stained glass, except where the fortunate possessor has been able to acquire an antique. The method of using inserts admits of many uses, and of as many patterns as one desires, though it is more effective to insert but one medallion to eacn window of mica glass, whose flaky translucency throws it into high relief.

Naturally the effect is best in casement windows, yet as nearly every modern house has one or more of this type there is opportunity for it everywhere, and it may be added here that curtains are unnecessary with stained glass, so that it is a happy economy, and for halls where every ray of light possible is desired. It will be seen at once that this type of window is invaluable. The designs here speak for themselves, though it may be interesting to know that the round pattern, about ten inches wide, costs only $10, while the others come at $20 each.

The design at the top of the column, while not a copy of Millet's "The Sower," is the same subject and has something of its feeling. Its soft colors have unusual luminosity, the blue being especially good, while the Italian lettering adds to its attractiveness. This sort of thing would be particularly good in a country house hall.

The panel of Moses seen at the foot of the column is fully as interesting though different in every manner, the face and beard being beautifully painted to simulate fine etching, and their finesse is heightened by the deep tone green, blue and gold seen in the vestments and halo.

Escutcheons are always satisfactory for window use and the round one shown here is an exceptional example of their decorative value. As may be imagined, this one has lost much in reproduction here, yet florid as is the design the work is very good and all the more pleasing when one learns that it is now possible to order one's own coat-of-arm's done in this fashion.

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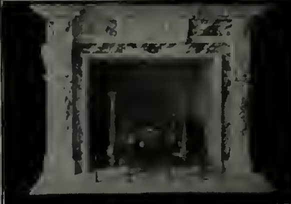

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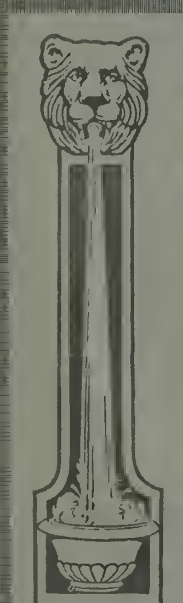

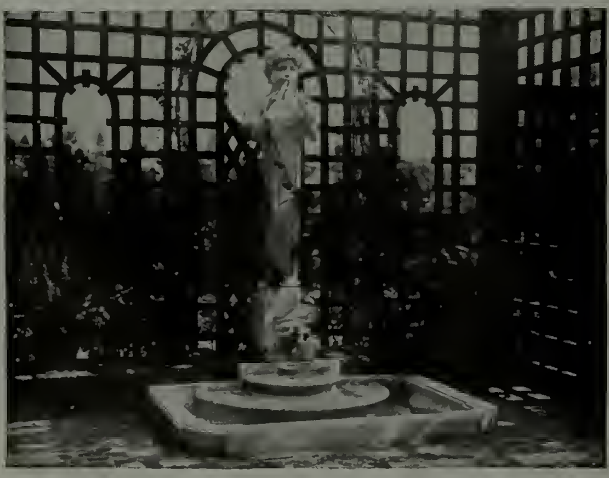

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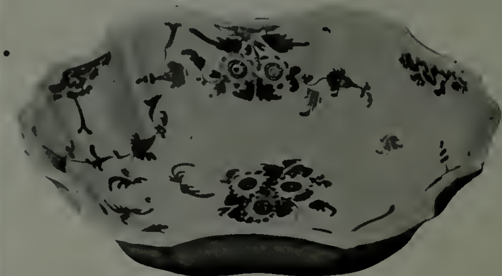
Old Things And New

IN DECORATING the house, one often needs a point of color to gain the desired effect, and must frequently look long and painfully for the correct thing. Often this tone can only be found in old pieces, those whose appearance plainly shows the marks of time. Such things are hard to find but are well worth the search. Old silver is highly decorative, and as few families have enough such heirlooms to serve their various branches, and it is entirely within the tenets of good taste to embellish one's board with fine old pieces that have fallen on evil days. These can be found in many shops, as witness the two pieces pictured here, charming examples in point of design and patine, are good for many years' service and may be had for $30.

For sheer beauty of design and color but without great utility, the old Italian wash basin and



ewer of richly decorated pottery seen above can hardly be excelled. And these would prove useful too in houses fitted after the old-time style as accessories to light toilet making. They would also be excellent for fruits and flowers in the dining room, since the bowl is wide and shallow. They cost only $40 and are very old.

Handsome in form and color are the new Italian pottery jars at the bottom of the column, designed for jam comfits and preserved rose leaf scents. The dish with plate nine inches in diameter, decorated in chrome, dark blue, and green, is $7.50; the smaller jar is $7.50; and the larger $12, both similarly decorated. J. C. M.

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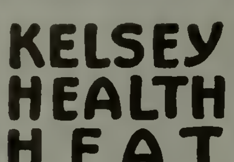

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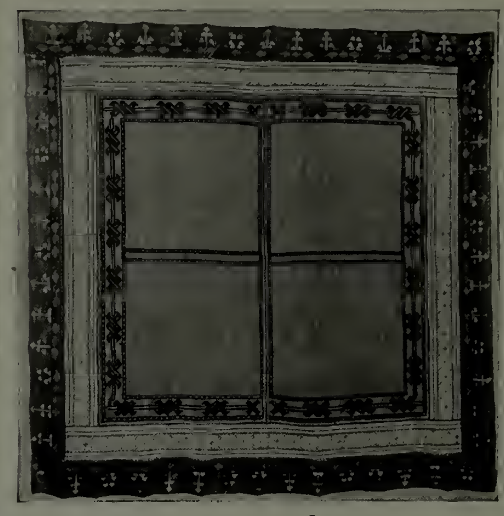
After many months of waiting, the shipments of embroidered Russian table linen mentioned in these columns have arrived, and though the photographs in no way do them justice, it will be seen that they are well worth waiting for as they are as unusual in design as they are charming in color.



The bottom one, only an end of which is seen, is unique. Its soft, open weave has insets of Russian lace and silk, embellished with embroidery. It is 48 x 74 inches, and very rich in effect.

The upper piece, 38 x 40 inches, has a multi-

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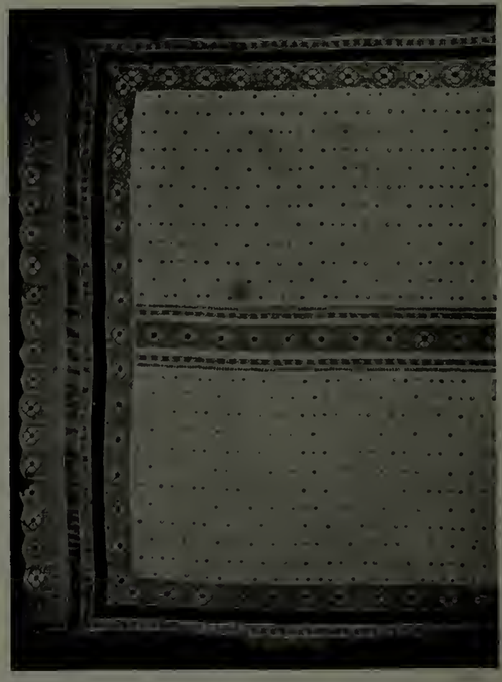

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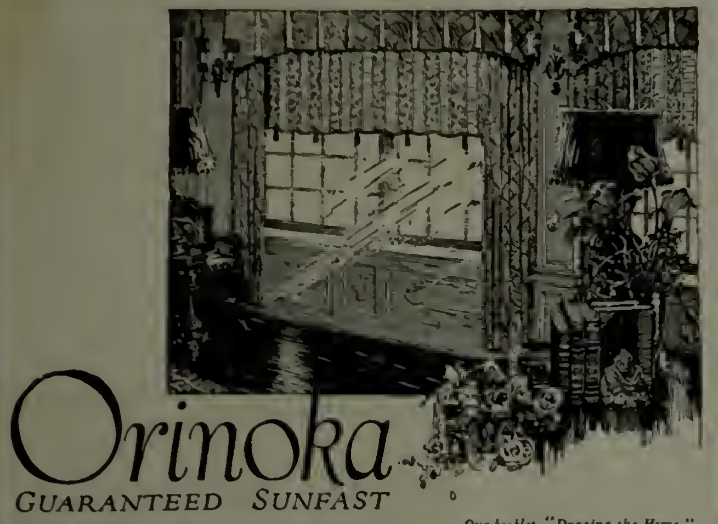

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BLASTING TO CORRECT SOIL EROSION

IN MONTGOMERY County, Pennsylvania, in the spring of 1915, I ran across a farm on which the problem of the washing of the land had been solved in a new way. The owner is a believer in intensive tillage and deep tillage, and in the use of explosives to secure the tillage. Quite accidentally, while blasting his soil, he found that breaking up the bottoms of gullies in a certain way would result in their filling again to the level of the surrounding land of their own accord.

The farm in question is about forty miles northwest from Philadelphia. It is owned by a physician who perhaps spends half of his time there, but who will not be named here because he does not have the time to answer many questions. The success of his farm methods and practices of the last six years entitles his experiences to the consideration of every one who handles similar problems. The fact that he is a physician with a strikingly successful practice in medicine is important in the story only to bring out the point that he is a trained observer, used to looking at things from an intelligent and educated standpoint. He is familiar with plant nutriment and soil processes, and is more of a real farmer than the ordinary man who passes under that classification—as, for instance, the previous owner of this particular land.

The soil of the farm is mostly that classed as Chester loam in the surveys of this section made by the United States Bureau of Soils, though a little of it is DeKalb and Landsdale soil. If you are not familiar with the Survey descriptions and maps, it may be of value to add that Chester loam is a brown and rather light soil, well mixed, in this case, with much finely broken granite. This composition extends two or three feet down and is underlaid with a mild or impure clay which will mold in your hand like putty. All of the land has considerable slope, and this soil cuts out like a snow bank whenever water flows over it with any considerable velocity.

A small gully running through unblasted ground. Note where it bends away opposite trees where the ground was dynamited

When the present owner bought the farm, about six years ago, the fields nearly all were gullied badly. Many of the gullies were big enough to bury horses in. You could see their raw edges from miles away. Sheet erosion had done greater damage, if that were possible, than the gullying, by carrying away plant food and surface soil.

Various ways of filling the gullies and stopping the erosion were tried, without much success. At first the dirt was plowed in from the sides. This earth washed out again—"like feathers" one of the men said. Some of the land was seeded to grass, but even the heavy sod resulting did not prevent further cutting away of the ground. And then came the discovery which has brought about the end of all erosion on that farm.

Sixty acres of the land is in fruit. There are peaches five and six years old on forty acres, and apples four and five years old on twenty acres. The bed for each one of these trees was blasted, and after the trees were set, the spaces on the lines of the rows were blasted. One way, the charges were placed ten feet apart along the lines of rows, the other way they were placed only five feet apart. Three or four ounces, or even less, of explosive was used to a charge, and placed about three feet deep.

In doing this intermediate blasting one day, a line of charges necessarily was placed right in the bottom of a gully. The workman made the mistake of using whole stick charges instead of

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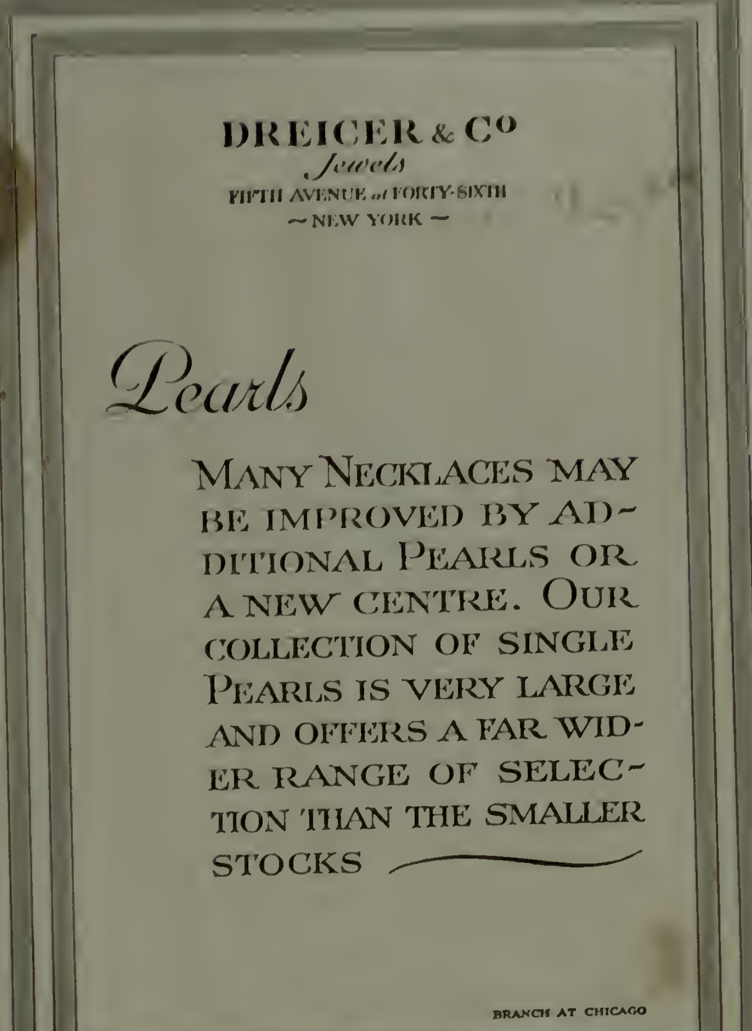
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the usual quarter stick or less, with the result that craters were blown out at these points instead of the ground only heaving or bulging. At the time this looked like a useless waste. But two months later, on his next inspection of the spot, the owner was surprised to find this particular gully disappearing. Within three months it had entirely filled up with sediment carried down by the water and deposited, the same as a delta is formed in the mouth of a stream.

The method was developed and used all over the farm. As finally found best, the practice is to blast along in the bottom of the gully every six feet or so with four ounce charges placed so as merely to heave the ground, as for tree beds, and every forty to sixty feet with whole-stick charges so placed as to blow out craters. This is the entire process. This, with no other handling of material whatever, results in the filling of the gullies and in the prevention of their formation at the same points again for at least six years—which is the time since the first one was filled in this way on this farm. The work must be done when the ground is so dry that it has lost all its plasticity.

The filling and the prevention of further cutting of earth by water is one of the most interesting processes that I have seen in the agricultural game for a long time. The blasting of course loosens the entire bottom and sides of the gullies. As you look along them, you see every three or four rods the three-foot craters made by the larger explosions. These craters begin to fill first, with the sediment brought down by the first hard rain. When the filling of the gully is complete, the space where it was is actually higher than the surrounding land.

The water descends the slope by gravitation, but instead of flowing along on the surface, or along the bottom of the plow furrows, gravitation sends it down into the loosened, powdered, and disintegrated soil, where it follows through the

Ground that was originally gullied, but which has filled level again after being blasted

ground two to four feet under the surface. As it percolates and filters through the ground, it gathers a certain amount of the pulverized earth, especially that near the surface, where the ground is loosest. When it reaches one of the craters, the water is forced to a standstill, which permits the settling and depositing of the particles carried along so far. The water finally fills the crater, wells over the brim, and then seeps and oozes and soaks through the pores and small spaces of the ground to the next one. It does not cut as it goes along, for it does not have enough velocity or volume. Its progress down the hill is just a gentle passing through the broken-up soil, without even enough of a rush or sweep to be called a trickle.

Observation shows that the craters fill first, and then they in turn act as retaining walls and form dams behind which further lodging of material takes place. The process keeps up naturally, first one part of the gully filling a little and then another, till the level of the surface is reached.

A feature worth special attention is the fact that the cavities of the gullies are filled with the richest material in the field. This material not only has been powdered, but has been acted on by water and air, and all the chemical reactions that are necessary to make available the plant food elements have been promoted. Bacteria should find in such material a splendid culture ground. In each one-time gully are many cubic yards of it.

As evidence of the reality and truth of the foregoing, I had pointed out to me several features of the surface of the peach and apple orchard when I visited the farm in February, 1915, and again in August.

For instance, there was near the bottom of the

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slope a sheet of ice about a hundred yards long and fifty yards or more wide. The rest of the orchard was bare, except a little snow sticking beside a tree here and there, or in the side of a gully not yet treated. The owner referred to this place where the ice was as a "dam," and went on to explain that the ground above had all been thoroughly broken up, but right where the upper edge of the ice lay the blasting had been stopped. The water filtered down the grade, well below the surface, as it did elsewhere, to this point. But here it met a wall of earth that was too solid and compact to penetrate, and it was forced to rise to the surface. The whole thing was like a dam, with the edge of the unblasted ground acting as the breast, and the water damming back up the hill till it reached a level where it would flow over the breast. And after it flowed out on the surface, it of course made an ice sheet on down the hill for a short distance.

If this dam were broken up the water would drain away underneath the icy spot, and the ice would disappear. On hill slopes many lines of seepage that are mistaken for small springs, are actually nothing more or less than the excess moisture from the land higher up coming to the surface on account of striking a reef or dam of solid earth at that point.

In the apple orchard some of the trees have been planted with no blasting other than that of their immediate bed, and some others with only the lines of the rows in one direction. It was interesting to note that small gullies were forming midway between the lines of blasts, but in no case on the lines of blasts. In the peach orchard very small gullies—three or four inches deep—were to be noted at a few points, but these always swung here and there, keeping to the unbroken ground as accurately as though laid out by the hand of a workman.

The owner is outspoken in his explanation of the processes by which the erosion is stopped, and of the value of this method of accomplishing that desirable condition. He says that on his farm erosion carried away every year enough soil and plant food to pay for the blasting, and that he never was able to control it by any other means. The blasting is not productive of a lot of inconvenient surface fixtures, but on the contrary, as a by-product, so to speak, it produces a condition of tilth which very quickly results in much additional available plant food and increased fertility.

This man probably has observed the actual "reaction" as he calls it, of the blasting of ground for fruit trees more closely than any one else in the country. In his new plantings he is using five charges for each tree instead of one—one charge where the tree stands, and the others spaced around this one, about five or six feet away—and only two ounces of farm powder to a charge. His analysis of the subject of natural plant food in the soil of his farm contains the conclusion that the top six or eight inches of his soil now, after 200 years of tillage, is practically ashes or cinder, with all food elements burned out of it.

The washing of the land is one of the serious problems which intrude themselves on those who seek to get profit or amusement from growing plants through the tillage of the soil. It is the characteristic mark of poorly cultivated farms and abandoned farms, and it is at its worst not when it tears out gullies but in the hardly visible form of sheet erosion.

J. R. Mattern.

CHECKING THE RUNAWAY HORSE

THE driver whose horse easily becomes frightened and tends to bolt at slight provocation is always handicapped by his inability to venture far from his vehicle unless the animal is securely tied. I have found that a simple expedient for efficiently deterring horses from running away is to twist the reins half way round a spoke of a front wheel, then place the loop, where they buckle, over the hub. If the horse starts off, the reins are drawn tight by the revolving wheel and temporarily check the animal until the driver or some bystander can reach its head. Of course, a stout pair of lines is essential, but this is always a desirable provision in driving.

This scheme is rather less effective when two horses are involved; but even then, in case they start off together, it is an excellent trouble preventer.

G. H. Dacy.

Home of Clarence A. Earle, Copeland Heights, Toledo, Ohio. *Architects—Mills, Rhines, Bellman & Nordhoff, Toledo.*

Thatched "CREO-DIPT" Stained Shingles used for Thatched Roof. Color as weathered straw.

Furnished by
CREO-DIPT COMPANY, Inc., North Tonawanda, N. Y.
Sole Manufacturers

Working drawings of construction of Thatched Roof, standard specifications and instructions for design and construction of same, furnished on request by manufacturer

Grille enclosed window radiator in residence of Arthur Curtiss James, New York. Allen & Collens, Architects.

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BENEATH this window seat is the radiator. The decorative grille designed in harmony with the window, allows the heat to pass freely.

Whatever your radiators, or wherever located, we can suggest grille enclosings that will rob them of their obtrusive objectionableness.

Allow us to make suggestions.

Our printed matter you are welcome to.

TUTTLE & BAILEY MFG CO.

52 VANDERBILT AVENUE
NEW YORK

TABLE DELICACIES

Saving Wheat for Our Allies

ANN REMSEN

WHEN Mr. Hoover asked us to give up meat two days a week no one grumbled overmuch, but when white bread was taboo, the affairs of war took on a more serious aspect. Habit is everything; fresh white bread was in the pre-war days the foundation of the average evening repast. In conserving flour for the use of our fighting men in France and those of our Allies, statistics show that the difference between consumption of bread new or stale is one loaf in five. From this fact Mr. Hoover's edict of flourless days was set forth; brown bread has been substituted for white bread stuffs, thus releasing thousands of pounds to be sent abroad. To-day, corn bread, corn muffins and Southern spoon breads are served for luncheons.

Boston brown bread is made by the following method:

BOSTON BROWN BREAD

Three and three-quarters cups Indian corn meal, two and one-half cups rye (not flour), two thirds cup molasses, one quart milk (either sweet or sour), two even teaspoonfuls soda, dissolved in the milk; steam in tin pudding boiler five hours; take off the cover and set in oven till morning.

Rice Muffins are very appetizing and are easily made. A good recipe is:

Maillard's Breakfast COCOA

Have *you* tasted Maillard's? If not why not try it *to-day*. 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

ROYAL BAKING POWDER

Made from Cream of Tartar

Absolutely Pure

No Alum No Phosphate

Clysmic—Of Course

Because Clysmic is so far the aristocrat of sparkling waters that hospitality requires it to be on hand whenever one entertains.

15 grains of Lithia Salts to the gallon.
Sold everywhere in splits, pints and quarts only.

Don't accept ordinary waters

Insist on genuine

Winter and Summer, the one beverage that makes everybody happy—Clicquot Club Ginger Ale.

Buy it for your home by the case. You can enjoy it to-day with a clear conscience for it contains no grain or cereal products needed by our government or its allies.

THE CLICQUOT CLUB COMPANY
Millis, Massachusetts, U. S. A.

RICE MUFFINS

Take one cup cold boiled rice, one pint flour, two eggs, one quart milk, one tablespoonful butter, and one teaspoonful salt; beat very hard and bake quickly.

CORN BREAD

Four eggs, two cups sour milk, two cups sweet milk, three tablespoonfuls sugar, one teaspoonful soda, lard size of hen's egg, which must be melted before mixing, one teaspoonful salt, corn meal to make batter thin enough to pour. Bake in hot, quick oven.

The fish or meat course admits of many delicious dishes; a filet of sole tempts, for instance, if this bit of sage advice is followed:

FILET OF SOLE

Take the ordinary flounder, lay it on a board, cut off head, fins, and tail, and scrape off the skin. Quarter the fish lengthwise and take out the bone, leaving four strips of the flesh. Cut these into pieces about three inches each in length, and dip first into beaten egg and then roll in cracker crumbs. Fry in boiling lard or drippings, having the fat as hot as would be required for doughnuts. Drain dry by laying on soft white paper. Serve on a napkin laid on a very hot dish, and garnish with bits of parsley and sliced lemon. Pass quarters of lemon with the fish, as a few drops of the juice squeezed over it greatly improves the taste. This is a capital imitation of the famous English sole.

Then a baked halibut is a treat if cooked properly. Serve with mayonnaise dressing.

BAKED HALIBUT

Order a piece of halibut weighing about four pounds. Lay it in salt and water for an hour before cooking. Wipe dry, score it across the top with a sharp knife and lay it in a dripping pan. Bake about an hour in a steady oven and baste several times with hot water and melted butter. When it is done, lay it on a hot dish, strain the gravy left in the pan, and boil up after adding two teaspoonfuls of butter rubbed smooth with two tablespoonfuls of browned flour. Just before taking from the fire add a tablespoonful of Harvey's or Worcestershire sauce and the juice of a lemon. Pour part of the gravy over the fish and pass the rest in a gravy boat.

A TIMBALE OF NOODLES AND HAM

An old recipe for a timbale of noodles says: "Very few housekeepers realize all the culinary possibilities in a piece of cold ham. There are numberless excellent surprise dishes to be made from it in the way of an omelet covering a mince of ham, a scallop of ham and potatoes, a croquette of veal and ham, and above all a 'weal and hammer,' whose charms Silas Wegg was wont to rehearse between those fitful moments when he 'rose and fell on the Roman Empire.'"

Directions for making these things have been given from time to time in our columns, but a timbale of noodles and ham is a little more troublesome to make. It requires, first, about a pint of well-made noodles, which should be shredded very fine, about the size of matches or vermicelli, rather than in ribbons, as it is usually cut for soup by the German cook. Drop the noodles into about two quarts of salted boiling water, stirring them with a fork to prevent their sticking together and becoming lumpy. Each piece should be separate, in order that it may swell to proper proportions in the boiling water. When the noodles have boiled eight minutes drain them; put them in a saucepan with a tablespoonful of butter and the beaten yolks of two eggs. Add seasoning of salt and pepper, and pour into a buttered quart charlotte-russe mold, or a number of small timbale molds. It is much less trouble to make one large mold than several small ones, but in either case the same method is followed. When the mold is cold, scoop out its contents to within about an inch of the sides and bottom, if it is a large mold. Egg it and bread-crumb it with fine bread-crumbs; then plunge it into hot fat for two minutes to become golden-brown. When it is cooled fill it with a preparation of minced ham and cooked noodles in white sauce.

Another old recipe is for stuffed tomatoes.

STUFFED TOMATOES

Stuffed vegetables are well enough known to French cookery, but are comparatively rare on American tables. They are not so difficult to prepare as is sometimes imagined, and are often a source of economy. Bits of chicken or any dainty meats too small to be used in any other manner may be utilized in this way. Tomatoes are particularly nice stuffed with a chicken forcemeat. Select tomatoes of a full firm texture. Remove the seeds, cutting a little cap off the top of the tomato to get to the inside. A little vegetable scoop, such as is used to cut potatoes in balls, is just as good as anything to remove the seeds of the tomatoes with. When the tomatoes are emptied, prepare a chicken forcemeat by pounding bits of chicken to a paste. Either cooked or raw meat may be used for the purpose. Add as much bread crumbs soaked in milk as there is meat, and to every cup of this mixture an egg yolk and a saltspoonful of fresh butter with salt and pepper to taste. A little nutmeg may be added, and if the forcemeat is not moist enough, a little white stock may be used. To every cup of forcemeat add also half a teaspoonful of onion juice, six chopped mushrooms, and the juice and pulp of the tomatoes which have been scooped out, rejecting the seeds. Lay over them the covers or caps which have been removed from the tomatoes, set the tomatoes in a deep porcelain-lined baking dish, and cook them for half an hour in a moderately hot oven.

SPONGE PUDDING

One third coffee cup of flour stirred perfectly smooth in a half pint milk. Set in boiling water and stir constantly until the flour is cooked. When nearly cold, add one half spoonful melted butter, one fourth teacup sugar, and yolks of three eggs (beaten to a froth) together. Just before baking add the well beaten whites. Have in the oven a dripping pan half full of boiling water. Put the pudding in a buttered tin dish, and set it in the dripping pan. Bake in a moderate oven fifteen minutes. Serve with sugar and cream or sauce.

EQUIPPING *the* AVIATOR

By LINDSAY GLEN

LINDSAY GLEN

Of The Country Life 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

"HOW, then, could I say, if I would, what America's aviation programme will be for the next six months or a year," writes General George D. Squier in an article in "Flying" for August. General Squier goes on to say: "If you will show me Von Hindenburg's provision for air attacks during the coming winter and spring, then I might divulge a few Yankee plans to counter it." The few Yankee plans will be unavailing no matter how cleverly conceived if the flier is not warmly and comfortably clad—which means with the things he uses constantly.

As the aviator has been termed very truly the commuter of the War Zone, he can possess more comforts in his kit than the land fighter who must carry his kit with him on a hike. The air man goes out on a raid, but returns to his base and his camp when the work has been accomplished. He flies light in equipment but that equipment has been brought to a high degree of comfort and efficiency. His clothes are of course the first thought and should be made throughout of the best quality of leather. The coat has a detachable fleece lining, is belted and has large bellowed pockets lined with duck. The trousers are full, with ample room at the knee and are tied with narrow thongs at the ankles.

Specially made Llama wool underpants may be had to add to the comfort of the aviator in high altitudes and the long flights in the winter raids. These wool pull-overs are made to wear under the leather trousers.

The perfection of equipment of this aviator insures comfort which to the flier is synonymous with safety

AVIATION HELMETS

Leather helmets fit the head snugly and are held by the chin and stay firmly in place. The ear parts may be closed by snaps, covering when desired.

A sweater done in mohair yarn made with a wide collar which, when buttoned up, may be pulled up over the head and fastened as a hood is also useful for the flying man. Another sweater is in khaki colored wool, no collar, as over it is worn the waterproofed waistcoat in khaki colored cloth which has a wonderful life-saver's belt attached which may be blown up in a moment and adds to the safety of the airman, who may be so unfortunate as to have engine trouble over the sea somewhere. These waterproofed life-saver waistcoats have a pocket in which chocolate may be stored.

AN AVIATION MIT

A mit which has given much satisfaction for the flier is made of the finest leather, lined with stockinette material. The mit and cuff are lined with a cold air and rain proofed fabric. The strap at the edge of the cuff keeps out the wind.

A HYDRO SUIT

The Hydro-suit may be used for aeroplaning as well as hydro-planing, and consists of a one piece suit made of fine rubber sheeting worn with a belt and strapped at the knee and ankle. A knitted helmet is worn under the soft leather aviator's cap.

THE EYES OF THE AIR

To protect the ears every aviator carries a pair of one-piece goggles with gray plush rest to prevent pressure on the ears. A fur-lined face mask is a wonderful protection for the aviator on winter flying duty.

Waterproof goggles are equipped with unbreakable lenses. These goggles are so bent that a wide range of vision may be had. These goggles and all the equipment mentioned on these pages comply with the army and navy regulations for aviators.

HE WHO FLIES MAY WRITE

The aviator knows the value of accuracy in his notes. Observations in the air are jotted down hastily on any scrap of paper which may be on hand. It is on returning to camp they are then gathered up, and may be put in order for immediate use by using the modern field typewriter, which is the greatest of the inventions for the aviator to-day.

No longer does the harassed aides have to decode the hasty and often illegible hand writing of the flying man. It may now be handed to him in proper form to be used immediately. This modern typewriter should be a part of every man's field equipment. The desirable quality is its smallness, and it is the most complete machine for field purposes. It measures six and one half inches high when in use. When folded for transportation, it is barely three and three-quarters inches high. Its total weight is six pounds.

The machine comes in a black leather or pigskin case. It has a sliding draw for stationery, pens or pencils which the aviator may chance to need, and perhaps its most practical quality is its simple construction and light aluminum frame which makes the typewriter indestructible. A folding stand comes with the typewriter which adds to its value in war time.

ACCESSORIES WHICH TELL

A comfort as well as a necessity for the air man is the South African water bag. It has no complications, and there is no adjusting to be done. It holds two gallons of water which is kept clean and cool. The weight when filled is 16 pounds. This will be found not only a luxury but a necessity to the airman who may lose his way in flight.

Life-saving waistcoat for hydro-planing. The life belt is attached to this waistcoat and in the picture has been blown up for use. The pocket contains a small water tight flask.

Knitted helmet for the aviator, fits snugly over the hood and shoulders. Made in gray or khaki colored wool

Knitted sweater, sleeveless, made to fit closely over the body. Regulation for all men in the service or in the field

Leather suit for aviator with hood and mask. The coat has an interlining of soft wool. Servicable for winter flying. The mask is adjusted to the hood with snap pins

B. Altman & Co.

With the advent of the Autumn Season

there is a wonderful display of Fashions throughout the Store and the richness and variety of the Garments for day and evening wear are certain to arouse keen feminine interest.

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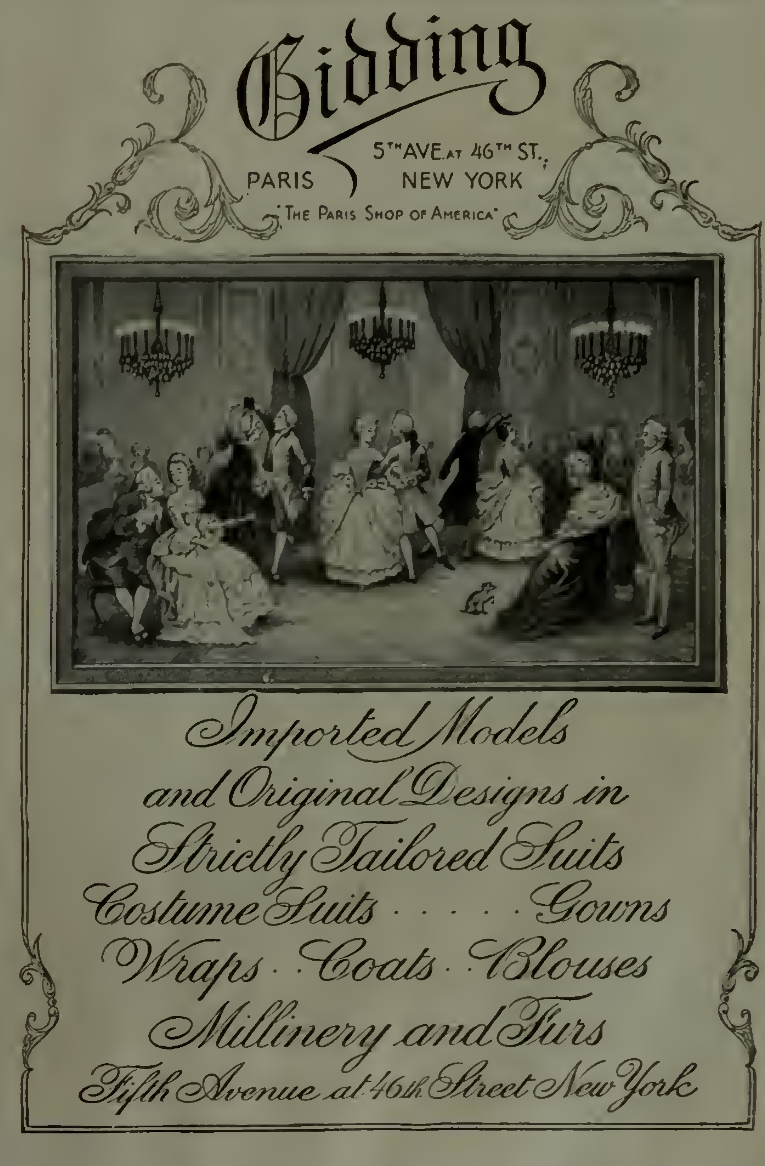

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Liquid-Food-Tonic

The key to the situation

is strengthening. It benefits the old and weak —aids digestion and nourishes without over-burdening the system. Is there a birthday in *your* home whose celebration crowds the cake with candles? Malt-Nutrine should be taken at each meal and before retiring.

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Malt-Nutrine declared by U. S. Internal Revenue Department to be a pure malt product — not an alcoholic beverage. Contains 14.50 per cent malt solids—1.9 per cent alcohol.

Interesting booklet on request.

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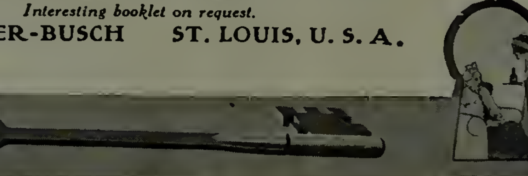


Write the Readers' Service for information regarding Live Stock.

A NEW FORCE IN RURAL EDUCATION

DURING the thirteen years of its existence, the Nashville Agricultural and Normal Institute of Madison, Tenn., has acquired neither endowment nor debt and yet has offered an education free to any student entering its doors. Founded with the purpose of developing teachers for the hill country, no less than twenty-five rural schools throughout Tennessee and the neighboring states are to-day carrying out the unique traditions laid down by the mother institution.

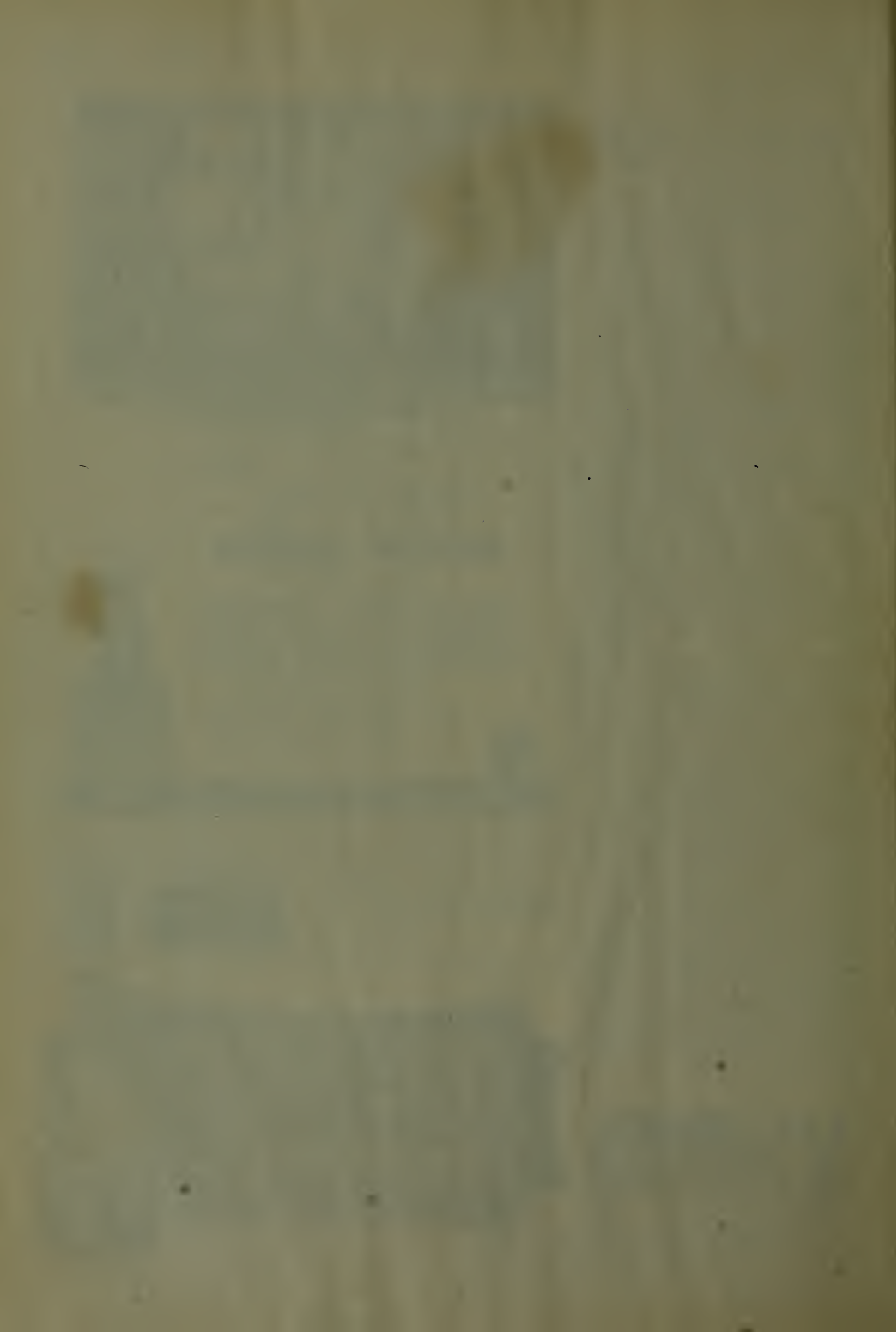
Thirteen years ago a group of school men in the North were imbued with a new idea in rural education. They went South, and out of their own funds purchased a 400-acre farm a few miles from Nashville. From the very first it was decided that the school must make its own way, and no money has been invested for other than permanent improvements. Every student has the opportunity to earn his own way by working on the school farm. Ability to do this sort of work is considered one of the essential qualifications for a teacher in the hill districts. So far has the idea of practical training been carried that the students have erected most of the school buildings, cottage style.

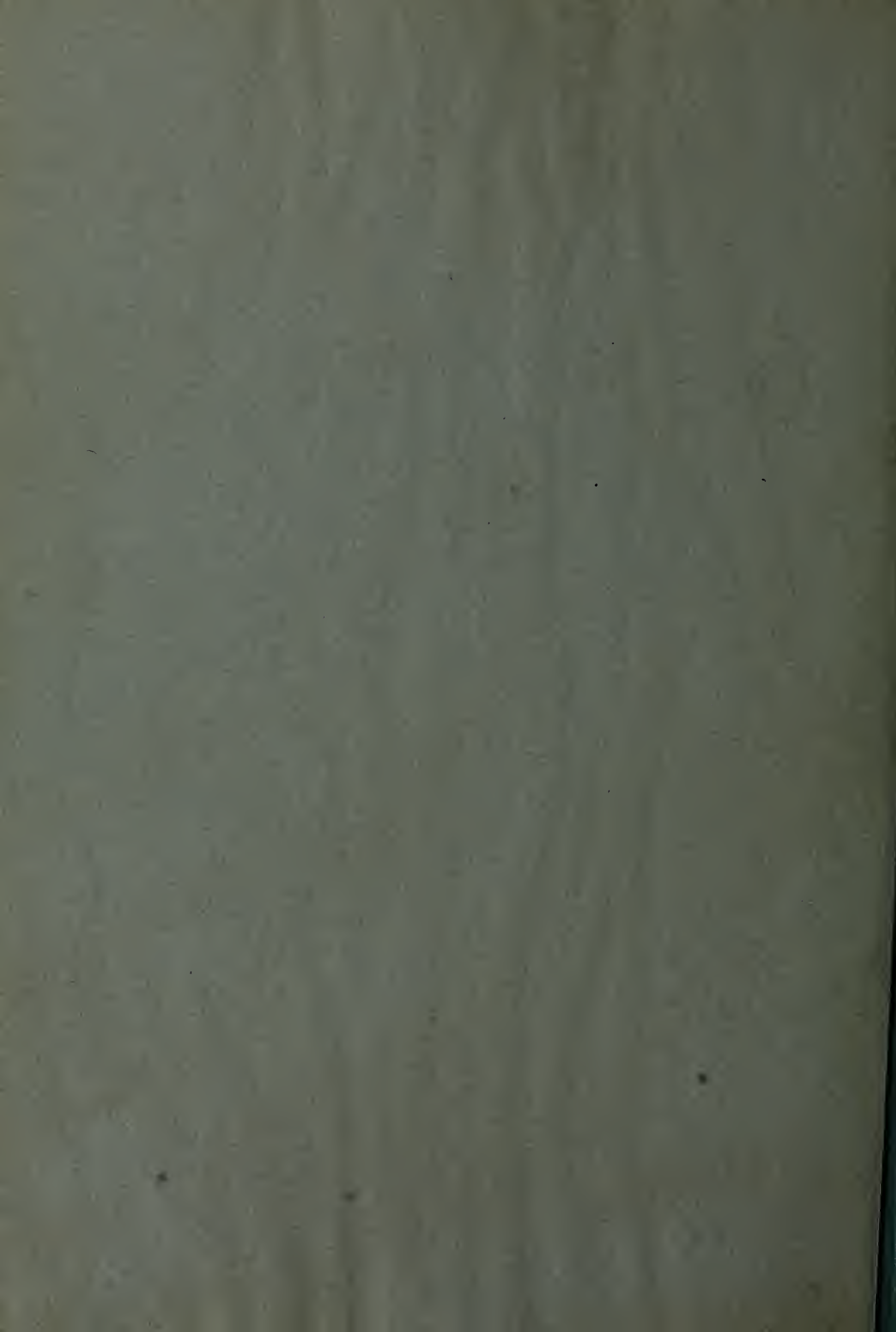
In order to provide time for both regular school work and farm labor, one half of the students attend recitations in the morning, while the other half are working in the fields and shops. In the afternoon this arrangement is reversed. A remarkable one-study plan has been introduced, each student taking up but one subject during the term. The school year is divided into four terms of nine weeks each, and four terms of three weeks each, forty-eight weeks in all. In nine weeks' time as much work is accomplished in one subject as would be done in an entire year where the time was divided between several studies. This plan makes for an intensive sort of work and gives the student who is able to remain only a short period the feeling of having accomplished something definite.

The Madison school was but two years old when the first of the hill schools was established. Two of the young men purchased 250 acres on the "rim lands" and determined to apply scientific methods. Working like the rest of the people on the hill, at first they said nothing about a school. But it was not long until it was discovered that they were teachers, and the school came as a matter of course. It now enrolls 100 pupils. These two workers proved that tobacco was not the only crop that could be raised in that locality, that dairying and poultry raising could be carried on successfully, that buildings could be painted, that wells could be dug instead of having to carry water from distant springs; in short, that the hill country need be backward only so long as the people willed it. The erection of schoolhouses and the teaching of reading, writing, and arithmetic follow these other things naturally.

But it is the spontaneity of the work and the solution of practical problems that has made the undertaking a success. The teachers, men and women, going out from the Madison school, reproduce on a smaller scale the work of the home institution by actually making living in the hills a success. Residing there the year round, they form points of contact that never could be made under traditional systems. The 200 graduates of the Madison school now engaged in this unique undertaking, and owning 6,000 acres of land, are bringing new light to thousands of people in the hill districts whom the old system of education could never have reached.

R. P. Crawford.





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