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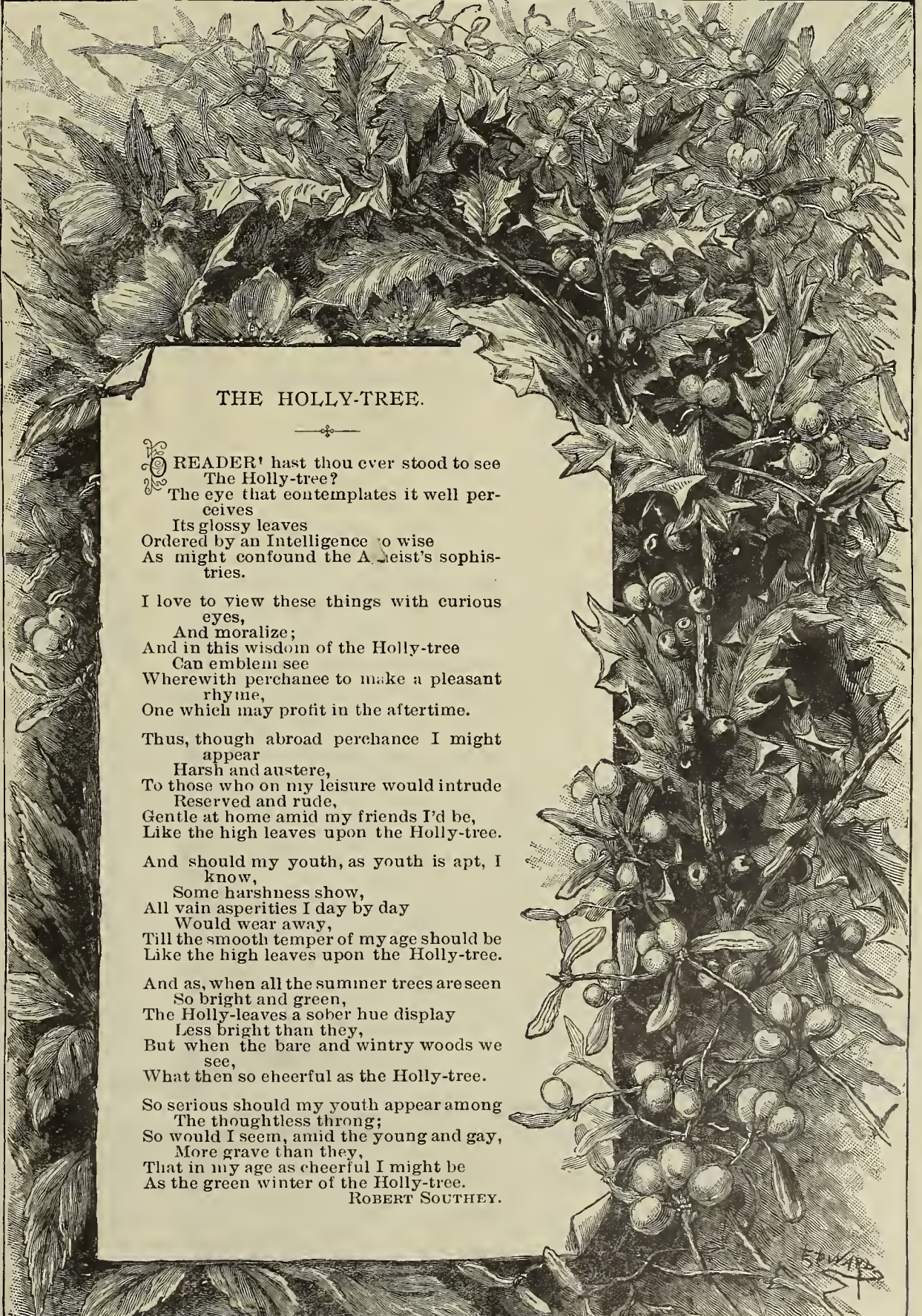
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### THE HOLLY-TREE.

READER! hast thou ever stood to see  
The Holly-tree?  
The eye that contemplates it well perceives  
Its glossy leaves  
Ordered by an Intelligence so wise  
As might confound the Atheist's sophistries.

I love to view these things with curious eyes,  
And moralize;  
And in this wisdom of the Holly-tree  
Can emblem see  
Wherewith perchance to make a pleasant rhyme,  
One which may profit in the aftertime.

Thus, though abroad perchance I might appear  
Harsh and austere,  
To those who on my leisure would intrude  
Reserved and rude,  
Gentle at home amid my friends I'd be,  
Like the high leaves upon the Holly-tree.

And should my youth, as youth is apt, I know,  
Some harshness show,  
All vain asperities I day by day  
Would wear away,  
Till the smooth temper of my age should be  
Like the high leaves upon the Holly-tree.

And as, when all the summer trees are seen  
So bright and green,  
The Holly-leaves a sober hue display  
Less bright than they,  
But when the bare and wintry woods we see,  
What then so cheerful as the Holly-tree.

So serious should my youth appear among  
The thoughtless throng;  
So would I seem, amid the young and gay,  
More grave than they,  
That in my age as cheerful I might be  
As the green winter of the Holly-tree.

ROBERT SOUTHEY.

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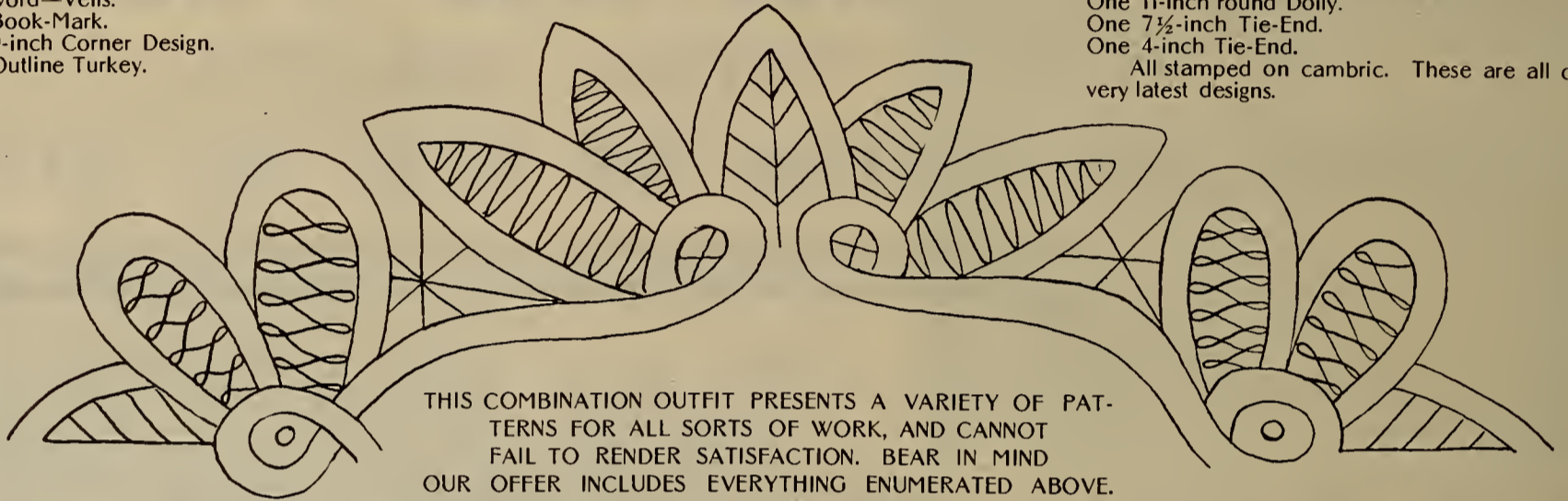
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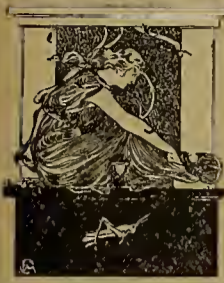
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## RUSSIA AND ITS PEASANTS By Edward A. Steiner



RUSSIA, the largest of the European states, is the most talked about, the least known. She is presented in three pictures: By her adversaries, Kennan and Poland; by her admirers, the Russians themselves and the French, and the third is the distorted picture of the tourist, who sees only patches and can no more talk about Russia than a man can talk about the ocean when he sees a mud-puddle. Russia is old in years, but young in experience. She has slept for centuries, with the exception of an occasional nightmare, when the giant bear shook herself and made all the bee-hives of Europe tremble.

Russia is large—the largest empire of the world with the exception of Great Britain; but Great Britain has only colonies. Her eggs, like cuckoo's, are in strange nests; but Russia's eagle has the brood gathered under her mighty wings. How large is this Russia? Nine million square miles, without a sea to divide and with only a small mountain range, the Ural, a plateau, to show where Europe, the new, should end and Asia, the old, should begin. Russia is larger than—well, there is no comparison—larger than the moon when she is full, because Russia is always full; not quite full, either, for though she has one hundred and thirty million inhabitants, only one tenth of her is inhabited. There is room enough for all the rest of Europe and for all the inhabitants of these great United States, with a few acres still left for a good-sized American real-estate boom.

Russia, immense as she is, is a unit—one vast, level stretch of land from the Baltic to the Ural, an unbroken plain, as if Nature had presented to the Czar a country in one course, without any soup to begin with, or dessert to follow.

What Russia lacks in picturesque scenery she makes up in variety of classes and races among her inhabitants; the stout, under-sized Slavs divided into Poles, White Russians, Little Russians and Great Russians; the German Slav in Lithuania; Finns, Turks, Greeks, Scandinavians, Roumanians; thirty-seven peoples, thirty-seven languages, or dialects, and yet one people. The heart of Russia is Russia—a vast, dead level of speech, dress and action. The different races are only the fringes of her garment circling her on all sides. In the Daskof Museum, in Moscow, is an interesting exhibit in wax-works. I saw there all her people, a panorama unequaled by any other nation under the sun. On the north side the Eskimo rides around the pole, in search of Andre's balloon, I suppose. Farther down is the Finn, a cousin of the Laplander. There are the Ehsthonians of the Baltic shore; the Persians, Votyaks and Mordvins; a Tartar woman from Kazan, a beauty reflecting the Oriental voluptuousness in her magnificent form; Jews; Big Russians who are little, Little Russians who are big, and White Russians who are dirty; gipsies, Mussulmen, Buddhists from the Asiatic prairies; Kalnuicks, and a Bashkir woman who has more coins in her head-dress than I have in my pocket; Armenians and Circassians, and fire-worshippers from Baku, who once kept alive a sacred flame through wind and rain at the peril of their lives, but who now have coal-oil enough around them to rival our own Ohio spouters. By the side of these ancient fire-worshippers is something entirely modern, not exhibited in the Museum—the Standard Oil Company, which pumps oil out of Russian ground and Russian coin out of the mujik's pocket, just as it does in America.

What is this Russia like? It is in Europe, and yet it is not European. Its climate is both colder and warmer, and the soil has nowhere its like on

the continent. Its people are mostly strangers to Europe's civilization. It is in Asia more than in Europe. In thrift, energy and industry Russia is more like North America than like any other continent. Its mixture of races, its undeveloped soil, its extremes of climate, its vastness, its wealth, point to our own continent more than to any other. Put into the heart of Russia a lager-beer sign, a grain-elevator, a lean church-steeple, a house built after the pattern of a cigar-box, and you could easily imagine yourself in the Dakotas. And yet the Russian is not American either in spirit or in activity. In fact, he is the exact opposite in most things. The Russian is slow, sleepy, dislikes bodily exercise, in which he resembles a part of our own population—the tramp—and like him, also, he is afraid of soap and water to a remarkable degree. He has the best opportunity to skate, but he leaves that opportunity to foreigners. He does drive fast horses furiously, and the jingle of the sleigh-bells and the muffled beat of horses' hoofs on the fluffy snow, the driving snow-flakes dancing down into his heavy furs, the flying landscape behind him, and the steaming samovar awaiting him, make him about as happy as the American farmer at the county fair when his best girl rides on wooden horses and they eat peanuts together out of one bag and suck colored lemonade through straws. Just one thing the Russian likes better than fast driving, and that is fast drinking. Vodka, his drink, means water—"little water"—but it is all fire; and he drinks it to such an extent that the tax on it brings into the treasury annually the sum of two hundred and fifty million dollars. Holy days are spree days, and inasmuch as the whole village becomes drunk at once—peasant, priest, police—it is decidedly conspicuous. The reason the Russian doesn't drink more is because he hasn't more money; and the reason he drinks so much is because his food is bad and insufficient. Some one has said that Russia pays her debts by getting drunk, which is both true and untrue. But, strange to say, there is such a thing as prohibition in Russia. Certain villages, as here in America, have excluded liquor entirely, and temperance agitation, although much desired, is no new thing. The Russian's

liquor bill last year was over five hundred million dollars—two hundred and fifty millions going for taxes, two hundred millions into the dram-seller's pocket, and only fifty millions for its entire cost of production.

What, then, is this Russia? A vast, fertile level, stretching from the heart of Europe to the plateaus of the Ural and then beyond; touching China's territory, and now touching her pocket; claiming neighborliness with the Turk at the Black Sea, and kept from the American continent by only a body of water hardly large enough to be called a sea. Nine million square miles of land—over a sixth of the land surface of the globe! Imagine an immense plate of almost one color, with a fringe, or rim, around it, variegated and beautiful, and you have a fair conception of Russia geographically—a country in which the Arctic winter holds full sway and where the hot sun burns perpetually upon the vast plains; where the reindeer seeks for scant food beneath the eternal snow, and where the reptile glides along the tropical verdure; where the scant rye is tilled in Siberia, and where the coffee-berry and the tea-plant flourish on the Asiatic plain; a land, a continent, claiming heirship with neither the effete East nor with the overcultivated West; a country which can be judged by no known standard. It is neither Europe nor Asia nor America; just the vast, incomprehensible Russia, the land of the Czar, with a dim past, with an undefined present, but without doubt a great future.

Russia socially is divided into four fixed and almost impassable divisions.



A RUSSIAN HIRED MAN

Imagine all of Russia like a bureau with four drawers. In each drawer you will find the article belonging to it. At the bottom is the peasant, then the official, then the priest, and at the top the noble. There are special laws for every one of these classes, and a man is dealt with not as an individual, but as a class, a small piece out of a big lump. The upper two classes are privileged; the lower two have the privilege of paying the taxes, going to war and doing the nation's digging and merchandising. The noble and the priests have handles to their names; the merchants and the peasants are called "ill smelling." But these classes among themselves are divided—the hereditary noble looks down upon the one who has bought his title with rubles. The priest is looked down upon by the monk; the little merchant by the big merchant, and the serf by the crown peasant. The peasant is the largest among these classes.

He is a sturdy, hardy, knotty, phlegmatic creature, made so by the climate and the mode of living. He lives all his life in one room. Eight months of the year he hibernates on the top of the big oven wrapped in his sheepskin coat. There are a great many funerals of children in the villages—the puny and sickly must die. If the weather does not kill them, the black, sour bread will; if the bread won't, the baptism will. The plunging into cold water is no "picnic" for a youngster a few days old. Only the fit survive.

A Russian village is composed of one stretch of little wooden cabins of one room each. Everybody who amounts to anything lives in this street—the good-for-nothing live in the alleys. The village fields surround the peasant. The tap-room and the church are also near by. A Russian village is a little kingdom by itself. The fields are owned in common. The village decides who shall work this field or that field, what kind of grain is to be planted, and whether Ivan or Istvan may leave the village to go on a pilgrimage, or whether Jan, the incorrigible drunkard, shall be sent to Siberia to reform. In the midst of the greatest absolutism you will find the most perfect democracy, for every peasant in the village has a voice and is eligible to the village honors. A number of villages constitute some—

[CONCLUDED ON PAGE 8 OF THIS ISSUE]



GOING TO MARKET

## FARM AND FIRESIDE

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IN A scholarly address on Confucianism recently delivered before the Ethical Culture Society of New York Minister Wu Ting-Fang said: "There is a general impression that China has three systems of religion which are to a certain extent governmental—Confucianism, Taoism and Buddhism. True it is that the government recognizes all three of these systems, but it is not true that they equally divide the affections of the Chinese. The struggle between them began centuries ago. Confucianism in the progress of the competition appropriated to itself the realm of the living, and there was nothing left for Taoism and Buddhism but the realm of the dead. Now, on the death of a well-to-do Chinese it frequently occurs that the family employs a Buddhist or a Taoist priest to chant the requiems for the happiness and peace of the dead man in the future life. It often happens, too, that both Buddhist and Taoist priests will be seen in funeral processions, and take part in all proceedings to do honor to the dead. We must keep in mind the idea that the Chinese are always a practical people, and as we are not sure what religion is exactly right we employ representatives of all sorts, so that if one does not do the right thing the other will. Such services are looked upon as professional and are invariably paid for. Of course, they are grounded in superstition. The strength of Buddhism and Taoism is in superstition, and they will grow weaker and weaker as the people become more and more intelligent.

"Confucianism is the soul and the life of Chinese thought and action. It is alive. In school we read the classics of Confucius, and we are examined in them with the closest care. Any Chinese who wants to enter official life has to study the classics of Confucius. Confucianism binds all the elements of the Empire into a homogeneous whole. It is not hard to find a man offering Taoist sacrifices and who can repeat whole pages of Taoist writings or Buddhist writings; but he regards these things usually as having no influence on his life. If you ask him what he is he will say that he is a follower of Confucius. America is called Christian because the great preponderance of your

people follow the teachings of Christ. With equal propriety, then, China may be called a Confucian country, for the great preponderance of our people are Confucians.

"What, then, is Confucianism? It is easier to say in a few words what it is not before I undertake to say what it is. It is not really a religion in the strictest sense of the word. Religion tends to bring a man back from error by holding out the prospect of everlasting punishment for wickedness and everlasting happiness for the good. It is based on everlasting life. The immortality of the soul is a pleasant thing to contemplate. I wish that it were true. I hope that it is true. But all the subtle reasoning of Plato can make it no more than a strong probability. I am aware that modern scientific discoveries and trends of thought have brought many complications into religious thought. Confucianism has nothing to do with the problems of modern speculation. Confucius would be called an agnostic now. He taught that there were four topics to be avoided: Extraordinary things, feats of strength, disorder, and spiritual beings. . . . There is no use in laying rude hands on the veil of death to try to peep into the mystery beyond. No mind and no straining of the soul has ever been able to add one tittle to our knowledge concerning the future existence.

"By Confucianism man is regarded as a social institution. Confucius treated of life by considering the five relations. They were sovereign and subject, parent and child, elder and younger brother, husband and wife, and friend and friend. . . . These five relations comprise all the conditions in which a man may find himself in society. If he fulfills his duty in all of them he makes a desirable member of society. Of the five there is especially to be observed the relation between the parent and the child. That may be said to be the pivot of the system. . . . The aim of the teachings of Confucius is to make men good members of society. There are five things required: Benevolence, righteousness, propriety, understanding and truthfulness."

IN HIS annual report Postmaster-General Smith says:

"The extraordinary extension of rural free delivery during the past two years has proved to be the most salient, significant and far-reaching feature of postal development in recent times. We have had other striking advances, but they have been along lines already well settled. The fast-mail service, carried to the highest attainable point, is only the logical outgrowth of the constant struggle for the quickest dispatch. The admirable railway post-office is only the culmination of the incessant effort to save time, obtain the straightest line and secure the least handling. The frequent and rapid distribution in great cities, now often outstripping the telegraph in local use, is but the perfection of concentrated organization. All these and the many other improvements of method which keep pace with general modern progress are the natural developments of an established system. But to undertake the personal and daily delivery of the mail at the individual and isolated farm-house on the remote country road marks what in this widely extended land amounts to a new departure in postal service.

"Rural free delivery has now been sufficiently tried to measure its effects. The immediate and direct results are clearly apparent. It stimulates social and business correspondence, and so swells the postal receipts. Its introduction is invariably followed by a large increase in the circulation of the press and of periodical literature. The farm is thus brought into direct daily contact with the currents and movements of the business world. A more accurate knowledge of ruling markets and varying prices is diffused, and the producer, with his quicker communication and larger information, is placed on a surer footing. The value of farms, as has been shown in many cases, is enhanced. Good roads become indispensable, and their improvement is the essential condition of the service. The material and measurable benefits are signal and unmistakable.

"But the movement exercises a wider and deeper influence. It becomes a factor in the social and economic tendencies of American life. The disposition to leave the farm for the town is a familiar effect of our past conditions. But this tendency is checked, and may be materially changed, by an advance

which conveys many of the advantages of the town to the farm. Rural free delivery brings the farm within the daily range of the intellectual and commercial activities of the world, and the isolation and monotony which have been the bane of agricultural life are sensibly mitigated. It proves to be one of the most effective and powerful of educational agencies. Wherever it is extended the schools improve and the civic spirit of the community feels a new pulsation. The standard of intelligence is raised, enlightened interest in public affairs is quickened and better citizenship follows.

"Rural free delivery is plainly here to stay, as those who enjoy its advantages will not consent to surrender them, and every new route creates a demand from contiguous territory for the same privileges. We are then confronted with the problem of gradually extending the delivery service over the whole area of the country where it is physically feasible or where the population is not so sparse as to make it unreasonable. A project of such comprehensive and colossal character may seem formidable and deterrent; but while its difficulties are not to be underestimated, they are shown, when examined in the light of practical tests, to be far from insurmountable. We are now carrying the post-office to the door of 31,000,000 of people massed in towns and cities. The task before us is the more complicated work of carrying the post-office to the door of about 21,000,000 scattered over 1,000,000 square miles of territory. By the end of the current fiscal year we will see about 4,300 routes in operation, carrying the mail daily to the doors of not less than 3,500,000 residents of the rural districts.

"Taking conservative estimates, the net result of the extension of the rural free delivery to 1,000,000 square miles, or all the eligible portion of the country, would stand thus:

Estimated gross cost.....	\$20,555,600
Deduct estimated savings from discontinuance of fourth-class offices of.....	\$2,759,400
Deduct estimated savings from discontinuance of star routes	2,500,000
Deduct increased receipts.....	1,513,976
	6,773,376

Net annual cost of rural free delivery.....\$13,782,224

"It thus appears that rural free delivery can be extended practically over the whole country at an annual cost of less than \$14,000,000. As the appropriation for the current fiscal year for this purpose is \$1,750,000, an additional outlay of \$12,000,000, unless unforeseen demands should come, would substantially take the mail every day to every door in the land. This assumes that the cost shall not exceed the present rate. If carrier service can be maintained at the existing compensation it assures this limitation. With rigorous restraint the expenditures in this particular service can be restricted to the fixed boundaries, while the revenues will steadily advance. It will hardly be disputed that the great result of carrying the post-office to every home, if it can be accomplished at such comparatively small cost, is an object well worth undertaking."

THE recommendation of the Isthmian Canal Commission, given in its preliminary report recently transmitted to Congress by the President, is:

"In view of all the facts, and particularly in view of all the difficulties of obtaining the necessary rights, privileges and franchises on the Panama route, and assuming that Nicaragua and Costa Rica recognize the value of the canal to themselves, and are prepared to grant concessions on terms which are reasonable and acceptable to the United States, the commission is of the opinion that the most practicable and feasible route for an isthmian canal to be under the control, management and ownership of the United States, is that known as the Nicaragua route."

The estimated cost of a canal on the Nicaragua route is \$200,540,000. "This estimate," the report says, "is for a canal suitable for navigation by the largest ships now in existence, and thus in accordance with the terms of the bill pending in Congress. It provides for a double system of locks, so that navigation can be maintained if one system be closed for repairs or renewals.

"The estimate of cost is much in excess of any heretofore made on this route, and arises chiefly from the increased dimensions of the canal, the double system of locks, the extra cost of the San Carlos dam, due to

increased depth of rock, increased embankments, and the modification in a part of a line on the eastern division."

Regarding the dimensions, time required to build and the value of the canal the commissioners say:

"A depth of 35 feet at mean low water and a bottom width of 150 feet were adopted as standard dimensions for a canal in excavation by each route. This width is for straight sections; on curves with a radius of less than 12,000 feet it is increased at the rate of one foot for each 200 feet reduction of radius, the width thus becoming 180 feet on a curve of 6,000 feet radius. In open channels, excavated within the shallow limits of harbors or lakes, the bottom width is increased to 200 feet, in the San Juan River to 250, and in the excavated portions of Lake Nicaragua to 300 feet. In the artificial harbors of Colon, Greytown and Brito it is made 500 feet. These dimensions are larger than those proposed for any previous isthmian canal scheme. While they may seem excessive to-day, the canal is not likely to be opened within ten years, during which time the increase in marine dimensions which has been going on for many years is likely to continue.

"The time required to build the Nicaragua Canal hinges almost entirely on the time required for the construction of the Boca San Carlos dam. After a harbor has been opened at Greytown, and a railroad constructed, the way will be open to attack the work from a great many points at the same time, so that if ample funds are then available the excavation of the prism of the canal ought to be completed in a comparatively short time if prosecuted with vigor. The construction of the dam, however, will be a costly and tedious operation. Eight years would probably be a reasonable estimate for the time of building this dam. At least two years will be consumed in preparatory work and in opening a harbor at Greytown, so that if work on the dam should be commenced immediately thereafter the time required for completing the entire work would be about ten years.

"As compared with Europe, the United States will derive from the canal far greater benefits both commercially and industrially. The commerce of Europe with the Pacific coast of North, Central and South America, under existing conditions, is somewhat larger than the total volume of the present traffic of the United States that may be considered tributary to the canal; but this fact does not indicate the relative advantages which the canal will possess for the trade of Europe and that of the United States. As soon as it has been opened, our trade with the west coast of South America will rapidly increase, as will also the volume of our trade with the Orient. The amount of the American commerce through the canal will quickly surpass the total amount of Europe's traffic.

"An isthmian canal will strengthen the unity of the national and political interests of the United States, develop its Pacific territory, and promote the commerce and industries of the entire country. The benefits which Europe will derive from the canal will be commercial. In addition to this ours will be political and industrial. By bringing the eastern and western sections of our country into closer relations, by reducing the time and cost of transporting our western products to Europe, and by enabling the Eastern, Southern and Central states to reach the raw materials and markets of Pacific countries cheaply and expeditiously, the canal will more fully identify political and social interests and quicken the industrial activity of every section of the United States. The iron and steel, the textiles and the other manufactures of the Eastern and Southern states, the coal from the mining regions, the cotton from the South, and the grain and forest products from many sections, will flow out to foreign countries in an increasing volume, and this larger trade will be shared generally by the ports of all our seaboard—the Atlantic, the Gulf and the Pacific. The canal will cause the competition of the United States with Europe, in the countries of western South America and the Orient, to be much keener, with the result that the trade of our country will increase more rapidly than will that of our rivals. The canal will aid the United States in securing and maintaining a position of primacy in the international trade of the world."



## ABOUT RURAL AFFAIRS

**The Mission of American Fruits** During the season of 1900 we have had our fill of fruits, and during the most part of the year these fruits have been cheap; so cheap, indeed, that people of very moderate means and income could afford to have them on the table and give them to their children right along. I believe in fruits and their healthfulness, and am fully convinced that plenty of fruit placed within the reach of all make the people better in many respects—physically, socially and morally. The value of a fruit diet is proven most conclusively by the almost uncontrollable craving which children have for it, and by the happy effect which it has on their general physical condition. I well remember how happy the gift of an orange or a good apple used to make me when I was a child and did not have the privileges of the free access to fruits that most American children in these days possess. It is, therefore, a very important mission which we must concede to be assigned to American fruits; but this mission does not end here. With the thousands of bushels of fruits of all kinds that we allow to go to waste every year—pears and apples strewn all over the country, rotting under the trees ungathered—we can extend the benefits to be derived from our fruits to Europe, with great financial advantage to ourselves.

**Fruits at Paris** We may well be satisfied with and proud of the impression which our American fruit exhibits during the Paris Exposition have made on the world at large, and especially on the people of Europe. Wm. A. Taylor, acting pomologist of our own Department of Agriculture, says on this point: "The exhibit of fresh fruit in the American section was maintained without a break from May 9th to the close of the Exposition, thus demonstrating the ability of the fruit-growers of the United States to furnish European consumers an unbroken supply of choice fruits throughout the year. During the closing week of the Exposition the American section was crowded with interested visitors at all hours of the day, and many inquiries for addresses of dealers in apples, oranges and pecans have been received." American fruits need only to be seen and sampled in order to command appreciation. In variety, quantity and quality we can beat the world! I have not the least doubt of the ability of American fruit-growers to produce and put on the European market in good condition all the fruits and fruit products that the people there may call for, even in consideration of the powerful impetus given to the growth of such demand in consequence of our fruit show at the Paris Exposition. Undoubtedly this exhibit will be much more far-reaching in its effects on our foreign fruit trade than any show at home, may this be even a world's fair in Chicago or the coming Pan-American in Buffalo.

**Fruits at the Pan-American** No question, however, that with the material right close at hand we can make a more impressive, more imposing show within our own borders than in any far-away country. But to have an uninterrupted exhibit from May until November is even here not an easily solved problem unless there is plenty of time for preparation. Apples, quinces, pears, grapes, etc., have to be gathered in the fall before and kept in cold storage in order to be available for show purposes during May and June. After that fruit crops of a new season come in freely, to continue the show and make it interesting and instructive. I anticipate great things from the fruit exhibit in Buffalo this year (1901). I have already mentioned into what efficient hands the Exposi-

tion managers have placed the horticultural end of the show—Willard, Dawley, Woodward, etc. I have not yet mentioned, however, that my old-time friend Professor Van Deman—who for a long series of years served the country in the capacity of United States pomologist, and who is probably to-day the greatest living authority on fruit varieties—is at present scouring the country over in search of material for the Pan-American show. It is not really my disposition to be envious, but I have frequently felt the wish to possess Van Deman's ability to recognize varieties of apples, plums and other fruits. With apples especially you can hardly puzzle him; and I have known him to not only recognize obscure varieties, but also to name the location where produced. Mr. Van Deman, who as United States pomologist has traveled all over the country, meeting with leading fruitmen everywhere, and attending every horticultural meeting of importance that has been held in this country for many years, and lecturing before the farmers' institutes in many states, is probably known in person to more people of our rural districts than any other American horticulturist, and for that reason I had intended to accompany these lines with a picture made after his latest photograph. Mr. Mark Bennett, Superintendent of the Press Department of the Pan-American, has promised me to secure the photograph, and I will send it to the publishers as soon as received. The selection and employment of such men must, as much as anything, prove to us the national and international character of the coming big show at Buffalo, and to inspire us with full confidence in the superior results to be achieved.

**English Walnuts at the North** I have made many attempts to get English walnut-trees to grow and fruit in this latitude, and have finally come to the conclusion that it is useless to undertake it in any location that is not fully protected. I had trees in my yard in bearing when I lived in New Jersey. One young tree of the Praeparturiens variety, close to the office building and well protected all around, grew beautifully and bloomed freely every spring, but failed to set fruit, probably on account of the lack of proper pollen. Its season of bloom was so much earlier than the blooming period of my bearing English walnut-trees that I could not get pollen from the latter in time to pollenize the bloom of the Praeparturiens. Then I tried the pollen of black walnuts, but it would not take, and finally I moved away from there, and am not informed how this young tree behaved afterward. Of the many young trees which I raised at that time from home-grown nuts some were planted here in Niagara County, some in Ontario County, and some in other places. A few of these—in Ontario County, I believe—are still alive; but they have made but slow growth, often killing back considerably during cold winters, and altogether the outlook for them is not promising. On the other hand, I know of many trees, now quite large and bearing annually, standing in protected spots in the suburbs of Rochester, New York, along the smaller lakes in western New York, in Niagara on the lake (on Lake Ontario, Canada side of the Niagara River), etc.; and wherever a similar protected spot can be found I believe there is a chance to grow the English walnut, which is always interesting, especially in fruit.

**English on Black Walnut** I have also tried grafting the English walnut on black walnut, but have never been able to make even a single graft live. The fault, of course, is only in my lack of skill in such operations. A California local paper recently gave the following account of the suc-

cessful outcome of such grafting: "M. L. Rice has a tree in his yard that is the English walnut grafted on the black walnut. The graft was put in five years ago this fall. It covers the original stock squarely over, and, except for the difference in the bark, one could hardly tell where it was joined on. Of course, it is larger just where it joins, and is eleven inches there, ten inches a foot below and eight inches a foot above. It produced a full crop of walnuts this last year, and all were sound. The English walnut on its own stock does not do well in this valley. The bark sunburns and many of the nuts are unsound; but in the black-walnut stock they do well almost everywhere in the valley." I have no information that any of our skilled nurserymen in the East have ever tried something of this kind, or with what result; but it seems that in any place where the English walnut gives any promise whatsoever, as in the suburbs of Rochester, New York City, or in protected spots in New Jersey, southern Pennsylvania, Maryland, Ohio, etc., and where young black-walnut trees are available for the purpose, the plan of grafting the latter over to English walnuts with grafts taken from trees in their own vicinity might be tried by skilful hands.

T. GREINER.

### SALIENT FARM NOTES

**Keep on Learning** "The beginning of a new year is like the opening of a new book to me," said a farmer who is well on toward middle life. "I hope it will prove good, but cannot tell until the end is reached. The year just closed is like a book that has been read. We know its contents, and we try to recall the good with pleasure, but the faulty, hurtful part we try to forget. I made some mistakes last year which I shall not repeat this year; but I may make others quite as bad. I learned some things that will serve me well in the future, and I hope to learn more this year. When a farmer ceases to learn it is time for him to quit, for he is on the road down hill. An old friend of mine, who has farmed nearly fifty years, tells me that he has learned something new every year since he began, and he is still learning. It is needless to say that he is a successful farmer. He declares that the farm has become so attractive to him that he would not exchange it for a king's palace. The closer he studies Nature the more grand and beautiful he finds her. Things that were once mysterious to him are now plain as day, while farther on are hundreds of other mysteries still unsolved. When he was a young man he thought that he knew about all there was to know in agriculture. Now he finds, after an added experience of nearly forty years, that he has merely touched the edges here and there, while the great field lies before him still unexplored."

**Seed-corn** Very few farmers are making the advance they might if they would give closer attention to the problems that confront them at every turn. In the single matter of selecting seed-corn, for instance, how many farmers take the time and pains to select it while it is yet standing in the field, where they can see both ear and stalk? How many are improving their corn as it can be improved by careful selection and growing? One farmer who is growing corn that is excellent in every respect tells me that he started with a single ear that grew on a stalk that seemed to him to be nearly perfect. This was planted in a plot by itself, a considerable distance from any other corn, and just before the pollen on the tassels was ripe more than two thirds of it was cut down as rankly imperfect in both stalk and ear, and out of the entire lot only three ears were near enough the type desired to be saved for seed. This selecting and cutting out was continued six years before he obtained sufficient of the type he was striving for to plant his whole field. The past three years improvement has been slow but steady. Corn bred up in this manner will retain its principal characteristics when grown on rich or poor land, but of course it will be larger or smaller, according to

the quantity of plant-food available in the soil in which it is grown. In passing through a field of what appears to be first-class corn one will find hundreds of stalks that are entirely barren, some of them large enough for clubs and tall enough for fishing-poles. He will find tall stalks bearing big, long ears, and others a few feet away carrying miserable nubbins. There will be spindling stalks bearing half-developed ears, and sturdy, medium-sized stalks bearing one good ear and sometimes two. He will find ears like stove-wood and weakly nubbins growing within a few feet of each other. He will find ears with short, stumpy, flint-topped grain and big, thick cobs, and in the next hill ears that have deep, thin, sharp-topped grain and very small cobs. The pollen from all of these different kinds has been distributed over the entire field, and to select good seed that will produce its like is an impossibility.

**Advancement** This is only one of the many lines along which farmers can make great advancement in a few years—advancement that in many cases will prove to be the cornerstone of prosperity—in fact, to make the whole difference between grinding drudgery and privation under a load of debt, and independence and comfortable circumstances—for every intelligent farmer knows that if every stalk in his corn-field would produce a good ear his crop would be doubled. The sooner a farmer learns that it is not only the cheapest, but also the most profitable, to raise the best, the sooner will he drop the haphazard methods that so generally prevail and enter into partnership with Nature to produce the best. Most farmers have some knowledge of the great improvement made in stock of all kinds, in fruits and vegetables, because they have seen them with their own eyes. All of this improvement has been made by men who were painstaking enough to pursue the well-known course that leads to such results—producing from that which is desirable, and preventing contamination by that which is undesirable. I am well aware that thousands of farmers prefer to let somebody else do the improving while they back along in the same old ruts they have always followed. But the younger generation will not consent to be mere clod-hoppers. They see the great advance being made in other arts, and they will not permit theirs to drag along in the rear, as it has been doing. I have always contended that farming is a fascinating pursuit to any one who is intelligent and progressive and who does not paralyze his mind by overworking his body.

A new century has begun, and it is evident that agriculture will make rapid strides in the next few years. It is evident that it is soon to take its rightful position in the world. Every farmer can do something toward helping on this forward movement by improving his methods and his surroundings and educating himself along the advance-lines. Let them shake off that absurd jealousy and distrust of each other that has so long prevailed, and been kept alive by crafty politicians. Get rid of that foolishness and unite in advancing their interests along all lines. The farmer should hold a position in the world equal with men of any other vocation and profession, and he will when he makes himself their equal in education and skill. He should have a strong voice in shaping legislation, and he will when he ceases to delegate to lawyers the power to legislate for him. Every farmer should consider these matters seriously and do all he can to advance himself and his fellow-farmers along all the lines mentioned. Let them insist that the taxes they pay for education shall be devoted to educating their children to the farm instead of away from it, and that this education shall be practical and worth to the child all it costs. Let them insist that the improvement of the country is as essential as the improvement of cities, and that all appropriations of the public money shall not be for granite and marble buildings, but that a portion of them shall be for the farmers' benefit. FRED GRUNDY.



## FARM THEORY AND PRACTICE

**THE CHEAP SILO.**—We have gotten away from the false impression that more feed can be grown in corn for the silo than in corn for grain and stover. But the cow needs succulent food, and there is gain from preserving the corn product in its succulent state. The silo is like a big fruit-can—an air-tight receptacle for food. In the case of fruit we use fire-heat to drive out the air and germs of decay; in the silo the green material furnishes its own heat, securing the same end. Of late the silo has been cheapened in construction. The corn has been successfully preserved in what are merely big tubs having earth or concrete bottoms, and sides of staves bound tightly with hoops, as a barrel is constructed. Here is cheapness sure. The swelling of the staves, six inches wide, set edge to edge, excludes the air fairly well. But some of our best dairy authorities believe cheapness has been made too great a consideration. Sometimes the air is not excluded as it should be, and the material is not lasting. The more perfect the silo the surer the success. A stave silo is recommended, but the staves are three inches thick, nicely matched, each edge grooved and joined with a tongue, and white lead is used in these joints. A good wood-preserved is applied inside and out, and the hoops are of wire rope. Such a silo costs more than the very cheap ones, but it is as nearly perfect as one can be made, and will insure good silage if the filling is properly done, and it should last a long time. It is the old story that thoroughness usually pays.

**GRAIN RATION FOR COWS.**—The talk about a balanced ration is confusing to many. It is now given as a safe rule that when the corn put into the silo would have given seventy to ninety bushels of ears—thirty-five to forty-five bushels of shelled corn—there is about all the corn in the feed that the cow needs. The grain ration should then be largely a blood-making food, like bran, middlings and oats. If the dry, coarse feed, which should be given once a day, is clover hay, then the grain ration can be cheapened by the use of more corn in it. If the coarse feed be stover or timothy, then more middlings, gluten, etc., and less corn, should be in the chop. Of course, this is for cows decently kept in warm stables. The cow that is exposed to storms needs plenty of heat-making material, and uses her food and her time to make heat and to keep alive.

**BUYING LESS FOOD.**—The feed bill is a big item now that bran, gluten, etc., are so high, and attention is turned to the desirability of producing the needed protein, or blood-making material, on the farm. The corn furnishes all the carbonaceous food required, but it cannot take the place of the costly mill-stuffs. There is a class of plants that does this to a considerable degree. Hay from Canada peas, cow-peas, alfalfa, the common clovers, etc., displace much protein in the grain ration. An effort to provide these from the farm means reduction of the feed bill. More corn can be used in the grain ration, and less mill-stuffs, when the silage is supplemented with hay made from these legumes. Protein is at the present time so high-priced that the aim should be to produce all possible on the farm in the crops named.

**LEAVING THE GROUND BARE.**—Every farmer must work out his problems for himself in a great measure. One good friend is puzzled because he is told on good authority that a stiff soil, covered with sod, may be plowed with profit in fall or winter, as this exposes it to the action of frost, which improves its texture, and he is also told by many that land should have a cover crop during winter. He wants to know whom to

believe. It is a mistake to give specific advice in such a matter without knowledge of all the factors. It is true that all land should have protection, and should have additional humus when nothing is lost in other ways by presence of a cover crop. In high latitudes, where snow gives protection or frost keeps the soil locked up, there is no loss, and a cover crop could not make much, if any, growth. The advice mentioned applies to the belt south of heavy snows. For land in these warmer latitudes which advice is right? That is the question. The reply is gotten by a balancing of gains and losses. If the soil needs the full action of frost to put it into good condition to be tilled, if fall plowing improves the texture so that moisture is retained better the next summer, and if the sod is heavy and tough, it will gain more by exposure than it will lose. That determines the matter for that land. But if the land is deficient in humus, and if it does not need exposure to make it easily worked, neglect to give it a cover crop means rapid soil exhaustion. The remnant of organic matter in it washes out under action of warm days in winter and drenching rains, and the soil loses not only part of its fertility, but also the chance to add to its fertility by growing a crop for itself, and there is no compensation in any other way.

**THINK FOR YOURSELF.**—The agricultural journal discusses vital principles, and it tells of the methods of others. It points out what our aims should be. It can state a few facts that are true under all circumstances. But the true farm writer insists that the individual farmer, after being led to view the questions from all standpoints, and after understanding what points must be guarded, can depend safely only upon himself. He cannot leave his thinking to others. I am glad this is true. We want an incentive to study. The more one studies his business the more he will want to modify and adapt others' results to his use so far as is possible; but he will not expect to achieve success by mere copying of others' methods. He cannot make himself a machine, to be run by the brain-power of other men, but must study and think for himself.

DAVID.

### COLORADO'S BIG YIELD OF WHEAT

Recently I had occasion to gather some information about Colorado wheat—cost of raising, yield, value of crop, profit of gleaning, and the like. A near neighbor had a crop of eighteen bushels an acre, the lowest I have heard of. Another neighbor had fifty-two acres which yielded eighteen hundred and seventy-two bushels, or thirty-six bushels for each acre. A few miles away was an eighteen-acre field which produced an average of thirty-five bushels to the acre.

But these yields were on poor wheat-land near Denver—all of them within sight of the state capital. And these are only examples, the best of which might be duplicated on a hundred farms from which Denver's lights may be seen every night. The big yields are reported from other parts of the state.

The best part of Colorado from the farmer's standpoint is north of Denver—the region watered by the Cache la Poudre, St. Orain, Big Thompson, Little Thompson and North and South Boulder. Within this region are grown the famous Greeley potatoes, the alfalfa, which fattens most of the lambs fed in Colorado, and the wheat that gives Colorado the name of yielding more bushels to the acre than any other state in the Union that produces as many bushels. The part thatb b b potatoes have to do with the generous yield of wheat is another story.

Passing through this wheat country recently I fell in with a friend who has a large and profitable wheat-farm upon which he runs two steam threshing-machines.

"Does it pay to raise wheat at present low prices?" I asked.

"Pay! Of course it pays," said he, "if you make it pay by raising a big crop! Average crops don't pay, or pay very little."

"How is wheat turning out this year?" I asked.

"I am running two big machines," he answered, "threshing two to four thousand bushels a day, and so know something about the yield. I have threshed sixty bushels from many an acre. From that amount the yield runs down to thirty bushels. I should say the average of all I have threshed is forty bushels."

And the man who said this—a trustworthy man of large experience—was not "bragging" or talking for publication, but merely relating what to him were ordinary facts. Now, I am suspicious about big yields. I never raised more than twenty-six bushels of wheat to the acre myself.

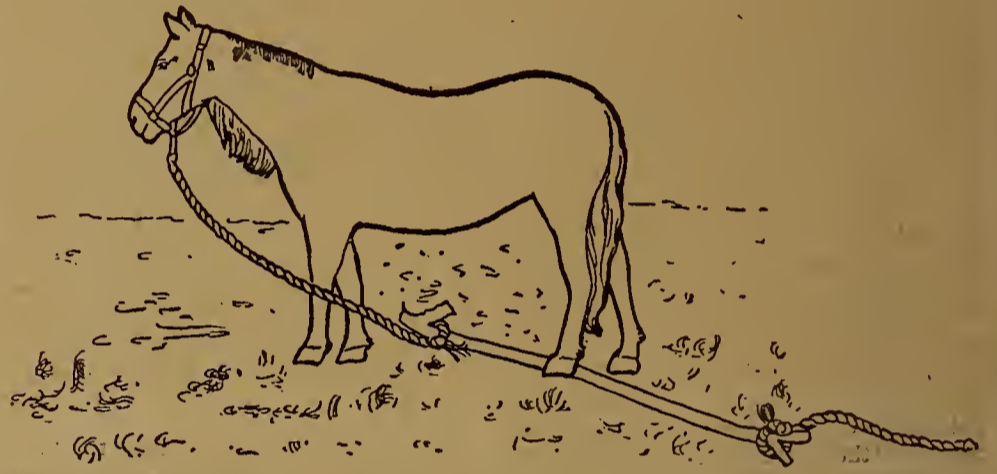
A few days later I met another farmer—a true and trusty man whom I had known for ten or twelve years.

"How is wheat turning out?" I asked. "The wheat crop is good," he answered, "and better further north than with us. The best yield I have heard of is sixty-five bushels. But you should not forget," he went on, "that wheat is yielding better with us than formerly. We are learning how to raise wheat in northern Colorado." D. A. WORKING.

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### A CONTRIVANCE TO PREVENT INJURY TO A HORSE WHEN PICKETED

It is often very desirable, especially where the country is open, to picket horses or other animals. Many refrain from doing so for fear that the animal,



which has perhaps not yet learned the trick of keeping himself free, may become entangled in the rope and sustain injuries which usually leave an ugly scar at the ankle-joint, and frequently leave him a cripple. By pursuing the following plan no such accident need occur.

Place a halter on the animal to be picketed, with a tie-rope just long enough to reach to his flank. To this fasten a light pole of some flexible wood about eight or nine feet long. Now tie your picket-rope to the other end of the pole and secure the rope to a picket-pin. It will be easily seen that instead of a rope at that part which would loop about the ankle-joint is a pole which cannot do so. I have adopted this plan and found it absolutely safe.

C. E. SHELL.

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### THE NEW-CENTURY FARMER

The twentieth-century farmer! Who is he? How does he differ from his predecessor, the farmer of the old, old nineteenth century?

Sometimes men stand still, are content to let the crowd surge past them, satisfied if they simply hold their own. This is not the new-century farmer. The true, up-to-date farmer who will enter upon the first year of the greatest era which has ever dawned on America will be progressive. No standing idly by for him. The crowd may sweep onward, but he will be in its very front ranks. The past is behind, with all its stores of experience. His eyes are hopefully turned toward the future.

The new-century farmer will be a studious man. The cry that education is not for the farmer will fall on deaf ears so far as he is concerned. He will read the best papers and books he can find bearing on his business; but not content with that, he will work hard to get all the knowledge he can of all other subjects. He will answer the man who decries education for the farmer by saying, "Nothing is too good for the

farmer. If it is a good thing for any one to possess an education it is for the farmer."

The new-century farmer will be fair with his wife and his children. The place of the farmer's wife has not always been what it ought to have been. Her position in the agricultural world has been far from enviable. While the husband has commanded good places in the social and political world his wife has been almost an unknown quantity. The farmer's butter and cheese have sold well, and little thought has been given to the fact that it has been the farmer's wife who made that butter and cheese and who really enabled him to sell it for the highest market price. That sort of thing is swiftly passing away. The farmer's wife is coming to take her true place in the world. She is recognized as the equal of her husband everywhere. And the boys and girls are no longer considered as non-entities, but have the rights and privileges accorded them of being a part of the great farm world.

The twentieth-century farmer will be just as fair with his stock as he will with his hired man. He will acknowledge the fact that his cows, horses and sheep are his capital. He cannot deal carelessly with it and expect to succeed, any more than the merchant can squander his surplus of dollars and cents and expect to win. His barns will be warm, comfortable and stored with all that will enable his stock to do their best for him. He will see that the

sense of right and wrong in cattle is very strong, and that the cow which is illy treated will quickly resent it.

The farmer of the new century will have all the tools necessary to do his work promptly and in the best possible manner. He will see that the loss of a few days from the season as it passes by may mean success or failure. He will be on time everywhere. Nature will appreciate his efforts in this respect, and second his efforts in a manner which will be sufficient reward for his diligence.

The new-century farmer will house his tools properly. No more leaving plows, harrows, wagons and costly machinery in the fence-corners all winter. Every farm implement will be under cover. He will recognize in rust and weather his most inveterate enemies when not duly deferred to. He will keep his farm buildings all carefully painted; every board and shingle will be in place; his fences will be in repair; his stock will be pasturing upon his own fields, not robbing his neighbors.

Our new farmer will keep an account, so that he can at any time tell just how he stands with the world. At the end of the year, if there has been any loss, he will know just what causes it. And he will profit thereby. Perhaps in no respect will the new-century farmer show his advancement more plainly than just here. Then, too, he will not run a debt to the store.

Finally, the new-century farmer will be a better citizen than any who have preceded him. He will be fitted by nature and acquirement to fill any position in the gift of the people. He will be honest, fearless and his own man every time and everywhere. He will keep up with current thought and events all over the world. His political master will be his own conscience, and to no other will he own sway. The world will value him for what he is and not alone for what he produces. He will dress better and appear better in society than did his old-century forefather.

EDGAR L. VINCENT.

## NOTES FROM GARDEN AND FIELD

**TOMATO VARIETIES.**—The interest in tomatoes and tomato varieties does not and will not subside. The fruit is so attractive, so useful for many culinary purposes, so generally used and liked, that one can hardly say too much about its culture and varieties. There are always plenty of inquiries and many willing listeners. This great and ever-increasing interest in the fruit is probably largely responsible for the ever-increasing number of varieties. Every year brings a material addition to an already long list, and when we think we might reduce this list by leaving off some of the older and apparently excelled varieties we come across some grower somewhere who claims that the variety we think of rejecting just suits his fancy, his soil and his markets. And so the list continues to grow. On the whole I believe that a tomato variety is an uncertain thing. In the hands of the average grower it is by no means constant. Any variety to-day will, if you grow it ten years (or even five), selecting your own seed year after year, most likely be a tomato wholly different, or differing in important characteristics, from the tomato you first started out with. Henderson's Ponderosa, for instance, was introduced six or seven years ago. To-day one of the growers who has been saving his own seed of this variety right along may have a tomato very much differing from the same variety in another grower's hands. And so it is with all sorts. I have been growing an early sort for quite a series of years, and annually selected seed from the plant that seemed to give the most uniform and (to my notion) best fruits. But I cannot tell whether it actually comes from Early Advance or from Mills' "Earliest in the World," or whether it is a mixture of the two. Now, what should I call it? It is different from the Advance and different from the Mills'. All tomatoes sport easily and cross-fertilize readily. Is the Trophy of to-day really the Trophy as it was in the first year of its introduction? I doubt it. Year after year I have been wanting to pick out just the two or three best sorts and discard all others. But when I go through my patches and see so many good points in a number of these varieties I have not the heart to condemn all but the two or three, and the consequence is I have again gathered seed of quite a list for trial another year.

I have just seen a report of tests made in "American Gardening," from which I quote as follows: "Last year our results from seventy odd varieties were that a good type of Stone was the best all-around tomato, and after another season's labor have no reason to modify that opinion. Our own selection of Stone is pre-eminently the best; best in texture, best in flavor, best in color and in crop (a plant). The weight of perfect fruit surpasses the yield of any other variety grown." I received the Stone from Mr. Stone himself a year or two before it was introduced by the Livingstons, and I can well say that it was a most excellent variety. But every grower should be able to claim that "his own selection is pre-eminently the best." He purchases the seed of the true Stone, and then annually selects seed from the best plant. Why should he not get the variety in all its perfection? Of Earliana the same report says: "Earliana—new to us this season—simply cropped itself to death. We were able to gather some very early fruits of good quality, but in midseason and late the fruits were not properly colored, and were poor in quality, largely attributable, we believe, to its tendency to overproductiveness. This vine is weak and sickly-looking, and sets such an enormous number of fruits that it cannot possibly finish them." Earliana and Quick Sure came from Johnson & Stokes, and I believe belong to nearly the same type of tomatoes. Earliana is good for large-sized and very early specimens, but having a small top and setting fruit freely should have the latter severely thinned. I have saved seed enough of it for at least a few plants next season.

**EXHIBITION TOMATOES.**—The already mentioned report also speaks highly of the Enormous as an exhibition variety. It says the habit of the plant is miserable and the yield of fruit exceedingly light, but the few perfect specimens obtained are simply magnificent. In weight it averaged from fourteen to sixteen ounces. The fruit is flattened in form, with perfectly smooth skin, and when fully ripe is a brilliant, deep-toned

red, almost as though artificially polished. I do not remember exactly about this sort. I had a strain, or sport, of Ponderosa, which not only yielded specimens of mammoth size, but also a good many of them. In fact, the ground under the rather thin foliage seemed covered with the great clusters of gigantic tomatoes. I have them both in pink and in red, and some of them perfect in shape. The quality seems excellent and the texture more solid than almost any other variety. For exhibition purposes I would remove a portion of the specimens, and then expect to grow twenty-ounce specimens.

**A SHIPPING-TOMATO.**—A number of years ago I mentioned in these columns, with words of praise, the Honor Bright tomato, calling especial attention to its wonderful keeping qualities, which seemed to make it particularly suited to long-distance shipment; as, for instance, to England. I also liked it for a canning sort and for very late use. "American Gardening" now says: "We have been able to discover more good points in it than our previous records showed. . . . Its yield of medium-sized perfect fruits compares well with any tomato grown. Its flavor is also acceptable to many people. . . . It takes a tremendous time to ripen, which largely accounts for its marvelous shipping qualities. There is no doubt but that the variety can be grown in this country and successfully shipped to Europe, for if picked at the right stage it will ripen on the voyage." As Mr. W. W. Tracy (of the firm of D. M. Ferry & Co.) had pointed out, the coloration begins at the center instead of at the skin, as is the rule with other varieties. Fruits that are yellow on the exterior may be cut, and it will be found that the flesh in the center is beginning to become red. The variety can be readily distinguished by the yellowish, rather sickly appearing foliage. The weakness is only apparent, however, and I have had no reason to complain much about the Honor Bright showing blight or disease on the fruit. I shall surely continue planting a good portion of it on my ground. It gives me my latest tomatoes and good specimens to pick half ripe at the close of the open season for culinary uses during the month of October and part of November.

**EARLY TOMATOES.**—Another report (by a grower in Rochester, New York) says: "For an early tomato I grow the Ruby, or Atlantic Prize, and for the main crop the New Imperial and Matchless. Although I do not confine myself to these varieties, I find these best suited for my soil. I select seed from the earliest and most perfect fruit, and from plants having a vigorous, healthy growth, and in so doing I have materially improved upon the original stock." This shows that the Ruby (Atlantic Prize) is still grown and found desirable. I have discarded it for varieties of the Dwarf Champion type, especially the Fordhook Fancy, and another red sort sent me years ago under the name Ideal, and apparently identical with the Quarter Century introduced last year by W. Atlee Burpee & Co. I fully agree with the Rochester gardener when he says that the best use he can make of early tomatoes, after the later and more solid kinds begin to ripen, is to remove the plants and use the soil for other crops. Such things as the Ruby are utterly worthless after better tomatoes are beginning to ripen.

T. GREINER.

## ORCHARD AND SMALL FRUITS

### THE ESSENTIALS OF A PERFECT APPLE

The qualities now in demand for an ideal or perfect apple, not including productiveness, healthfulness and hardness of tree, may be summarized as follows:

- (1) A bright color; (2) a good shape; (3) a moderate and uniform size; (4) a richness; (5) a spicy flavor; (6) a smooth, thin skin; (7) a firm, melting flesh; (8) a small core and few seeds; (9) good cooking qualities, and (10) good keeping qualities.

With our present standard of taste in color a bright red seems to be the favorite, and there is no reason why our ideal apple should not conform to this demand. In all markets red apples sell better than those highly colored.

Form is one of the most permanent characteristics of the apple, forming one of the most distinguishing features of a variety. All things considered the round, or globular, form is most desired. Such apples pack more closely and are less liable to bruising than if oblate, conical or oblong.

Just how large the ideal apple should be is not easy to determine. For general purposes an apple weighing from six to eight ounces seems to be the most desirable. In some markets, however, apples double this weight are in demand, while in others a weight of from four to five ounces is regarded as preferable. Whether the ideal size expressed in weight be a little more or a little less, it is important that the size be uniform.

Richness in apples consists mainly in a large amount each, and the proper proportion, of sugar and acid. The average amount of sugar in our standard apples is about eight and one half per cent. The average amount of acid is about one and fifteen hundredths per cent. Should there be a small amount of both sugar and acid the result is an insipid apple. Should there be a proportionately large amount of acid to sugar we have a sour apple. Too little acid for the sugar gives us a sweet apple. For the average taste apples like the Yellow Belleflower and Grimes' Golden have about the right quantity each and the proper proportion of sugar to acid.

Flavor is a quality separate from the taste given by the sugar and acid. Flavor and odor appear to be closely associated, and are due to volatile oils and ethers. Our organs of taste and smell are so intimately related that it is difficult, almost impossible, to separate the impressions we receive through these senses. Some varieties of apples possess a marked and agreeable flavor, which adds much to their value as a dessert fruit. A well-matured Northern Spy is an example of a good-flavored apple.

The skin of the apple often forms a part of the waste, and should be thin. It should, however, be sufficiently tough to prevent breaking or bruising in ordinary handling. A tough, smooth, shiny skin is also desirable, in that it can the better resist the attacks of insects and fungi.

A crisp, tender-fleshed apple is always in demand; yet this tenderness should not be confused with sponginess or softness. The flesh of an apple should be like good butter—firm, fine-grained and melting.

The core should be small, well closed and the seeds few or none in a perfect apple. Since we do not depend upon the seeds of the apple for the reproduction of the variety these may be dispensed with.

We do not know exactly upon what the cooking quality of an apple depends. It seems to be associated with two things; namely, an acid juiciness and an abundance of pectose—or that substance which, upon boiling, yields jelly. Some apples can be cooked fairly well in one way and not so well in another. Some varieties of sweet apples that make a very insipid sauce are quite palatable when properly baked.

The quality of long keeping is one of the greatest virtues of the apple, and makes it the world-renowned fruit of temperate zones. Apples vary in a wide degree in regard to this essential. The keeping quality of an apple does not depend altogether upon its firmness, although as a rule the firmer and more solid the apple the better it keeps. It seems to be an inherent quality varying greatly in different varieties, and also varying in the same variety, according to latitude, soil, climate, season and other conditions.

The qualities, or essentials, noted above belong to the apple disassociated with the tree. When still united with the tree there are two essentials that should not be overlooked. One of these is evenness of maturity. For a strictly commercial variety this is an important quality. The other is a firm adherence of the apple to the tree. It is a prominent defect of some varieties that they fall too easily from the tree. This is one of the weak points of the King. Apples that are firmly adherent in a healthy condition are oftentimes so weakened by insects or fungi that they fall before their time. We often speak of such as "windfalls." They might, with more appropriateness, be termed "wormfalls."

When we have produced an apple that shall possess in the highest degree all the qualities I have briefly enumerated we shall not fall far short of our present ideal. The standard of perfection in the apple, as in all products of human skill and labor, is constantly advancing. Each step in advance points to yet higher and better things within our powers of achievement.

WILLIAM R. LAZENBY.

### THE PROTECTION OF BIRDS

Congress has done no more valuable work than in passing the Lacey law during the closing hours of the last session. This act was to become effective October 1st, and we

are told that the government is quietly sending agents into the different states to collect evidence and get ready for a crusade against the violators of that act.

The Lacey law determines that if it is unlawful in one state to sell, or have in possession, a certain bird or animal, the defense cannot be made that the bird or animal was killed in another state where such killing is permitted. Several arrests have already taken place, and suits are instituted in New York, Chicago, Philadelphia, Boston and Baltimore. In Baltimore the government has seized and confiscated a consignment of nearly three thousand gulls.

The law was designed for the protection of those birds of beautiful plumage which were threatened with extinction—the gull in particular. During the year 1899 more than two million of these superb creatures were killed to furnish adornment for women's bonnets. This is said to mean the destruction of double that number, because the slaughter of the old birds results in a loss of the eggs and the starving of the young. Deputies are now stationed at the hunting-grounds in the different states, and these deputies have succeeded in staying the slaughter to some degree; but it is understood that the Lacey law will be still further made effective by the next session of Congress.

Its terms apply not only to dealers, but to those women who may be found wearing the birds, or wings of birds, that the Lacey law is intended to protect. This is not legislation in favor of sentiment, but is the strictest domestic and social economy. We simply must stop the slaughter of the useful birds, especially the destroyers of insects, or we must be beaten as agriculturists. Legislation similar to the Lacey law should cover the whole field and do it effectively.

E. P. P.

### CALIFORNIA METHODS OF FRUIT CULTURE

I am raising apples, cherries, apricots, peaches, French prunes, Tragedy prunes, Kelsey plums, Prunus Simoni, pears, almonds, nectarines, etc.

My orchard is on a gentle slope to the east and sufficiently moist to raise good fruit without irrigating, being underlaid with decomposed granite and mica schist, into which the roots readily penetrate and where water is always found.

I commenced work by deep plowing, turning under a heavy growth of young, tender weeds. Many California orchardists cultivate so constantly that they never have weeds in the orchard. To my mind this is a mistake, and I consider the luxuriant growth that I turn under of as much value as a heavy coat of fertilizer.

I use a span of very small mules and a light, No. 13 plow, and the way I work right up under the limbs of the trees astonishes my brother orchardists.

Some say I will cut off all the roots and ruin my trees. I reply, "Do they look like it? Where can you match them for their age?"

I have always plowed them as I do now. One of my neighbors has a large orchard, five years old, and he never used a plow in it. He says it looks so much nicer cultivated down level; but, strange to say, he gets but little fruit.


I first plowed my orchard crosswise; three weeks later I plowed it diagonally. In both cases I plowed deep and turned the soil away from the trees, and my neighbors threw up their hands in horror to see me thus ruining my trees. I then followed with a sharp harrow, first across and then diagonally. This left little hollows nearly filled with soft earth around each tree. Then a nice shower fell, and all the water went in around the trees, and you ought to have seen them grow. The loads of fruit on them amazes all who see them.

I have tried many cultivators, but find none of them so satisfactory as my plow and harrow, with a good hoe with which to finish the few weeds close to the tree.

T. S. BROWN.

### FERTILIZERS FOR FRUIT-TREES

Wood ashes, if not leached or exposed to the weather, are good, but a heavy coating should be given, not less than a barrel to the square rod. Dissolved bone-meal and muriate of potash in about equal proportions make an excellent manure. An application at the rate of five hundred pounds to the acre is sufficient. Tobacco-stems are very good, because they contain potash, phosphoric acid and nitrogen, and also make humus, all of which are needful in all kinds of soils.—H. E. Van Deman, in Rural New-Yorker.



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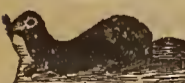
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**RUSSIA AND ITS PEASANTS**

[CONTINUED FROM PAGE 3]

thing like our township, only with much greater power in some directions, like our former township meetings.

The village life is usually a very dull one. The long winter's quiet is undisturbed except by the holy days, when merriment fills the hearts of the people; but the week-days are as silent as the grave, for besides eating, drinking and praying there is nothing that disturbs the long melancholy days and nights. There are no surprise-parties, no grange meetings, no new novels, no passing show; just one long, bleak stretch of time relieved by the song of those who feel like singing, and by the fortunately often-recurring holy days. Easter is the great feast of feasts. The night preceding it begins with services in the church, which last till midnight. During these services entire congregations worship in darkness. Precisely at midnight the priest brings a lighted taper, the people crowd around him to kindle the wax tapers which they carry, and the dark church blazes with light. When the people step into the night they try to keep their candles burning until they reach home. On the way there whomsoever they meet they salute by saying, "The Lord is risen today;" to which there is expected this reply, "The Lord is risen indeed!"

Whenever the peasant comes in contact with the official he is worsted. He exists simply to be cheated, and the official exists simply to cheat him. The policeman in Russia plays a most important part. He is the main wheel of Russia; he is not, as with us, a servant of the law, but its master. The police officers represent the government, yet they are ignorant, more so than our American police imported from Ireland. The policeman is admittedly tyrannical, intemperate and vengeful. I say upon indisputable authority that Russia would be better off without police than with the kind it has, which is only uniformed brigandage.

The passport is the means by which this vast population is supervised; and a more cruel and a more expensive way could not be devised. It is what the collar is to the dog, and woe unto the dog who loses his collar; he has lost his identity. If you should happen to be in Moscow, and be a poor devil of a mujik, you would be compelled to walk to your commune and buy a new one before you can have any standing in the world, hire out to anybody, or travel even so small a distance as twenty miles.

The poor Russian peasant cannot even complain of his lot. First of all, he doesn't know enough to do so, and secondly, it would be a dangerous matter for him if he did. He is content to stand where he is put; to gaze through his small eyes at the world, which seems to him immovable; to eat his scant food, and to enjoy a mouthful of sunflower-seed—his great delicacy. He is pushed about, beaten, robbed, and looks on in melancholy helplessness. But there is something which is working even in the mujik's breast, and in spite of his unswerving loyalty to his Czar, the time will come, and may not be far away, when he will claim his heritage and declare himself a man. When that time comes, then Russia will receive his new life, though it will be a bloody birthday, for the official class is numerous, strong and cunning, and will not give up its hold upon the mujik without a stubborn fight.

**GROWING BASKET-WILLOWS**

Select cuttings about a foot long of the kind known as the marsh, or Sally, willow—a fast-growing, green-rind plant—not the weeping-willow, nor the red willow, which grows the golden tufts from which bees gather wax and honey in early springtime. Plunge these cuttings into soft, wet ground—a clayey swamp or wet marsh—leaving about a third of the length of each above ground, in rows about two feet apart each way. No culture is needed. Cut off all shoots every winter or early spring, and in a few years you will have a willow-bed that pays better than an equal-sized patch in a garden. If the shoots are to be peeled white, just tie them in large bundles and stand them upright in water during March or April. You can then peel off the rind easily. Do not plant your cuttings within twenty feet of the mouth of a land-drain.

G. READ.

**CORRESPONDENCE**

**FROM COLORADO—BEET-SUGAR.**—One year ago the Oxwards (The American Beet Sugar Co.) came to the Arkansas valley, and after inspecting the soil, climate and water, as well as tests that had been made by farmers during the past four or five years, decided to locate a factory of one thousand tons daily capacity at Rocky Ford, the only condition being that farmers agreed to grow beets as provided in contracts which were then entered into. The contracts were made for a term of five years, and notwithstanding the



A RUSSIAN FARMER'S DAUGHTER

business was new to our farmers, yet the success of this season's work has been more than our most sanguine advocates had even hoped for. The per cent of sugar in our beets being large enables the farmers to realize from \$50 to \$100 an acre from the crop, and in many cases even more than the latter figure. One farmer told me of a crop raised by his tenant that ran as high as \$161 an acre, and many farmers report more than \$100 an acre. I have watched with much interest the development of the industry in this valley, and have been reading up some as to its growth in the United States. I find that there are thirty to thirty-five factories in the United States, and the present outlook is good for many more, especially in the irrigated lands of the West, where the richest beets in the world can be grown, and where the soil and climate are especially adapted to this industry. The farmers who have grown beets for the factory at Rocky Ford, Colorado, this season will double their acreage for next year, and the American Beet Sugar Company agree to put in factories sufficient to take all beets that can be raised, and to pay cash at the rate of \$4 for fifteen-per-cent beets, and thirty-three and one third cents for every one per cent above fifteen per cent. Some beets have run as high as twenty-six to twenty-seven per cent, but the average will be about seventeen to nineteen per cent.

G. A. K.  
La Junta, Col.



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MANAGEMENT

**W**HEN grain is used select a variety, such as corn, buckwheat, oats, wheat-screenings, etc., all mixed, give it twice a day, and always for the last meal in the evening. When you feed do not throw down a peck and then go away, but scatter it in small quantities, and as soon as the chicks begin to leave it give no more. In this way you will save your feed and also keep the chicks healthy. If you live on a farm and have plenty of milk, do not forget to keep a panful always out for the fowls. Sour milk or buttermilk will make a most excellent drink or feed for them, and they like it. Next in importance to the feed is the house. They must have a warm, well-ventilated house, and well lighted, with no cracks for the winds to blow in and give colds to the birds, as they may take cold that way just the same as a person will by sleeping in a draft. The house must also be clean, for much depends on this thing. Poultry can no more be kept in filthy quarters and thrive than can children, and the poultryman who does not keep his poultry-house clean must suffer the consequences. Fowls are the best timekeepers in the world. They know the very minute their food should be supplied, and are disappointed if it does not come. The poultryman, therefore, should see that regularity and promptness prevail in the care and management of the stock. Their various wants should have attention at the very minute daily. If hired men will not be prompt in taking care of stock, and do not sympathize with fowls in winter, they ought to be discharged and more humane men employed in their places. Nothing will prosper if left wholly to servants. The first essential thing, then, in poultry-raising is personal attention. There is more fascination than profit in poultry-raising for those who know but little about it. The work seems to be very light, the fowls are supposed to be docile and easily managed, and the general idea is that there is nothing to do but to scatter some corn upon the ground two or three times a day, gather up the eggs, and market the fowls as fast as they can grow fat. To be successful in keeping poultry you must be possessed of plenty of patience and perseverance, kindness and gentleness of disposition, a scrupulous love for order and cleanliness, a habit of close observation and quick perception, and a ready tact in finding the cause when anything goes wrong, and in quickly remedying it.

CONFINEMENT AND EXERCISE

While in the growing condition some fowls, especially the large breeds, do not take on fat very readily; but as soon as they arrive at the stage which is the turning-point between the chick and the adult it is a period when they will begin to fatten, and if they become too fat they cannot, or will not, lay. If they begin to lay before they get very fat the service of egg production calls for nutrition, and the food is diverted in that direction; consequently, the young hen will not fatten so easily after she commences to lay as though she had not commenced; but should she become overfat without laying it is a difficult matter to the breeder how to reduce her flesh again without injury. An overfat fowl becomes diseased, soon breaks down and is an index to the whole flock. In confinement nothing is so conducive to the health and productiveness of fowls as agreeable exercise. Feed and cleanliness will do much toward keeping them in thrift; but if allowed to doze away upon the roost or in the sunny corner of the hennery day after day without exercise of some kind they will soon learn vicious habits, and become useless as layers or breeders. Idleness is the parent of mischief as well as of many ills which afflict birds in close confinement with-

out exercise. Under artificial arrangements exercise can be given only by improvising ways and means at our disposal. Scratching is a very agreeable and natural way to give exercise and to encourage fowls during the dreary days of winter and early spring. Scatter all the small grains among the loose leaves or chaff upon the hen-house floor or adjoining shed, for them to scratch and hunt up the seeds and kernels. Burying the grain in loose sand, earth or coal ashes is a good method, and will afford them pleasant enjoyment. In spring, when the fowls are allowed to occupy small yards, a few minutes each day devoted to the poultryman to spading the ground and turning the fresh earth will prove advantageous to them. Those of the flock intended for breeding should have all the exercise it is possible to give them.

PURCHASING PURE BREEDS

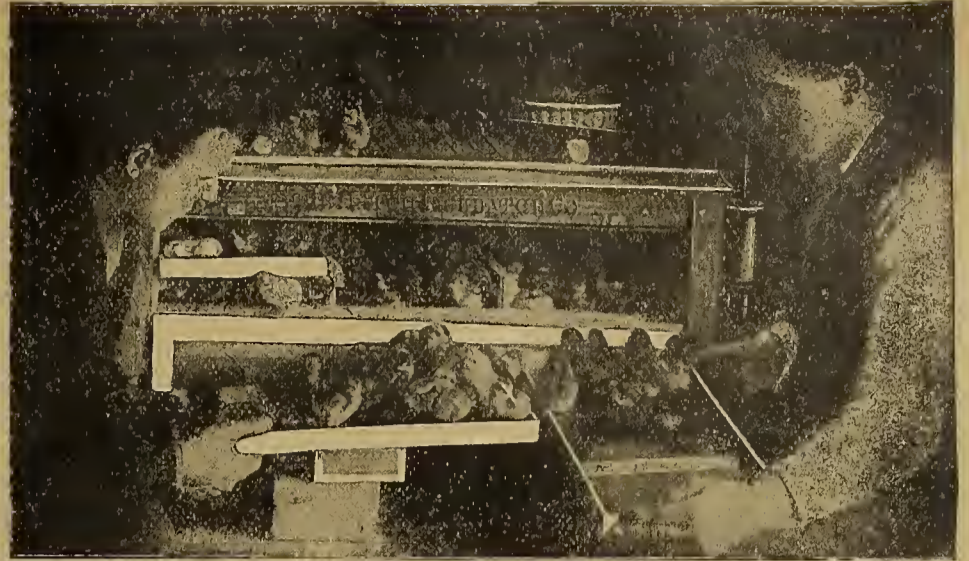
If you desire birds that will enable you to compete at fairs, do not expect to buy them at a small price. If you wish to breed first-class exhibition stock next season, do not be afraid of the expense. It costs time, money and skill to breed up flocks to a high average, and the prices usually asked are always extortionate. If you are not particular about exhibiting, and desire some strong, vigorous birds that have no faults except a twist of the comb or some slight defect, for crossing on common stock, let the breeder know it when you write and he will try to accommodate you. Remember, no breeder generally has two birds at the same price. They are sold according to quality. Therefore, be particular to describe your wants, and do not expect the breeder to know your desires. A fair hatch from thirteen eggs is seven—or one over half—though some are satisfied with five. No breeder can guarantee every egg to hatch. He knows no more about them than the buyer, but he should endeavor to send eggs from vigorous stock. A customer would be fortunate if he got a pair of first-class standard birds from a sitting of eggs. Some breeders do not get such a pair from a dozen sittings. The customer is responsible for the hen that sits on the eggs, and her management while on the nest. Some customers do not know good birds when they see them, and often complain ignorantly. The breeder must depend on any statement sent him, without being able to verify or deny it. Before complaining ask yourself at what price you will sell the chicks should you receive an order for them, and make a comparison between their value and their cost.

INQUIRIES ANSWERED

**Cow-peas for Poultry.**—J. M. G., Manassas, Va., writes: "I have a lot of cow-peas. Should they be fed ground or whole, and in what quantity?"  
**REPLY:**—They may be fed ground or whole. A quart for a dozen fowls, as a meal three times a week, is sufficient, as they not only serve as a change of food, but are wholesome and nitrogenous.

**Poultry-house.**—J. C. M., Deselmo, Ill., writes: "I would like to ask if any reader of the FARM AND FIRESIDE can give me a plan for a poultry-house that is put up in sections, as I rent my farm and may have to move at any time."  
**REPLY:**—Such a contrivance could not be as warm as a stationary house. There is no difficulty in devising a house of the kind, but the cost is to be considered as well as its availability in a cold climate.

**Swollen Eyes.**—W. J., Portsmouth, Va., writes: "There is a disease in my flock. The eyes become swollen, bubbles collect in the corners of the eyes and the skin comes over the eyes of some."  
**REPLY:**—The details of management should have been given, to assist in giving a reply. It is probable that roup exists, or even some scrofulous disease. The house also probably allows cold drafts of air over the birds at night when on the roost. Sponge faces with a solution of ten grains of sulphate of zinc in a gill of water once a day, wipe dry and anoint with vaseline.



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**QUERIES**  
READ THIS NOTICE

Questions from regular subscribers of FARM AND FIRESIDE relating to matters of general interest will be answered in these columns free of charge. Querists desiring immediate replies, or asking information upon matters of personal interest only, should inclose stamps for return postage. The full name and post-office address of the inquirer should accompany each query, in order that we may answer by mail if necessary. Queries must be received at least two weeks before the date of the issue in which the answer is expected. Querists should not be written on paper containing matters of business, and should be written on one side of the paper only.

**Turkestan Alfalfa.**—B. R., Los Gatos, Cal. Send to the Secretary of Agriculture, Washington, D. C., for bulletin giving information about Turkestan alfalfa.

**Ashes as Fertilizers.**—F. K., Navarino, N. Y., writes: "What would be the effect of drilling two or three hundred pounds of unleached wood ashes in a fertilizer-drill with oats on fairly good land?"

**REPLY:**—If your land needs potash the application of unleached hard-wood ashes will be very beneficial. Make the experiment.

**Why Sorghum Kills Cattle.**—K. S. S., Oakchia, Ala., writes: "I see some are trying to find why sorghum kills cattle, and are hunting for poison on the blades. The cattle die quickly, sometimes with the blades sticking out of their mouths. We know that all ruminating animals have more than one stomach; that they can fill themselves quickly, and then lie down and chew the food over. The blades of sorghum are the roughest thing you will find. When hungry cattle break into the sorghum they fill their mouths quickly, roll it around with their tongue, and try to swallow it. It goes partly down, then stops, and will neither go up nor down—especially when not wet with dew or rain—and chokes them. You will find I am right if you will cut open the throat and make an examination."

**Teosinte.**—G. V. M., Powell's Valley, Pa., writes: "Let me know something about teosinte, which resembles Indian corn somewhat in appearance, but the leaves are longer and broader. I got five cents' worth of the seed, and planted in the garden about two dozen seeds, single grain, three feet apart. After the plants reached the height of four or five feet they began to stool. Some threw out from twenty to thirty stalks. At this writing the majority of stalks are ten feet high. The queerest part of it is I can't imagine where the seed grows. I cannot see any sign of seed or grains. Some want to say it is not good for cattle, but the cattle eat it very readily."

**REPLY:**—Teosinte is a tropical plant, and is a native of Mexico and Central America. The season in the United States is not long enough for it to bloom and form seed. It is one of the most prolific forage-plants known, and cattle are very fond of it.

**Corned Beef.**—J. G., Apiary, Oregon. Put six gallons of pure water in a large wash-kettle, add to it six pounds of saltpeter, and set to boiling. When the saltpeter is dissolved and the water boiling immerse the beef (previously cut into pieces of convenient size for family use) in the boiling saltpeter-water. It can be held in the water on a large flesh-fork. Let it remain immersed while you count ten slowly. Take it out, cool it, and pack it firmly in a cask. To the boiling saltpeter-water now add nine pounds of fine salt, three pounds of pure sugar, one quart of good molasses and one quart of pearlash. Boil slowly and skim off the impurities; add a little water, to supply the loss by evaporation. When the pickle is cold pour it over the beef, which should be held down by a heavy weight. The scalding of the beef in the saltpeter-water closes the pores and prevents the juice of the meat from going out into the pickle.

**VETERINARY**

CONDUCTED BY DR. H. J. DETMERS

To regular subscribers of the FARM AND FIRESIDE answers will be given through these columns free of charge. When an immediate reply by mail is desired the applicant should inclose a fee of one dollar, otherwise no attention will be paid to such a request. Inquiries should always contain the writer's full address. Queries must be received at least two weeks before the date of the issue in which the answer is expected. Veterinary queries should be sent directly to Dr. H. J. DETMERS, 1315 Nell Avenue, Columbus, Ohio.

**NOTE:**—Parties who desire an answer to their inquiries in this column must give their name and address, not necessarily for publication, but for other good reasons. Anonymous inquiries are not answered.

**"Weak Eyes."**—T. R., Neshit, Mo. I do not know what you mean by "weak eyes." Describe the disease and give its symptoms.

**Fails to Get With Calf.**—J. M. B. R., Cadiz, Ind. If your cow is a very good one I would advise you, under the circumstances stated, not to breed her until spring, and then to take her promptly to a bull the first time she shows any symptoms of being in heat after she has been turned out to grass. You would probably have succeeded in getting her with calf if you had bred her the first time she was in heat after calving.

**Probably a Dead Fetus.**—U. A. S., Youngsville, Ohio. The symptoms and actions of your goat as you describe them strongly indicate that the uterus of the animal contains a dead and decomposing fetus, and that the os is too far closed to admit an expulsion of what is left of it, which may be nothing but the skeleton, as all the softer parts have probably become dissolved and have passed off in the shape of discharges.

**Probably Garget.**—S. E. M., Atwood, Ill. What you inquire about appears to be a case of garget. For treatment consult answer to A. C. S., Ashby, Mass.

**Swollen Face.**—R. H. A., Rockdale, Texas. Perhaps the veterinarian who punctured (trepanned) the swollen face of your horse did the proper thing, but may have come to the conclusion that nothing could be done. The trepanning was probably done for diagnostic purposes. If the swelled bones are honeycombed the case is a hopeless one. Leave the treatment, if anything can be done, to the veterinarian who examined the animal.

**Chronic Diarrhea.**—J. L., New Haven, Conn. Cases of chronic diarrhea, or chronic catarrh of the intestines, like the one you describe do not easily yield to treatment. The latter must be supported by a faultless diet and good hygienic conditions in general, and must have for its principal object the removal of the causes. It is, therefore, necessarily tedious and requires constant watching. For these reasons I advise you to have your mare examined and treated by a competent veterinarian.

**Garget.**—A. C. S., Ashby, Mass. Milk oftener—in severe cases every two hours—and as thoroughly as possible. Particularly endeavor to press out at each milking every clot of casein, because these clots not only act as foreign bodies, but also through them the infection is spread to the new milk as soon as it is produced. The morbid process will stop as soon as the last trace of the infectious principle (the coagulation-producing bacterium) has been milked out, but not before. If nothing can be milked out it will be best to cause the diseased quarter to become dry as soon as possible. This can be hastened by external applications of an ointment composed of camphor and soft soap.

**Died Under Peculiar Symptoms.**—F. H., Deloit, Neb. Your young bull and your yearling surely died under peculiar symptoms, some of which—for instance, the slavering, the paralytic symptoms, the glassy look of the eyes, and particularly the wild attack of the horses by the bull—would indicate rabies. But as you seem to have noticed only such symptoms and morbid changes as attracted your special attention when you thought the animals might have been poisoned, and left unnoticed other symptoms and morbid changes, it is impossible to make a definite diagnosis. Therefore, only one thing is evident—that both animals suffered from a severe affection of the nervous system, particularly of the brain; but I cannot decide upon the information given whether this affection was caused by rabies or by poisoning with fungi.

**So-called "Wolf-teeth"**—Otitis.—G. T. U., Lovington, Va. So-called "wolf-teeth" are either small, supernumerary teeth in front of the first molars, or unabsorbed remnants of the first temporary molars, which remain for some time, perhaps some years, in front of the first permanent molars. Both kinds are very innocent and have nothing whatever to do with any eye disease. In fact, they are seldom noticed until a horse has diseased eyes, when they are looked for, and often found. The old superstition exists, and when a horse has a diseased eye, and such a little innocent tooth is looked for and found, the eye disease is there and the tooth is there; therefore, the latter is the cause.—Your dog suffers from otitis. Clean the interior of the external ear thoroughly twice a day by means of a small sponge with a four-per-cent solution of liquid subacetate of lead in distilled water, and after each wash dry out every pocket in the ear with a clean sponge.

**"Red Water."**—H. B., Sunnydale, Wash. "Red water" in cattle is not a definite disease, but merely a symptom or a product of several infectious diseases in which a disintegration of the blood-corpuscles is one of the principal morbid changes, and in which the dissolved coloring matter of the blood passes through the kidneys and is discharged with the urine. Among these diseases Texas, or Southern, cattle fever is probably the best known; but there are others, especially one that occurs in cattle pastured in forests especially where the ground is usually wet, and most frequently among cattle grazing there the first season. In this disease the milk quite often presents the same red color as the urine. In horses "red water" is a most important symptom of hemoglobinemia, or so-called azoturia. If you will give a description of all the other symptoms of the disease, and of the conditions and surrounding circumstances under which the cattle get sick, I may be able to answer your question.

**Knuckling Over—Watering Horses.**—M. A. R., Marshfield Hills, Mass. Knuckling over, or unsteadiness in the pastern-joints, may be a sign of weakness, and be caused, especially in young horses, by overexertion. It is often caused by improper shoeing—if the heels are pared down too much and the toes are left too long—or by allowing the shoes to stay on too long without resetting, for in both cases the flexor tendons will be overburdened, and the horse will try to relieve them by knuckling over. If it is in the fore feet it is usually caused by a morbid contraction of the flexor tendons, produced by overburdening. The remedy for so-called knuckling over consists in removing the causes.—As to watering your mare, you should allow her to drink at least three times a day, and not let her suffer for want of water; in hot weather water should be offered oftener. If this is done there will be no danger that the animal will drink too much at a time. The polyuria, or, as you call it, the flooding spells, from which your mare was suffering when you got her, was not caused by too much drinking, but most likely by eating musty or spoiled oats; and the great thirst was not the cause, but the effect or result of the polyuria.

**Lateral Opening in a Cow's Teat.**—J. F. G., Helena, Mont. If the lateral opening is small or roundish the simplest way to permanently close it is to cauterize the opening and its borders by inserting into it the end of a stick of lunar caustic (nitrate of silver). Of course, the stick must not be introduced any further than the thickness of the skin, and if the borders of the opening are first moistened it will probably suffice to keep the lunar caustic for ten or fifteen seconds in contact with the borders. All that is required is to refresh the wound and to produce a little swelling. It should not need to be mentioned that the lunar caustic must not be smeared over the whole teat. Refreshing the wound or opening by means of the surgical knife, and then closing the refreshed wound by means of a few stitches, is a somewhat delicate operation, which must be very neatly performed, and can be expected to be successful only if strictly aseptic precautions are maintained. It is preferable if the opening is too large to be successfully closed by cauterization, but unless very neatly performed it may cause a closing of the teat.

**Bloody Urine.**—U. E. H., Tallmanville, Pa. Bloody urine must be distinguished from blood-colored urine. The latter contains only the dissolved coloring matter of the blood, and occurs if the blood-corpuscles of the animal are undergoing a process of dissolution; the former contains an admixture of real blood with the blood-corpuscles intact. It occurs if a bleeding lesion is existing anywhere in the kidneys, urinary passages or bladder. If the bleeding has its source in the kidneys or in the ureters it is always more or less uniformly mixed with the urine, and gives the same a uniform red color; if it comes from the bladder or the urethra its admixture is in streaks, and the urine may even contain coagulated clots. In all these cases the blood comes from sores or lesions caused either by inflammatory processes, such as inflammation of the kidneys, a catarrhal inflammation of the bladder, etc., or by the presence of stones in the kidneys, ureters, bladder or urethra. In comparatively rare cases the bleeding may also have its source in a malignant morbid growth, including tuberculosis situated in any one of the urinary organs. The first requisite in order to be able to devise a rational treatment will be exact knowledge of the nature, source and cause of the bleeding, which can only be obtained by a careful examination.

**Discharges From the Uterus—Indigestion.**—F. S., Palmyra, N. Y. The discharges from the uterus of your cow will probably have ceased before this reaches you. If they have not, irrigate the uterus of your cow once a day for a few days in succession with a one-per-cent solution of Pearson's creoline in blood-warm water. A good way to do this is to take a large funnel, attach a rubber tube five or six feet long to it, introduce the free end of the latter into the vagina, and, if the os is open, into the uterus; then raise the funnel as high above the cow's back as the length of the tube will permit, and pour the solution into the funnel, about a gallon at a time.—Indigestion, especially if attended with bloating, is caused by improper food, or food that is insipid, more or less indigestible, is already in a state of fermentation, or possesses a great tendency to ferment. Hence, if such food is eliminated from the bill of fare indigestion will not be apt to occur. If it does make its appearance, the first aim must be to cause a moving on of the food in the stomach and intestines. For this purpose give to a good-sized cow from twelve to sixteen ounces of sulphate of soda dissolved in water. Some tonic, for instance, a little mustard or ginger, may be added to the solution; but care must be taken to give the latter slowly and carefully, and to avoid pouring anything into the lungs.

**Capped Elbow.**—C. U., Kellogg, N. Dakota. A treatment of a capped elbow, or shoe-bill, will be in vain unless the causes can, and will, be removed. As a rule the mediate causes consist in existing lung diseases of a chronic character, so-called heaves, for instance, which make it very difficult for the horse to breathe when lying down in any position in the least interfering with the free movement of the ribs on both sides of the chest. The only position in which the movement of the ribs is perfectly free is effected if the weight of the body is resting upon the sternum. But in this position it is difficult to preserve the equilibrium unless the fore legs are doubled in such a way that the elbow of at least one leg will rest upon the posterior part of the hoof. Of course, this will cause more or less pain, consequently there must be some other cause strong enough to induce the horse not to mind the pain, or to make the same sufficiently insensible to it to be willing to endure it if thereby needed rest and comparative ease of breathing can be secured. The bruising of the elbow will be more severe if the same is resting on an iron shoe. The cause inducing the horse to disregard the pain, or of becoming insensible to it, is either fatigue, produced by too long continued and too severe exertions of any kind, or general debility resulting from various causes. Where these causes can be sufficiently removed to induce the horse to assume a natural position when resting, and not to lie down with the elbow resting upon the hoof, a recent case of so-called shoe-bill, like that of your horse, will as a rule disappear without any treatment. If a treatment should be needed it will be best to intrust it to a veterinarian. Heaves must be considered incurable; but in most cases more or less improvement can be effected by a proper hygienic treatment, as has been repeatedly explained in these columns. How to remove the other causes will not require any explanation; but it may not be superfluous to state that a smooth and level floor in the stall will very much add to the comfort of any horse when lying down to rest.

**POTASH**  
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## A PLAN FOR WINTER READING

By Bertha Knowlton



NUMBER of friends have entered into a mutual benefit society and intend to read each others' books this winter. They do not call themselves a woman's club, nor have regular meetings, nor elect officers, nor study rules of parliament, for they need none of these things for their special purpose. There may be two dozen young women, there may be more, who have each agreed to buy some good modern book and then pass it on to all the others who care to read it. There is no code of laws, but the unwritten rules might read something like this, and have framed themselves only as the need arose:

Only good books shall be bought (the term applies broadly, from novel to history).

Each book-owner shall be responsible for her own book and attend to its proper circulation.

No member shall keep a borrowed book over two weeks.

A complete list of all circulating books, with their owners' names, shall be available, so that any member may make a copy of same for her own use if she wishes.

Each member shall cover her book properly before circulating it.

The order in which books are exchanged shall be determined by the wishes of the majority. Names may be jotted down in the order books are asked for, and the book passed from No. 1 to No. 2, and so on through the list. If No. 2 is not ready No. 3 may follow No. 1, or the next number available.

As there are really no such laws in existence for the particular group of friends who have already made this experiment it is needless to multiply words. The only regulations are those suggested by courtesy and common sense.

Last year a great number of good books were bought and read, and as no one cared to read every book on the list it was possible for each member to keep some fresh, up-to-date book on her table during the winter months. In some cases a very popular book was duplicated, so that all might have an opportunity to read it within a limited time. The novel was much in evidence, but a number of books of essays and travel varied the list.

There are always books of the hour under discussion which are well worth reading; but few of us would care to buy all of them for ourselves. They are not always books that will last beyond a season, yet they may not be without real worth. A mere glance at some may satisfy us, while others may hold our attention to the last page.

When we have had a chance at each book of our club-members we will know how many we care to own for ourselves. We probably will not get all we care for if we want them ever so much, and the give and take of our friends will furnish us an opportunity we could not have had single-handed.

The idea of such an informal club is to circulate books of a recreative nature. This does not exclude what we call solid reading, but it does not pretend to be a course of study or compulsory reading. It is purely for the pleasure and convenience of a number of busy people who can yet find many odd moments for a good book.

During one winter a member of such a club read twelve books out of twice or three times that number, and felt well repaid for her share in the organization. She chose from the books in circulation only the ones she wanted to read thoroughly, and felt herself greatly enriched by the reading. She was also glad to look over a number of books, but did not "skim through" them, simply judged from a sentence here and there of the nature of the book.

For instance, having heard much and often of that singular book "Etidorpha," a single glance at its bulk and a

page of its contents convinced her that it was not the book she wished to attempt at that time.

This year there is a choicer selection of books than last, and the temptation will be to read a greater number than can be read well. But in every phase of life one must constantly choose the best from that which is good—and to have a great number of good books at one's command may help to develop that power of selection and moderation in all things which must be exercised every day of our lives.

### HONITON AND CROCHETED EDGING

ABBREVIATIONS.—Ch, chain; c, crochet; s c, single crochet; d c, double crochet; tr c, treble crochet; d tr c, double treble crochet; tri tr c, triple treble crochet; st, stitch; sl st, slip stitch; p, picot; h, Honiton; j, joint.

Begin wheel by s c in middle of p of h, ch 11, s c to same p, \* ch 5, s c to middle p of next h, ch 6, take out hook, catch up middle st of 11 ch, take up the dropped st and draw it through the middle st of 11 ch, ch 5, s c to same p of h; repeat from \* until you have a wheel of six spokes; break the thread and tie the two ends. Make as many wheels as you want, allowing the braid to cross between them.

First row of upper edge—1 tri tr c to lower corner of right-hand h; ch 3, 2 d tr c to middle p of same h; ch 3, 2 tr c around j; ch 3, 2 d c to corner of next h; ch 3, 2 s c to middle of same h; ch 3, 2 d c to next corner; ch 3, 2 tr c next j; ch 3, 2 d tr c to middle of next h;



ch 3, 2 tri tr c to lower corner of same h. After drawing 1 st through the corner catch up corner of adjoining h; proceed to take off by twos; repeat from \*.

Second row—\* 2 d c around first 3 ch, ch 2; repeat from \*.

First row of scalloped edge—\*\* tr c around first joint; d c to corner of next h; \* ch 2 d c to same h; repeat from \* to next crossed j \*\*; repeat from \*\* to \*\*.

Second row—d c 2 in first 2 ch, \* ch 5, d c 2 in next 2 ch; repeat from \* around the scallop, where 4 d c are put in as many 2 ch, leaving all on hook and drawing off at one time with sl st; repeat from first \*.

Third row—s c to 5 ch, ch 7; repeat.

### HONITON AND CROCHETED INSERTION.

Make wheels as for edging. Make both sides as upper edge of edging, except on one side, when nearest the crossed js, d c around them. The material used for this lace was Honiton lace braid and No. 60 spool-cotton. This is very handsome lace indeed when made with linen lacet thread No. 600 or with sewing-silk. MRS. J. F. ORR.

### AFTER FIVE

"That is your New England conscience," laughed Mrs. Yates.

Mrs. Orton did not smile. "Still I can't make it seem just right," she said. "I suppose we look at things differently. What is right for one may be wrong for another, you know."

"That is just it. Wait until Roger is five—let me see, that will be next month—and perhaps you will look at it the way I do."

"Of course, one cannot tell what one will do until one is tempted, and I can see how hard it will be to have to pay

two fares where I have been paying only one. I know it will be a temptation, but—well, as you say, we will wait and see."

Mrs. Yates laughed again. "You take it so seriously that it does amuse me. Why, I consider it my duty to get all I can out of the electric-car companies. I don't think it is wrong to cheat them. They do a good deal worse things than that."

"Because they do wrong it doesn't make it right for other people to do wrong."

"Well, anyway," said Mrs. Yates, a little impatiently, "I can't see any great sin in it. I don't lie about Frankie's age; I wouldn't do that. The conductors just look at him, and as I only hand them a nickel they take it for granted that he is under five. It isn't my fault if they make a mistake. If they say anything I tell them that I never have had to pay for him yet. His being small has saved me lots of car-fares. I suppose you think that is dreadful, but I can tell you car-fares count up, anyway, and come to double them it makes quite a sum. If I paid for Frankie I could go only half as often. I want to go to church and Sunday-school. I don't mean that my boy shall grow up a perfect heathen. It is too far for us to walk to church unless the weather is pleasant and the walking good, and if I paid for him we could not go so often. And so I am going to get out of paying just as long as I can."

Mrs. Orton looked at her friend soberly. "I think you used to look at things differently, Nellie," she said.

"Oh, yes," said Mrs. Yates, contemptuously; "I'm not as good as I used to be, I suppose, but I have found that you have got to look out for yourself in this world. Really, though, I think you are making a mountain out of a mole-hill. Everybody does this same way—lots and lots of real nice people who mean to do right, and are generous and kind-hearted."

"I have noticed it," said Mrs. Orton, "and it has puzzled me. These very ones, though, would be grieved and shocked if they found their children doing any little dishonest thing."

"Why, yes, I suppose so."

"But what is the example that is before the children?"

"Oh, I don't think the children notice. And, anyway, this is a subject we cannot agree on until Roger is five."

It was a month later that Mrs. Yates was going down town on the electric-car one afternoon. The car stopped at a corner and Mrs. Orton and Roger got on. They sat in the further end from Mrs. Yates and did not look toward her. She settled back in her place and smiled a little. "Now we shall see," she said to herself, and she watched her friend closely.

In a few moments she saw her take out her purse, and opening it pick out a coin, which she laid in her lap, while she returned the purse to her bag. Mrs. Yates leaned forward a little and looked sharply. Yes, there was no mistake—it was a five-cent piece. Mrs. Yates smiled cynically. "Only think of it," she said to herself.

The conductor came along and took Mrs. Orton's fare. But what was this? He paused before Roger, looking at him a little doubtfully. Roger had a tiny coin-purse in one hand, and in the other he held out a nickel. He smiled up in the conductor's face. "It's all right," he said, reassuringly; "I'm five years old, you know."

"I misjudged you," Mrs. Yates said the next time Mrs. Orton called. "I see you are true to your convictions; but don't you find that you cannot go as much as you did before you paid for Roger?"

"Perhaps not quite," said Mrs. Orton, smiling, "but I find that walking is very pleasant exercise. I want to tell you how I do now. I told Roger that after he was five we could not go trolley-riding as often, and I explained why. He is very fond of the rides, and he feels terribly abused if he cannot go out to his grandmother's every week. Just to see what he would say, I told him

that we might tell the car-people that he was not five yet. He looked up at me so surprised, and said, 'Why, mama, that would be a lie!' I told him that of course it would, and that we were not going to do it.

"Well, he felt so badly about losing his trips to his grandma's that I felt as if something ought to be done about it. So I told him that if he would help me every day about the housework I would pay him, and, he could use the money for car-fares. This delighted him, and I gave him a little purse to keep his money in. He helps me with the dishes, waters the plants and helps make the beds. When night comes I pay him, making it less if he has not done his work well.

"He is so proud of having his own money to spend, and he really earns it, for he is getting to be quite a help about the work."

"But I don't see," said Mrs. Yates. "Where does the gain come in? The money comes out of you just the same."

"Yes; but, as I said, we walk more now, and I find I can deny myself sodas and candy and a few little things, so that it more than makes up. The real gain is that it is teaching Roger to be helpful and thoughtful. The other day he asked me if we were going to grandma's this week. It happened that I was very short of funds that day, and I told him that I thought we would write this week instead of going, as I couldn't spare the ten cents. He looked sober and went out of the room, but when he came back his face was shining. 'I've got the money, mama!' he said. 'I'll pay your fare, so get on your things.' I did not want to check his generous impulse, so I went, and you ought to have seen the pride with which he would pass out the fares and say, 'Two.'"

"Well," said Mrs. Yates, as her caller rose to go, "I think a New England conscience is an expensive luxury, and I am glad I haven't got one."

She looked after Mrs. Orton as she went down the street, and then she sighed. "Perhaps, after all, she is right and I am wrong," she said.

SUSAN BROWN ROBBINS.

### ONE OF THE WORLD'S FAVORITE BEVERAGES

The effects of coffee upon the human system have been so variously and frequently descanted upon, and so many articles in beverage lines suggested as a substitute, that it may seem presuming to be found talking upon the subject and protesting that it is still the favorite and entirely healthful. Yet such are the facts, or I have been seriously misinformed by a class of individuals who at least should know of what they are talking—our physicians of more than local renown and authority.

Coffee will never be superseded to any appreciable extent by the cereal coffees so much talked of and advertised. A few will adopt them, but the majority will cling to their coffee of actual coffee growth and preparation. A renowned physician tells me that coffee no more retards digestion than does bread and beefsteak and other foods. He claims that it promotes the secretions of the gastric juices, and that good coffee rightly prepared is of decided benefit to ninety-nine out of every hundred human stomachs.

To be sure, coffee is exhilarating in its effects, just as are other foods and drinks. Its exhilarating properties are three in number, known as caffeine, volatile oil and coffee tannic. The volatile oil is not present until the coffee is roasted, and the tannic is an acid. These properties aid in rebuilding the system that under pressure of work, worry and fatigue is constantly wasting and wearing away.

A truly good cup of coffee is not made by one housewife out of a dozen, I dare say. The markets are flooded with cheap and adulterated grades of so-called coffee both in package and in bulk form, and these cheaper grades find greater sale than do the best grades, simply because they are cheap. This is one of the extravagant economies, but an economy persisted in and one that will always be practised. Preparers of and dealers in these inferior goods will handle them and prepare



## AN ALABAMA YANKEE

By Francis Lynde

## CHAPTER VI.

## A FORLORN HOPE

THE sentry who stood guard before the open door of the log cabin where Jasper Garth was confined was a seasoned veteran, with a soldier's detestation for guerrillas and guerrilla-barbarians. But brave hearts are always pitiful; and the old man under sentence of death was dejected enough to disarm hostility.

For some time after his imprisonment the lame man sat on the floor with his back to the wall and his knees drawn up; and the sentry thought of another old man who was also a cripple—the white-haired father who had taken up the burdens of life again in his old age that the son might go and fight for his country.

So it came about that when the dejected one hestirred himself and asked for writing materials he got them, with an empty cartridge-box for a knee-desk and a pine-torch to eke out the passing daylight.

It took him a long time to write his letter, and he was just finishing it when his supper was brought him by a young negro. If the sentry heard the mutual exclamation of recognition when the cook's helper went in he did not think it necessary to interfere.

"So! You did get away, then, after all!" said the lame man.

"Yes, Marse Garf; de Lo'd he'ped de po' niggah hoy an' raise up er friend in need. He did dat, sah."

"I know. You were arrested on the river-haul and taken to the picket-post at Shell-mound. There young Joyce tried to heg you off; and instead of shooting you, as he might have done, the captain in command told you to jump into the river and swim for it."

Pete staggered back against the logs and his eyes were rolling. "De Lo'd sahe us! You must be cunjahman, sholy, ef you knows all dat!"

"Oh, no; there isn't any 'conjure' about it. The young Captain who gave you your chance for life is my son. He told me about it when I saw him the next day."

"Well, now, ef dat ain't de most monst'ously curious t'ing!" Pete laughed, with all the light-hearted disregard for dangers past which is the characteristic of his race. Then he said, with sudden caution and a glance over his shoulder at the sentry. "Whut-all dey gwine do to you, Marse Garf?"

"Nothing to-night; but to-morrow morning they're going to hang me."

"Whoo! What's dat? What for dey gwine hang you?"

"Because they think I deserve it. But we won't go into that. Will you do me a favor—or try to do it?"

"You jes' tell me whut-all it is, au' Ise jes' gwine do dat herry t'ing, Marse Garf. Ise been er-layin' off in my mind fer to get eben wid dat young Cap'n—son o' you-alls—when de time come."

"The time has come, and you can never serve him better than by serving me now. Here is a letter for him. If you can get through the lines and deliver it your account will be squared."

"Ise gwine do hit ef I live; you-all kin jes' put yo' 'pendence on dat, Marse Garf. Whar'bouts is I gwine find de Cap'n?"

"You'll not be able to find him, but you can take the letter to my house—the place where you and young Joyce went through the barn-yard, you know—and give it to the mistress."

"Oh, Ise gwine find dat place, sholy."

The sentry without shifted his gun and looked in at the open door. Jasper Garth rose stiffly and faced the soldier.

"You have heard what I've been telling this boy?"

The sentry nodded.

"Give me that letter, hoy!"

Pete handed it over, and Garth passed it on to the guard.

"It's unsealed, as you see! Read it, if you please, and then tell me if it's inconsistent with your duty to forget what you've heard."

The soldier read the letter by the light of the torch, and toward the end of it seemed to find the light insufficient. When he had finished he put it back in the envelop and gave it to the negro.

"I didn't hear a blamed word," he said, gruffly; but the gruffness was only a thing to hide behind, and he went out and shut his ears while the prisoner was giving the messenger his final directions.

"Keep to the left when you come to the road and you'll find the place all right. If anybody stops you, you can show the letter. There's nothing in it to erminate you or me. Are those the only clothes you have?"

Pete looked down at the east-off uniform he was wearing, and showed all his white teeth. "Yes, sah; dem's de onliest ones. I wouldn't er had dese'n's ef de sojers hadn't gib 'em ter me."

Jasper Garth had had the name of being a hard man with his bumau chattels, and yet he said, "I reckon you know the risk you run if our soldiers catch you in that uniform?"

"I ain't countin' de resk dis time, Marse Garf. Is dat all?"

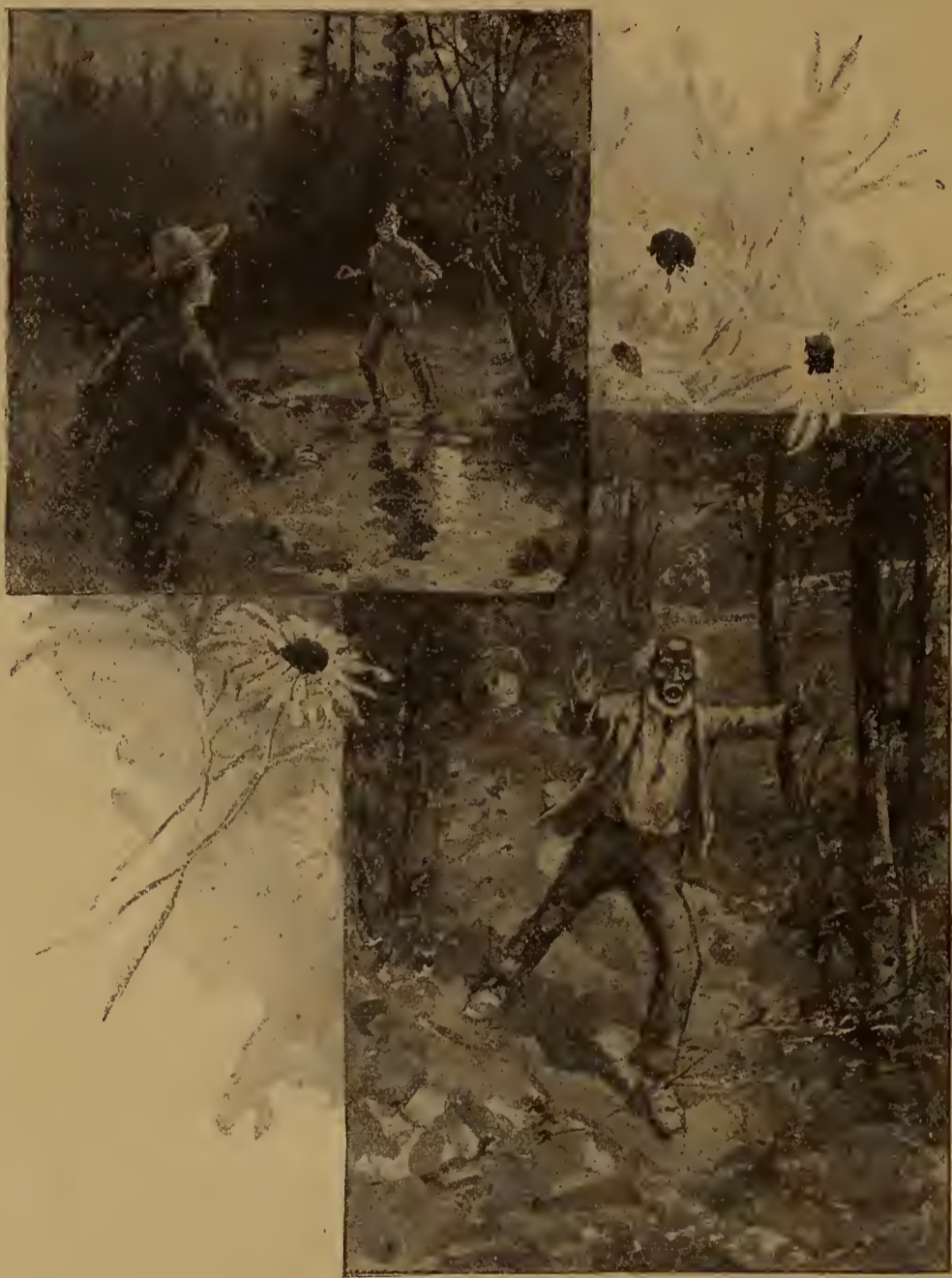
"That's all."

Pete's duties at the cook-tent kept him busy to a late hour, and when he was free he made the mistake of trying to slip through the lines, and lost much time thereby. Since their loyalty was unquestioned, the "contra-bands" were never held to a very strict accountability in the armies in which they were camp-followers, and Pete had only to ask for a pass to get it.

But freedom was yet very new to the runaway, so new that he was still prone to take the devious instead of the obvious way. For this cause it was well past midnight when he finally succeeded in dodging the pickets.

Once outside the lines he tried to remember the lame man's directions, and couldn't.

"Pete!" he cried. "I thought you were dead!"



"Straight between the lines of threatening muzzles ran the white-headed old negro"

There was a country road a few hundred yards beyond the out-pickets, the road in which he should have borne to the left. But since he couldn't remember, he turned to the right at the first forking, and so he went astray.

Fortunately for him the right-hand fork of the road bore to the westward before it impinged upon the Confederate line; but in escaping one danger he ran into another. In its second sweep to the eastward the road dipped into a pocket-like ravine densely wooded and thickly upgrown with underbrush. It was a suggestive place—would have been in time of peace to any but the harvest—and Pete had his share of the superstition which ignorance breeds.

"Golly, dat's a pookerish place!" he said, saying it aloud for his own heartening. "Pears ter me lak I done come fur 'nough on dis yer road."

He could hear the trickling of water in the ravine; and the deep sub-bass of the frogs drowned the shrilling of the tree-frogs and the katydids. Suddenly there was a sound alien to both of these, and Pete became all ears to hear.

"Ef dem ain't hawses erappin' de grass down yondah I don't know hawses when I year 'em. Dis yer's de time when you wants ter he might keerful o' yo'self, Pete Craw-

ford, er you ain't gwine come out wid no hide on yo' hack!"

Fitting the action to the word he left the road and began to worm his way through the undergrowth. He knew well that the presence of horses in such a place argued men, and that the men who would choose the dark ravine for a night bivouac would hardly be soldiers.

He was half way down the hither slope of the ravine, and was leaving the horses well to the left, when he parted a thick tangle of holly, to find himself fairly within arm's reach of a circle of sleeping men radiating like the spokes of a wheel from a smoldering fire. He looked and gasped; then terror sat in the seat of reason, and he let out a yell that would have aroused sounder sleepers than those about the guerrilla's camp-fire.

He saw what he had done, and the needlessness of it, when it was too late. Before he could get away the outlaws were awake and afoot, and he could do no more than flatten himself under the holly and wait for what should befall.

What did befall was a most surprising thing. In the halving instant between two seconds the smoldering camp-fire was deserted, there was a wild rush for the horses, a mad clatter of hoofs, and the pocket-like ravine was forsaken of all save the frightened messenger.

Pete sat up, stared at the fire, and listened for the diminishing hoof-beats. Then the

"Ef dey did I never knowed it; no, sah. When dat young Marse Cap'n shek his haid at me an' say, 'Jump, you niggah, an' go deep!' I jes' done it. An' wheu Ise come up ter get href Ise way yondah down dat rih-her; yes, sah!"

Crash went another of Alan's vindictive card-houses. Was all the good to be taken out of his tardy forgiveness of the enemy by fresh discoveries of the enemy's magnanimity?

"Did Dick Garth tell you that?"

"Yes, sah; he suttin'y did."

"Goodness gracious! And here I've been—hnt what are you doing here in that uniform?"

"Oh, Ise in de ahmy, I is. Jes' come out for a little spell ter do a favah ter dat young Cap'u Garf's paw."

"To do a favor for Jasper Garth?"

"Yes, sah; dey's gwine hang him dis mawn-in', an' he axed me would I do him a favah." Alan went white to the lips. "Then—then father couldn't clear him?" he quavered.

"Don't know nothin' 'bout dat. I ain't seed yo' paw. But dey's suttin'y gwine hang Marse Garf. An' dat 'minds me—kin you-all p'int me 'loug de way to his house? Ise totin' a letter fo' de mistiss; leasewise, dat's wha' he done tol' me to cyar' hit."

Alan had come to his own again in the matter of presence of mind. He knew, or thought he knew, what had happened. His father had tried and failed, and had gone home again. Something must be done, and done quickly.

"Come on!" he shouted, darting off for the three-mile dash to the Garth place; and Pete, with the leg-weariness of his night's clings upon him, had his work cut out to keep up.

Remembering that mad race afterward, Alan made sure that their steps were Providentially guided. With the earliest dawn the cavalry of both armies were in motion, and the three-mile dash was over ground swept in all directions by the reconnoitering parties. And yet they ran without let or hindrance, and without having to leave the road, though there were dust-clouds and thundering hoofs before and behind them.

The sun had barely cleared the eastern horizon by the time they reached the Garth place. Early as it was, the shutters were open and an old negro was splitting wood in the dooryard.

Alan gave the word to Pete, and together they vaulted the fence and ent across to the house. Eleanor saw them from a window, and when they finished at the porch steps there were four anxious faces at the door. Alan's heart gave a great bound, and a wave of thankfulness submerged him. Two of the eager ones were his mother and sister. It was the roof of the family enemy that had sheltered them, after all.

For a little time they could get notblug out of him for all their tumultuous questions. Three-mile dashes at top speed are prohibitive of speech at the end of them, and Alan could only hang upon the door-post and gasp for breath. As for Pete, he was rolling in Mrs. Garth's pansy-hed like one in a fit.

It was the agony in his mother's face that hastened Alan's recovery; that and the way she took him in her arms and said, "My poor boy! My poor, fatherless boy!"

"What—what's happened to father?" he panted; and they told him brokenly how Stephen Joyce had doubtless been slain by the marauders.

"No, no, no! He's all right! He's at home, or somewheres around looking for you-all now! I was with him after that raid, and when I started out to hunt for you-all he was on his way to the Federal camp to try to save Uncle Jasp'."

At this Alan found that he relieved two anxious hearts only to plunge two others into black despair; and he had to tell the whole miserable story of Jasper Garth's arrest and condemnation.

He told it; told his own part in it without flinching, though he was careful to suppress every hint of the talk he had overheard in the cedars, and of his knowledge of the errand which had led the old man into the toils.

Eleanor's eyes were flashing when he finished, but her only comment was the question, "Did you find Robert?"

Alan shook his head despondently. "No; if I could only find him now perhaps he could—" Une' Ephraim was at the steps, hobbling and scraping his feet.

"Marse Alan! Oh, Marse Alan! I knows wha' Marse Robbut is at. Him an' his men is youdah on dat ridge heyon' de Claybo'ne ol'-field."

"How do you know?"

"I been axin' haek'ards an' for'ards 'mong dem sojers all mawnin'. Jes' now a right sma't young off'eer come erlong, au' when I ax him, he up an' tol' me dat's wha' Marse Robbut is at."

Eleanor ran in and got her sunbonnet, but Alan stopped her at the door. "You'd look nice, wouldn't you!" he said, scornfully. "Why, they're fighting over there—hear that?" A half-dozen squibbing reports came from the direction of the distant ridge. "You stay here and take care of the others and I'll fetch Bob. Come on, Eph!"

The height of land beyond the Clayborne old-field is no more than a gentle swell rising



captivating fashion. The man inwardly vowed that she was charming, and thanked the gods for the meeting, while Henrietta was both glad and sorry.

"If you will allow me," said he, "I will carry your umbrella and basket for you." Noting a hesitation on her part, he continued, with a slight fabrication to help him out, "I have an errand at your house, anyway, so you see it will not be at all out of my way."

"But Aunt Barbara," stammered Henrietta. The man comprehended the situation. "Oh, I'll make it all right with her. Trust me for that."

All her life Henrietta had been used to obeying the mandates of her aunt, therefore it was a positive treat to have a change in captains, and she yielded with alacrity.

The man gallantly helped her over all the bad places, and she walked demurely by his side, with a feeling of contentment she had never experienced before, meantime trying to imagine how it would seem to always have some one to carry her umbrella and market-basket. And the man's thoughts were running in much the same channel; however, neither said a word.

Miss Robbins was shocked beyond measure, and showed it in every attitude. At first she was frigid, but her manner softened a little when the man placed a crisp five-dollar bill in her hand and asked for six more bottles of hair-restorer.

"Six more!" she gasped. "Why, if it is good for anything two bottles ought to cure any one, and you have had at least twelve!"

"But this is a case of long standing," he remarked, placidly. "I think one more bottle will be sufficient in my case; the other five are for my uncle."

"Henrietta," said Miss Robbins the next morning at breakfast, "he is a gentleman; as fine a one as I ever met."

Henrietta subdued her amazement, and innocently asked, "Who, the postman?"

"You know better; I mean the man!" was Miss Robbins' brisk response.

"He is bald-headed, Aunt Barbara," said Henrietta, contemptuously.

"That does not make him any less a gentleman!" exclaimed her aunt, tersely.

Henrietta was hilarious, though outwardly calm, but she only yawned.

Miss Robbins' recovery was a tedious process. Sometimes she would be able to hobble about the house with the use of her crutches, and again she would be confined to the couch all the time. This, of course, left Henrietta with the entire care of the house. The man often called to inquire after the invalid, and all the late magazines found their way to the cottage. Sometimes he would stay and read to the patient while Henrietta was doing her work, and this relieved her greatly.

Miss Robbins really seemed to enjoy it, and was quite patient considering the active life she had formerly led. It was no uncommon thing to see the man adjusting pillows or cutting the leaves of magazines and reading aloud to the invalid; but of late, as the warm summer had merged into autumn, he saw little of Henrietta. She was always busy when he called, and the occasional glimpses he caught of her showed him that she looked pale and care-worn.

One evening he called just at tea-time, and as Henrietta had supper nearly ready Miss Robbins asked him to remain—quite a concession for her—and in honor of the occasion she went to the table with the man's help.

He noticed that there was but little to eat besides toast, tea and prunes, and just dainty rations at that; but neither hostess nor cook made any excuses. During the course of the meal a number of notes were jotted down in his mental tablet. They ran in this wise: "The table looks dainty, and it gives a fellow an appetite. It must be a case of plain living and high thinking."

"No wonder that Miss Robbins does not get well faster or that Henrietta looks pale!

"Ye gods and little fishes! Miss Robbins actually laughed aloud once, the first time I have known such a thing to occur."

"I must remember to tell Brown to send up some fruit every day."

"Stop romancing and eat your supper."

"R. B." One Sunday morning a chicken came, with a lavish supply of oysters, celery and fruit; then, for fear they would be offended, he invited himself to dine with them, saying that he was heartily sick of boarding-house fare.

They had a good dinner, which Henrietta prepared with her own hands, after which the man insisted on helping with the dishes; and in spite of Henrietta's protests he had his way. The last dish was wiped and put away, and the kitchen was in perfect order, so there was no excuse to linger there longer. "Shall we go to Aunt Bah?" said Henrietta, simply.

"I suppose we will have to," was the reluctant response; and then, before Henrietta had a chance to open the door, he grasped both of the small hands in his great firm ones and said, very humbly, "Henrietta, I am a base impostor; I have played the part of a hypocrite, for I was never bald-headed! Will you forgive the ruse?"

"How could you!" she whispered, reproachfully. Then they both laughed. But they never told this part of the story to Miss Robbins.

VICTORIA'S PIGEONS

The official dispatch received by pigeon-post at Durham, which was telegraphed to Sir Redvers Buller and retelegraphed to the war-office, serves to draw attention to the subject of pigeons as war messengers. Colonel Hassard, of the Royal Engineers, one of the staff-officers at the Cape, has especially devoted himself to pigeon culture, with a view to the employment of the birds in time of war, and it is owing to the untiring efforts of this royal engineer officer that we were able to read Sir George White's message sent off from Ladysmith by pigeon-post on Friday in the Monday-morning paper.

It is only quite recently that our government decided to establish a service of homing pigeons for the use of the army; and this effort to remedy a very serious defect in our Intelligence Department did not come a moment too soon. For several years past Italy, Germany, Austria, France and Russia have recognized the utility of the pigeon as a messenger in time of war, and large sums of money are voted for the systematic training of the birds. In Germany, for instance, a sum amounting to about £2,500 is annually set aside in the war budget for the training and support of war-pigeons. Every fortress and camp on the frontier—so we learn from a recent account—had its columbarium supplied with trained birds, housed for emergencies. The pigeons belonging to the German War Department number about ten thousand, but in addition all trained birds in the country are numbered and registered, and can be claimed by the authorities in time of need. These pigeons may not be sold or taken out of the country without leave from the military authorities, and their registration is compulsory under severe penalties. The German military-pigeon system is by far the most extensive and complete in Europe.

Since 1870 the French have devoted considerable attention to war-pigeons. It will be remembered that it was due solely to the existence of two private pigeon-flying societies in Paris that the news from the provinces reached the capital during the siege. The work done by the birds all through this critical period, when all other means of reaching the capital had failed, led to the organization of a regular service of messenger-pigeons for use in war generally, and particularly as a means of communicating over the heads of the enemy with a besieged fortress. The pigeons were conveyed out of Paris by balloons, and were dispatched from towns. The messages were limited to twenty words each, and they were photographed down onto films of collodion, which held twenty-five hundred messages. A bird would carry twelve films, or thirty thousand messages; one bird arrived with forty thousand. On the arrival of the birds the films were enlarged by photographs and then copied.

From a recent article in a French paper we gather that between these outlying points a regular pigeon-post is maintained. Three times a week a number of birds are taken by train to certain points on the frontier, where they are liberated, a careful record being kept of the performance of each bird. The French military authorities claim that even if all railways and telegraphs were destroyed they could keep themselves well informed of events on the frontier by means of the system of pigeon-post. The regulations as to training, registration and sale of private breeders' birds are stringent, and the state reserves the right of taking all trained birds if the public service should demand it.

The first Australian military-pigeon station was established in 1875; since then others have been erected. The government relies to a large extent on private societies and individuals for the supply of pigeons in time of emergency. Arrangements are made whereby the authorities give, free of cost, the wood required for the erection of pigeon-lofts to such officers and government servants who will undertake to keep and train the birds with a view to their use as messengers in war.

Russia was the first European country to adopt a military system, stations having been erected in 1871. At first the experiments did not lead to successful results, but later the whole system has been reorganized by officers in the corps of engineers.

Italy has an extensive military-pigeon system, the establishment of the lofts dating from 1872.

Spain and Portugal both possess pigeon services for use in war. Pigeons liberated in Lisbon have arrived in Southampton and Paris with messages; in the former case the distance was nine hundred miles.

In our navy the communication of intelligence by means of pigeons is now officially recognized as a part of the great system of signaling. In 1896 the first naval loft was established by the admiralty at Portsmouth, and now there are two more pigeon stations, one at Sheerness and the other at Dartmouth.

Experiments are made with a view to training birds to keep up communication between ship and shore. There are over one thousand homing pigeons on the hooks of the royal navy, and the birds are under strict discipline.

The pigeons used for military purposes throughout Europe are those known as "homers, or homing Antwerps," and not the class known as "carrier-pigeons." The English carrier is a purely fancy variety, quite useless as a messenger-pigeon.—London News.

WALTHAM WATCHES

Over twenty-five years ago the American Waltham Watch Company stated that "350,000 Waltham Watches are speaking for themselves in the pockets of the people." To-day EIGHT MILLION Waltham Watches are in use throughout the civilized world.

"The Perfected American Watch", an illustrated book of interesting information about watches, will be sent free upon request.

American Waltham Watch Company, Waltham, Mass.

THE GUN OF GUNS

SMITH HAMMERLESS SHOT-GUNS



SMITH HAMMERLESS SHOT-GUNS

The hunter is reasonably sure of his game if he carries the L. C. Smith Hammerless Shot-gun; and while you are buying a gun—maybe the only one you'll want in a lifetime—why not get the best, even though it costs a little more. The Smith shot-gun is simple, but perfect in construction—the lock comprising only four parts. A unique bolting device, which is stronger than any other in the world, actually causes the mechanism to grow tighter from use.

For More Than 17 Years the Smith Guns Have Been Uniform in their multiplied choke bore, and HAVE NO EQUAL for any distance, accurate and hard-hitting qualities. Send for catalogue, FREE.

HUNTER ARMS COMPANY, FULTON, N. Y.

Advertisement for '6 PRIZES FREE AT ONCE' featuring an illustration of a watch and a list of prizes including a Gold Shell Stone-set Birthday Ring, a Chain Bracelet with Lock, and a Lullaby Stone in Antique Egyptian Style.

Send your address on a Postal-card and we will mail you 15 ten-cent packages of White Rose Perfume. Sell them, return us the money and we will promptly send you the 6 following magnificent premiums: FREE 1 Exquisite Solid Gold Shell Stone-set Birthday Ring, warranted; 1 Chain Bracelet with Lock, warranted; 1 Lullaby Stone in Antique Egyptian Style; 5 Pieces Sterling Silver Plated Ware: Butter-knife, Sugar-spoon and Pickle-fork. Remember, we give all six of the above PREMIUMS for selling 15 Perfume Packages for us. Write to-day. No money required. Goods returnable if not sold. MUTUAL CO., Dept. 18, 50 W. Larned St., Detroit, Mich.

Advertisement for 'NOT A PIG' featuring an illustration of a pig and a piggy bank. Text describes a 'Musical Pig' that sings and dances, available for sale.

that you nearly burst with hilarity, so funny is the ending of poor Piggy. Thousands of these Musical Dying Pigs were sold in Paris at the Exposition this season and they are now all the rage in New York. Don't fail to get one if you want some fun. They are strongly made of a thin rubber substance so you can carry them in your vest pocket and suddenly blow him up and then there is more fun ahead than a box of monkeys. Just get one and try it. Agents can sell them at the rate of a hundred a year in a crowd. We send one FREE with 15c. three months' trial subscription. One Doz. \$1.00, postpaid. Address, COMFORT, Box 738, Augusta, Maine.

Advertisement for 'Reversible LINENE Collars and Cuffs' by Reversible Collar Co. Text describes the product as stylish, economical, and made of fine cloth, finished in pure starch.

Advertisement for 'FREE!' featuring an illustration of a ring. Text offers a free scarf-pin with the purchase of 10 cents worth of jewelry.

Advertisement for 'Solid GOLD OR SILVER' featuring an illustration of a watch chain. Text describes the product as a plated bracelet sent free with a ladies' gold plated dress.

Advertisement for 'Send Us 50c' featuring an illustration of a guitar. Text offers a variety of musical instruments for sale, including guitars, mandolins, and pianos.

Advertisement for 'FREE SCHOLARSHIPS' for 'ENGINEERING' by American School of Correspondence. Text describes the program and its benefits.

Advertisement for 'Learn TELEGRAPHY' featuring an illustration of a telegraph. Text offers instruction in telegraphy for railroad and commercial service.

Advertisement for 'OPIUM' and 'Liquor Habit' featuring an illustration of a bottle. Text offers a cure for opium and liquor addiction.

PATENT secured or money all returned. Exam. Free. COLLAMER & CO., 1010 F. St., Wash., D. C.





**"THEY SAY"**

Have you heard of the terrible family "They,"  
And the dreadful, venomous things they say?  
Why, half the gossip under the sun,  
If you trace it back, you will find begun  
In that wretched house of "They."

A numerous family, so I am told,  
And its genealogical tree is old;  
For ever since Adam and Eve began  
To build up the curious race of man  
Has existed the house of "They."

Gossip-mongers and spreaders of lies,  
Horrid people whom all despise!  
And yet the best of us now and then  
Repeat queer tales about women and men,  
And quote the house of "They."

They live like lords and never labor,  
A "They's" one task is to watch his neighbor,  
And to tell his business and private affairs.  
To the world at large they are sowers of  
tares—  
These folks in the house of "They."

It is useless to follow a "They"  
With a whip or a gun, for he slips away,  
And into the house, where you cannot go;  
It is locked and bolted and guarded so—  
This horrible house of "They."

Though you cannot get in, yet they get out,  
And spread their villainous tales about;  
Of all the rascals under the sun  
Who have come to punishment, never one  
'Belonged to the house of "They."  
—Ella Wheeler Wilcox.

**THE IMPORT OF THE NEW YEAR**

Look not mournfully into the past. It  
comes not back again. Wisely improve the  
present. It is thine. Go forth to meet the  
future without fear, and with a manly  
heart.—Longfellow.

**A**LMANACS always have been, and  
probably always will be, marvels  
of ugliness; yet, paradoxical as  
it may seem, they always have  
been, and always will be, wonderfully  
fascinating. As children we scanned  
them eagerly and gazed upon the pic-  
ture of Father Time with serene indif-  
ference, never realizing the significance  
of the winged feet, the bald crown, and  
the flowing locks growing over his fore-  
head; but to-day it is different. Life  
has a profound meaning. Time comes  
to us on swift wings; if we are on the  
alert we catch him; if we are sluggish  
he passes. Time waits for no man, but  
he looks back and mocks his pursuers.  
Surely there is a parallel in this enigma,  
and one worthy of our consideration.

There is a well-known quotation  
which the translators render: "Redeem  
the time, for the days are evil."  
In the original this reads, "Buying up  
the opportunities." Kairon, the Greek  
word for opportunity, was a great fa-  
vorite with the people in olden times.  
It was a watchword in the homes,  
something like our old-fashioned mot-  
toes, and it greeted the eyes in every  
direction. Not only in the homes, but  
in churches, schools, on battle-fields  
and in amphitheatres it was the most  
forceful incentive. When the athletes  
were running for the goal they always  
kept their eyes fixed on the banners  
and signs which were stationed at vari-  
ous intervals along the way, for the  
word of words was sure to be seen, and  
it acted like magic to spur them on.  
Then, too, the people would lean for-  
ward in their seats, and by way of  
encouragement they would shout, as  
their favorite runner passed, "Kairon!  
Kairon!" And catching up the refrain  
the runner would respond, "Kairon!"

Buying up opportunities! Was ever  
a sentence in the English language  
fraught with more meaning? Just  
fancy if one could really make merchan-  
dise of opportunity! If the city papers  
should announce that on New-Year's  
day there would be a great sale of op-  
portunities, how we would bestir our-  
selves! No matter how stormy the day  
or how slender the purses, early New-  
Year's morning the streets would be as  
crowded as they were the day of the  
Peace Jubilee. Old and young, rich and  
poor, of every nationality would hurry  
to the market-place, jostling one an-

other in frantic endeavors to be first  
at the opportunity-counter. If we  
could afford it we would "buy up"  
enough to last a whole year through,  
and we would make gifts of them to all  
our friends at a distance. What a gala  
day it would be! Perhaps the picture  
is exaggerated, and the simile far-  
fetched. At any rate, if such were the  
case we would appreciate our privileges  
more than we do now. Just think of  
the opportunities that come to us every  
day. How few of them we recognize  
until they pass. How ruthlessly we let  
them slip through our careless fingers.

There is always something solemn  
about the passing of the old year and  
the advent of the new year. In the  
first place, we are apt to be more  
thoughtful at this season, and in secret  
we ponder over our mistakes and fail-  
ures, broken resolutions and misdi-  
rected good intentions; in short, what  
might have been. However, it does not  
pay to grieve over the past; life is too  
short to be spent in such an aimless  
fashion, and in order to meet its prob-  
lems we must be philosophical. Of this  
we are sure. We cannot live the past  
over again; it is shut up within our-  
selves, and we are to use our mistakes  
as stepping-stones to a higher and bet-  
ter life. But we have the present and  
the future with all their opportunities.  
What shall we do with them? Ah, here  
is a secret. "Tie up your vows and  
resolutions with the hard knot of  
prayer; if they slip and break, tie  
them up again with another knot of  
prayer, and keep them tight by con-  
stant stretching Godward."

LOUISE E. DEW.

**NEW YEAR'S RESOLUTION**

Once again has New-Year's day come  
around, and as we look back over the  
many mistakes of the past twelve  
months we feel a determination to  
make the year before us the best we  
have ever known. Many plans are made  
for more systematic work, many good  
resolutions formed, many bad habits  
broken, and we start out with head  
erect and breast heaving. How long  
will our good intentions last?

We become weary, and some day the  
work is dropped for a little while; the  
good resolution conflicts with a strong  
desire to do a certain thing, and con-  
sequently suffers; while as to the  
bad habit—well, if we were not strong  
enough to break it before, why should  
the advent of any particular day make  
it easier for us to overcome it now?  
Thus we are apt to reason, and, soon  
growing tired, we give up the thought  
of our New-Year's resolutions and plod  
along in the old way. If we could only  
keep them always before us much might  
be done, for there is only one way to  
accomplish anything, and that is by  
adhering in the minutest detail to the  
plans we have made. One seldom breaks  
his high resolve or does a great wrong  
in the beginning; he misses a step here,  
a step there, goes a little out of the  
way on this side, a little on that, and  
is soon far from his starting-point.

The year, to look forward, seems  
long; but it will soon be gone. Let us  
strive each day to make that one as  
near perfect as possible, and then the  
consciousness of earnest effort will, in  
a measure, compensate for the failure  
often sustained. Let the thought of  
the dear ones we so fondly love check  
the impatient word. Who can tell where  
they may all be ere we make our next  
New-Year's pledges? Some may be  
scattered over the face of the earth—  
some, alas! may have gone into the  
great beyond, leaving us to "sigh for  
the touch of a vanished hand and the  
sound of a voice that is still;" nay, even  
we may be called to join the great ma-  
jority; and if the summons should  
come, may there not be a single secret  
pang over the word left unsaid, to mar  
the joy of being released from the trials  
and temptations of this life.

OLIVE HYDE FOSTER.

**TEST FOR YOURSELF**

The Wonderful Curative Properties of Swamp-Root.

To Prove what SWAMP-ROOT will do for YOU, Every  
Reader of Farm and Fireside May Have a Sample  
Bottle Sent Absolutely Free by Mail.



65TH POLICE PRECINCT, GREATER NEW YORK, October 11, 1900

Dr. Kilmer & Co., Binghamton, N. Y.:

GENTLEMEN:—In justice to you, I feel it is my duty to send you an acknowledgment of the receipt of the sample bottle of Swamp-Root you so kindly sent me. I had been out of health for the past five years with kidney and bladder trouble. Had our best physicians prescribe for me. They would relieve me for the time being, but the old complaint would in a short time return again. I sent for a sample bottle of Swamp-Root, and I found it did me a world of good. Since then I have taken eight small bottles bought at my drug-store, and I consider myself permanently cured. It seemed as though my back would break in two after stooping. I do not have to get up during the night to urinate, as I formerly did three or four times a night, but now sleep the sleep of peace. My back is all right again, and in every way I am a new man. Two of my brother officers are still using Swamp-Root. They, like myself, cannot say too much in praise of it. It is a boon to mankind. We recom- mend it to all humanity who are suffering from any kidney, liver or bladder troubles.

My brother officers (whose signatures accompany this letter), as well as myself, thank you for the blessing you have brought to the human race in the compounding of Swamp-Root. We remain

Yours very truly,  
JAMES COOK,  
HUGH E. BOYLE,  
JOHN J. BODKIN.

Officers of the 65th Police Precinct,  
Greater New York.

**WONDERFUL CURES BY SWAMP-ROOT.**

Women as Well as Men are Made Miserable by Kidney and Bladder Trouble.

It used to be considered that only urinary and bladder troubles were to be traced to the kidneys, but now modern science proves that nearly all diseases have their beginning in the disorder of these most important organs.

The kidneys filter and purify the blood—that is their work. So when your kidneys are weak or out of order you can understand how quickly your entire body is affected, and how every organ seems to fail to do its duty.

Weak and unhealthy kidneys are responsible for more sickness and suffering than any other disease, and if permitted to continue fatal results are sure to follow.

If you are sick or "feel badly," begin taking the famous new discovery, Dr. Kilmer's Swamp-Root, because as soon as your kidneys are well they will help all the other organs to health. A trial will convince any one.

Many women suffer untold misery because the nature of their disease is not correctly understood. They are led to believe that womb trouble or female weakness of some sort is responsible for the many ills that beset womankind.

Neuralgia, nervousness, headache, puffy or dark circles under the eyes, rheumatism, a dragging pain or dull ache in the back, weakness or bearing-down sensation, profuse or scanty supply of urine, with strong odor, frequent desire to pass it night or day, with scalding or burning sensation—these are all unmistakable signs of kidney and bladder trouble.

**How to Find Out if You Need Swamp-Root.**

If there is any doubt in your mind as to your condition, take from your urine on rising about four ounces, place it in a glass or bottle and let it stand twenty-four hours. If on examination it is milky or cloudy, if there is a brick-dust settling, or if small particles float about in it, your kidneys are in need of immediate attention.

Other symptoms showing that you need Swamp-Root are sleeplessness, dizziness, irregular heart, breathlessness, sallow, unhealthy complexion, plenty of ambition, but no strength.

Swamp-Root is the wonderful discovery of the eminent kidney and bladder specialist, Dr. Kilmer, and is used in the leading hospitals, recommended by physicians in their private practice, and is taken by doctors themselves, because they recognize in it the greatest and most successful remedy that science has ever been able to compound.

Swamp-Root is pleasant to take, and if you are already convinced that this great remedy is what you need, you can purchase the regular fifty-cent and one-dollar size bottles at the drug-stores everywhere. Remember the name, Swamp-Root, Dr. Kilmer's Swamp-Root, and the address, Binghamton, N. Y.

**SPECIAL NOTICE.**—Swamp-Root, the great Kidney, Liver and Bladder remedy, is so remarkably successful that a special arrangement has been made by which all readers who have not already tried it may have a sample bottle sent absolutely free by mail. Also a book telling all about kidney and bladder troubles and containing many of the thousands upon thousands of testimonial letters received from men and women cured by Swamp-Root. Be sure and mention reading this generous offer in FARM AND FIRESIDE when sending your address to Dr. Kilmer & Co., Binghamton, N. Y.

This Cut is  
1-2 Actual  
Size of  
Watch and  
Chain.



**Watch and Chain  
FOR ONE DAY'S WORK.**

We send this Nickel-Plated Watch, also a Chain and Charm to Boys and Girls for selling 1 1/2 dozen packages of BLUINE at 10c. each. Send your full address by return mail and we will forward the Bluine, postpaid, and a large Premium List.

No money required. We send the Bluine at our own risk. You go among your neighbors and sell it. Send us the money that you get for it and we send you the Watch, Chain and Charm, prepaid.

This is an American Watch, Nickel-Plated Case, Open Face, Heavy Beveled Crystal. It is Guaranteed to keep Accurate Time, and with Proper Care should last ten years.

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The Old Reliable firm who sell honest goods and give Valuable Premiums.

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A Violin bought by our original and unique plan becomes simply an investment. It is always worth exactly what you paid for it. It will pay you to investigate this plan before buying. We carry the largest line of fine and rare Violins in AMERICA. Good ones from \$5 up. Large, handsome illustrated Violin Cat. FREE on request. The Rudolph Wurlitzer Co. 124 E. 4th St. CINCINNATI, O.



**RAG CARPETS**

and Rugs—when the rags are colored with "PERFECTION" Dyes—possess rich and beautiful shades that retain their brilliancy for years. Their use is EASY, and results are SURE. To enable you to try "PERFECTION" DYES we will send you a large package each of Turkey Red, Green, Orange, Cardinal, Yellow and Pink (or six packages any colors wanted) for 40 cents; three packages for 25 cents, or single package for 10 cents. New catalogue and shade cards free. Address: W. CUSHING & CO., Dept. W, Foxcroft, Me.



# THE ARMY OF HEALTH

## THE ARMY IN THE PHILIPPINES INSIGNIFICANT COMPARED WITH THIS ONE

If all the people in the United States, Canada and Great Britain who make daily use of Stuart's Dyspepsia Tablets could be assembled together it would make an army that would outnumber our army of one hundred thousand by at least five to one.

Men and women who are broken down in health are only a part of the thousands who use this popular preparation, the greater number are people who are in fair health, but who know that the way to keep well is to keep the digestion perfect, and use Stuart's Tablets as regularly as meal-time comes to insure good digestion and proper assimilation of food.

Prevention is always better than cure, and disease can find no foothold if the digestion is kept in good working order by the daily use of Stuart's Dyspepsia Tablets.

Mr. Thomas Seale, Mayfield, California, says: "Have used and recommended Stuart's Tablets because there is nothing like them to keep the stomach right."

Miss Lelia Dively, 4627 Plummer St., Pittsburg, Pa., writes: "I wish every one to know how grateful I am for Stuart's Dyspepsia Tablets. I suffered for a long time and did not know what ailed me. I lost flesh right along, until one day I noticed an advertisement of these tablets and immediately bought a 50-cent box at the drug-store. I am only on the second box and am gaining in flesh and color. I have at last found something that has reached my ailment."

From Mrs. Del. Eldred, Sun Prairie, Wis.: "I was taken dizzy very suddenly during the hot weather of the past summer. After ten days of constant dizziness I went to our local physician, who said my liver was torpid and I had overheated my blood; he doctored me for two weeks without much improvement; I finally thought of Stuart's Dyspepsia Tablets (which I had used long before for various bad feelings) and the first three tablets helped me.

"They are easily the best all-around family medicine I ever used."

The army of people who take Stuart's Tablets are mostly people in fairly good health, and who keep well by taking them regularly after meals. They contain no opiates, cocaine or any cathartic or injurious drugs, simply the natural peptones and digestives which every weak stomach lacks.

Stuart's Dyspepsia Tablets are sold by druggists everywhere in United States, Canada and Great Britain.

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If afflicted with weak eyes, use **Thompson's Eye Water**

# HOUSEHOLD

[CONTINUED FROM PAGE 13]

## THE LITTLE TEA SET

BY FLORENCE A. JONES

I found to-day, in the attic dim,  
Where the mossy eaves slope down,  
A little blue tea set, covered with dust,  
Tucked under the rafters brown.  
A tiny cracked cup, with handle gone,  
I saw thro' a mist of tears,  
And I dreamed of a playhouse that I knew  
In the long-forgotten years.

We built it under the sloping roof—  
That playhouse of long ago—  
Where the sun beamed in thro' a window small,  
And lit up the rafters low.  
Straying, oftentimes, to a golden head,  
Then down to the apron blue,  
Of a little lass, who, with stately grace,  
Poured out the tea for two.

Dear little lady, with quaint, prim ways,  
And the tender shining eyes,  
I pressed my lips to that tiny blue cup  
Where the dust so thickly lies,  
And dreamed of the playhouse 'neath the eaves,  
And longed once more to see  
The dear little lassie with golden hair  
Who poured the tea with me!

## SLEEPING WITH A BABY

THE laughable experience, given at one of the "mothers' meetings," of a man who has "slept with a baby, and lived through it," will strike a responsive chord in the breasts of those who have passed a night with one of the little wriggling, tossing mortals of humanity.

The baby, if he happens to be a lusty little fellow of eight or nine months, will decline to stay covered, and will also decline to allow you to keep yourself covered. He indicates his wishes in this direction by keeping his little pink heels going all night, a good part of the time on your back.

He will also insist on lying "cross-wise," "endwise," "cat-a-cornered," "on a bias," or in any other position but that which will give you a few inches of room in the bed and a few minutes' sleep. His infantile needs will begin to manifest themselves about one o'clock in the morning, at which witching hour you will go blundering around in the dark for a drink of water.

He will howl steadily and cheerfully from two to three o'clock, and will kick you furiously between the shoulder-blades with every howl. It will not be of any use for you to pat him tenderly and sing out, "There, there!" He is right there, and knows it, and intends that you shall know it.

It is of no use to say, coaxingly, "What does papa's baby want?" Papa's baby doesn't want anything but to howl, and he is gratifying that amiable desire to the utmost. It is of no use to add to your judgment-day list of enormities by swearing. And if your wife has been calmly passive through it all she will develop an amazing degree of spirit if you dare lay the weight of your finger in anger on that "poor, dear, innocent, darling sweetness." He will squirm all night as though he were first cousin to an angleworm. He will journey around all over the bed, both under and on top of the coverings.

You are no sooner asleep than one of his moist little heels is planted firmly in your nose or in your mouth, and, later on, with childhood's scorn of decency or decorum, he will sit astride your neck, and grow green and purple with rage when gently made to sit elsewhere. Should he fall out of bed, and yell loud enough to be heard all over your ward, your wife will say she believes you pushed him out, and that you are not fit to be a father, anyhow. An animated dialogue of a purely personal and private nature will follow.

But when the roistering little chap finally "snuggles up" to you and goes to sleep with one of his velvety little cheeks close to your own, and one of his warm, soft arms around your neck, you find your heart growing very soft and tender toward him, and you would wage war single-handed against a host or lay down your life for the love of him.

S. W. H.

## IS AN AMERICAN HOME-LIFE A FAILURE?

THE GREATEST FOE TO HOME-LIFE AND HOME-LOVE

Foreign visitors sometimes criticize American home-life. Instead of being a fortress and a castle, securely sheltering the innocence of growing boys and girls, they find the home only a sort of hotel, a place used for eating and sleeping. The meal over, the members of the family scatter each to his own pursuits. There seems no community of



interests, no common bond of affection, and the children grow up to be self-satisfied and self-seeking.

And yet America is above all else a country of homes. The fight which has been so long waged against intemperance is waged in the name of the home for the sake of the innocence which the home seeks to safeguard.

It's the old story of "straining out the gnat and swallowing the camel."

When the intemperate husband drives his family outdoors the fact is told in the press, everybody knows of it and talks of it.

But when the dyspeptic drives his family from the home, compelling them to seek in the streets and among chance acquaintance the amusements the home denies, whoever dreams of chronicling the fact.

It's such a common thing. Father can't bear a bit of noise. He feels terribly irritable. He's worn out. The conversation at meals is carried on in low tones. Laughter is unheard of. The children scurry through their meals, eager to get out of the house until bed-time. There is no exaggeration in saying that if intemperance is the chief foe of the home it finds a close second in dyspepsia.

"HASTE MAKES WASTE"

That proverb may find a broader application than to the ordinary economics of labor. Haste to be rich makes waste of strength and health. There's an attempt to eat in haste, even to sleep in haste, from which Nature some day revolts, and the result is the development of the dyspeptic.

The people who fight intemperance make a great cry when they refound a home. And they have reason to rejoice, for the home is the corner-stone of the American Republic.

But people pay very little attention to the redeeming of homes from the shadow of dyspepsia. It hardly seems worth noting. And yet the cures of dyspepsia, "stomach trouble" and other diseases of the stomach and organs of digestion and nutrition effected by the use of Dr. Pierce's Golden Medical Discovery mean a great deal more than shows on the surface of the testimonials. They mean the capacity to give and enjoy home pleasure; the happy family gathering at evening and the bed-time frolic with the children.

"I took two bottles of Dr. Pierce's Golden Medical Discovery for stomach trouble," writes Clarence Carnes, Esq., of Taylorstown, Loudoun Co., Va. "It did me so much good that I didn't take any more. I can eat most anything now. I am so well pleased with it I hardly know how to thank you for your kind information. I tried a whole lot of things before I wrote to you. There was a gentleman told me about your medicine, how it had cured his wife. I thought I would try a bottle of it. Am now glad that I did, for I don't know what I would have done if it had not been for Dr. Pierce's Golden Medical Discovery."

Dr. Pierce's Golden Medical Discovery cures diseases of the stomach and other organs of digestion and nutrition. It cures diseases of heart, liver, lungs, kidneys, etc., when these diseases, as is

often the case, are caused by disease of the stomach and its related organs.

THE PART THE STOMACH PLAYS

In the economy of health and life is little understood. No one feels anxiety at the derangement of the stomach. When the heart-beat is feeble or irregular alarm is felt at once. When the kidneys show symptoms of disease, or liver or lungs shows signs of "weakness," there is instant anxiety. And yet in a large number of cases the distressing symptoms which are manifest in heart, liver, lungs, kidneys and other organs have their origin in the diseased condition of the stomach and the allied organs of digestion and nutrition.

The reason for this is plain. The blood is the life. But back of the blood is food. In the marvelous chemical processes of nature blood is made from food when it has been digested and assimilated. But when the digestion is impaired the nutrition of the body is instantly reduced. When impaired digestion reduces the nutrition of the body, the vital organs which make up the body are "weak" also. Hence, the results of weakness of the stomach and its allied organs are "weak" heart, "weak" lungs, sluggish liver, "weak" kidneys and kindred ailments. When the stomach and its allied organs are restored to health by the use of "Golden Medical Discovery" the body and its organs begin to receive their due nourishment, and diseases of heart, liver, lungs, kidneys, etc., due to lack of nourishment, soon disappear.

General debility, the run-down and broken-down condition so often experienced by hard-working men and women is commonly the result of lack of nutrition due to disease of the stomach.

FEELS YOUNG AGAIN.

"Last spring early I wrote you my feelings and condition," says Mr. A. J. Vanderwater, of 873 West Division St., Chicago, Ill., "and you advised me to take Dr. Pierce's Golden Medical Discovery (a few bottles), and then write how I felt. I am happy to say I am getting to feel fine. In all I have taken six bottles of the 'Discovery' and four or five vials of the little 'Pellets.' I am happy to say they have done me worlds of good. These medicines have brought the great change in me, from a slow mope of a man that could hardly crawl, tired and sick all the time, and who could do no work, to a man who can work, sleep, eat and feel fine. That tired feeling is all going away. I am very thankful that I wrote to Dr. Pierce. His 'Golden Medical Discovery' and his little liver 'Pellets' have almost made a new man of me. I feel young as I did at thirty years. No other doctor for me only Dr. Pierce."

If you are sick with some form of chronic disease; if you have tried doctors and medicines in vain, you are invited to consult Dr. Pierce, by letter, free. All letters are held as strictly private and sacredly confidential. Address Dr. R. V. Pierce, Buffalo, N. Y.

When a dealer proposes to substitute any other medicine for the "Discovery" insist on the medicine which has cured others and should cure you.

WHAT A BOOK HAS DONE

The testimony of thousands of people is that Dr. Pierce's Common Sense Medical Adviser has been not only a money-saving, but a health-saving book. It teaches how to gain health and how to keep it. This great work, containing 1,008 large pages, and more than 700 illustrations, is sent free on receipt of stamps to pay expenses of mailing only. Send 31 one-cent stamps for the book in durable cloth binding, or only 21 stamps if satisfied to have so valuable a work in paper covers. Address Dr. R. V. Pierce, Buffalo, N. Y.

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**FARM SELECTIONS**  
PROFIT IN DRAINING SWAMPS

RECENTLY called on Mr. Allen, at Watkins. He is peculiarly situated. Four years ago a tract of land several hundred acres in extent was covered with nothing but cattails. It is several feet below the level of the lake, and is flooded over from the hills in the spring freshets. It probably was once covered by the lake all the time, but now has filled up so as to be dry in midsummer. Mr. Allen dug ditches seven feet deep around it, after constructing a dike between it and the lake. At the lower corner a huge windmill and pump put the water over into the lake, and this level tract is kept dry on the surface. This is not a typical, black-muck swamp, as there has been a good deal of the best part of the surrounding hills washed down and evenly deposited over the surface, without bringing any stone. By plowing under the cattails and growing one crop of buckwheat it was subdued, and is the finest soil to work in I ever saw. It requires no fertilizer or manure, is free from weeds, is wet enough beneath the surface in a dry season, can be pumped dry in a wet season, does not bake or get dusty, and is easily worked by horse or hand. This year's onion yield was five hundred to six hundred bushels an acre, and the crop is about three thousand bushels. The sixty acres of beans will give an enormous yield—all Red Kidney—and the ten acres of sugar-beets he thinks will yield sixty dollars profit an acre.

On such soil Mr. Allen thinks a hand-drill and hoe the cheapest methods, and school-boys in vacation-time who want to earn money the cheapest help to do the thinning. Five tons of No. 1 timothy hay have been cut, with the two and one half tons of second growth included. Mr. Allen says: "Upon the hills you will find every foot of land possible under cultivation, and by the aid of fertilizers and manures they can get from a third to half a crop, while there are a large number of acres of swamp which is never touched. The most valuable land we have to-day can be purchased the cheapest."—C. E. Chapman, in Rural New-Yorker.

**MY VISIT TO THE OSTRICH-FARM**

An ostrich-farm being lately started near my home I paid a visit to it. There I saw a group of several hundred of the big birds pursued by a little dog too short of stature for an ostrich to kick with its formidable two-toed foot. Had the dog been a horse or a man tall enough to receive the stroke the birds would have fought as for their life. But the little dog, or even a cat, is their terror. I found them omnivorous, eating anything given to them, and swallowing their food whole, be it a beet, an orange or an acorn. To grind it in their stomachs they eat stones as large as small eggs, and bits of metal, even a smoking-pipe, or a piece of iron tubing. I found those which had paired in yards by themselves, while the younger birds—those under four years—ran together in a larger field. Their ordinary diet is chopped hay, grape-pomace from vineyards, grains of any sort, and sugar-beets. Fruits of all sorts they eat with good appetite, swallowing their oranges whole. It takes a minute for the food to traverse the length of the long neck.

In the domestic state the pair of ostriches dig a hole in the ground about one foot deep and three in diameter. They take turns in the digging, and the work is performed in a very interesting way. The loose earth or sand is scooped by the breast-bone of the bird, in the first place, to make a shallow excavation wherein to begin. Then the bird kicks the earth out behind it with its foot, and, turning around, fashions the opposite side of the hole in the same way. The hen lays about a dozen eggs, which are incubated in forty days. The male sits at night and his mate by day, with punctual regularity. While the eggs are being laid the old birds cover them with a little earth, to protect them from the sun by day or to keep them in uniform warmth. It would be an easy matter for "the foot to crush" these eggs, provided with no soft bed, and marked only by loose soil.

That the ostrich is "hardened against her young ones" is partially true, even in the domestic state, for it is found safer to take the young from the parent birds as soon as hatched, for two reasons: The birds have been known to kill them, and, again, another brood is wanted for commerce. So the young are placed in a home of their own, where they are fed with hay and stones exactly as the older ones are fed. They grow in height at the rate of one foot a month for six months. In color the young are reddish brown and white in stripes and spots. The eye is large and round and black, and very beautiful to look into.

The feathers of the young are used only for dusters. The birds are peaceable together until four years old.

They take daily baths in large reservoirs of water. The dust-bath also is common. I saw them in an actual sand-storm in the desert, or so it seemed, the birds being completely hidden by the clouds of dust they were raising by their ponderous movements.

These birds do not know how to step over the slightest obstacle, nor do they fly at all. But oh, how they run! The long limbs are assisted in flight by the shorter, beautiful wings. No wonder Job in his observations noted that "she scorneth the horse and his rider," for no horse could outrun an ostrich in its best condition. The familiar saying that the ostrich buries its head in the sand, and so is taken by the pursuer, may be true, though they are not known to bury their heads when domesticated. There is room to suppose some ground for the legend, since the head of the tame ostrich is always covered at plucking-time. A large, loose bag is thrown quickly over the head and secured, when the bird becomes docile. I saw a bird captured in this way and placed in a wagon for removal to another farm. As soon as it was safe in the cage the bag was taken off.

Of course, the value of these birds, for their plumes, is very great; but were I given my choice between these immense creatures, with all the glory of their mysterious history, and a brood of common hens, I would take the hens. They are the more interesting.—The Sabbath-School Visitor.

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**GROWING POTATOES PROFITABLY**

One of the most successful potato-growers in the country is an Ohio man, who recently gave his methods publicity before a meeting of horticulturists. He claimed that by turning under two or three clover sods, and thus securing a large amount of humus in the soil, he could grow a crop of potatoes without the aid of a drop of rain from planting to harvest. He grows only medium-early sorts, thus enabling him to sow the land to wheat after taking off a crop of potatoes. Plantings are made four inches deep, in drills thirty-two inches apart and from twelve to fifteen inches between the pieces.

Before the potatoes are up the soil should be worked twice with a smoothing-harrow, to loosen the surface soil and kill starting weeds. As soon as the rows can be made out a cultivator should be used, the teeth being run four inches; but when the tops are four to six inches high the cultivation should be about two inches deep. At least once a week—and as soon as the ground is in condition after a rain—a shallow cultivation should be given up to the time the vines cover the ground. Much of the cultivation may be done with the weeder, thus keeping the weeds down as well as giving the necessary cultivation.—National Land Journal.

**THE QUESTION** "Is the creamery of the future destined to swallow the private dairy?" is one of concern to private dairymen and dairy-cattle breeders. The handsome profits of the butter business have attracted "outside" men of capacity and capital who do not do things by halves. But can this industry usurp the situation so satisfactorily occupied by the private dairy? is what has been asked. The big creamery, as well as the little dairy, we think, has its distinct field of trade.—Jersey Bulletin.

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**FARM SELECTIONS**

**TRAVELING SHEEP-PEN**

OF RECENT years nearly every town is provided with an electric-generating plant, and frequently the wires are strung along the country roads from town to town. This one fact alone has led a man named McNair to attempt the use of electricity on the farm. He has devised a curious pen some fifteen feet square, built of wire and mounted on broad, flat wheels. This pen is designed to run in any pasture, even though it be hilly. Wires connect it with a small motor stationed at one side of the pasture; this in turn being connected with the electric wires from which power is derived. A turn of the button and the pen slowly creeps across the field.

A machine of this type is being experimented with at the agricultural experiment station at Lansing, Michigan. Two lambs, and part of the time an old ewe, have been pastured in the pen during the summer. The field is planted with lucerne, growing thick and heavy. The pen is so arranged that it crawls the full length of the pasture in one month, traveling about two feet an hour; at the end of this time it is switched around and travels back again. As it moves the sheep eat every bit of the pasture, eagerly cropping next the forward side of the pen as it runs over new ground. A bit of canvas duck is hung over the corner of the pen, so that the sheep may be well sheltered; and, curious as it may seem, they have become so accustomed to the moving of the pen that when they lie down to sleep they snuggle up close to the forward end of the pen, so that they may lie as long as possible without being disturbed by the rear end of the pen as it creeps toward them. When the pen has passed, the lucerne that has been cropped immediately grows up, and by the time the pen makes its monthly circuit the pasture is again in good condition. Its advantages are that the sheep are kept from running over, half eating and tramping down a large amount of pasture, and kept quiet, so that they lay on flesh very rapidly.—Electricity.

**ALFALFA IN NEW JERSEY**

The results obtained at the college farm appear marvelous when estimated in dollars and cents. From one acre of alfalfa there was secured in a year as much protein as is contained in seven and one half tons of bran, worth this year sixteen or eighteen dollars a ton. Feeding tests showed that the protein was as digestible as that in bran, and just as valuable in balancing up carbonaceous foods. The land was cleaned of weeds by cropping with corn, then plowed in the spring, after being dressed with manure and thoroughly fined and fitted for seeding, which was done after danger of injury by frost. Thirty-five pounds of seed an acre were used, being covered with a weeder or light harrow. After that the weeds were kept down the first year by mowing. This ground was subsoiled, to let the roots reach readily the sand that underlies this heavy soil at a depth of two feet or more.—Alva Agee, in National Stockman and Farmer.

**BUTTER-INCREASERS**

A number of the so-called "butter-increasers and butter compounds" have been tried at the Iowa Agricultural College creamery, and the butter made was analyzed and examined for market value. These substances, when used according to directions, did produce a large amount of a substance somewhat resembling butter. A chemical analysis of this substance showed it contained nearly fifty per cent of water. At the ordinary room temperature it would become soft and greasy in a few minutes after being removed from the refrigerator. An examination showed it was wholly unfit for market purposes on account of this soft, greasy condition and bad flavor. Bulletin No. 52 gives the results of this investigation, and will be sent on application to Director C. F. Curtis, Ames, Iowa.



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We will send one sample of this pin FREE to any person who cuts out this advertisement and sends it to us with their name and address in a letter. You must also enclose a two-cent stamp to pay the postage on the pin. Only one pin sent to each family. This is a gold-plated pin. It can be used as a ladies' stick pin or bangle pin. It can also be worn as a scarf pin; or the bangle can be taken off and used as a charm. The design was made in Paris by one of the most skilled artists. It is intended as a souvenir of the year 1901, which begins the new century. The leaves are in green enamel and represent a three-leaf and a four-leaf clover. It is really very beautiful.

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Mr. Hugo Horn, 344 E. 65th St., New York City, writes:  
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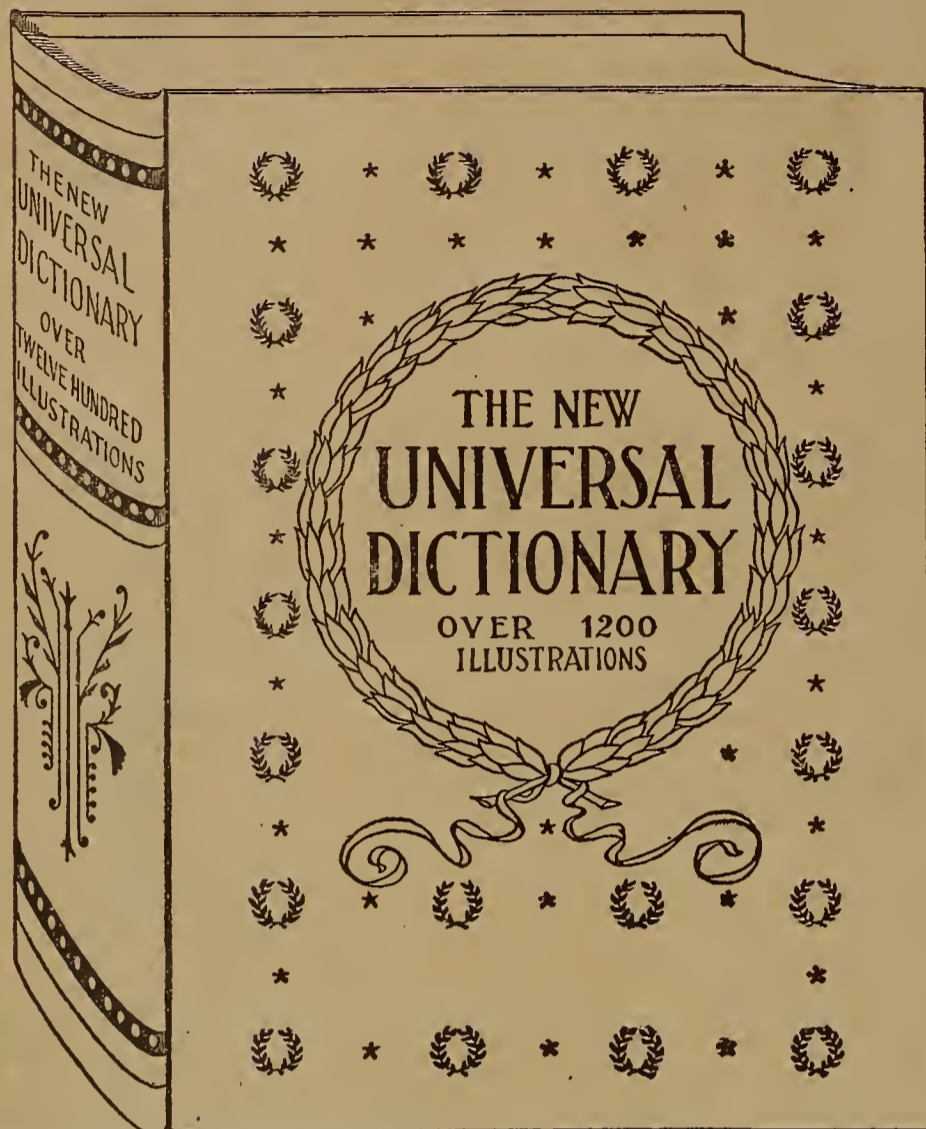
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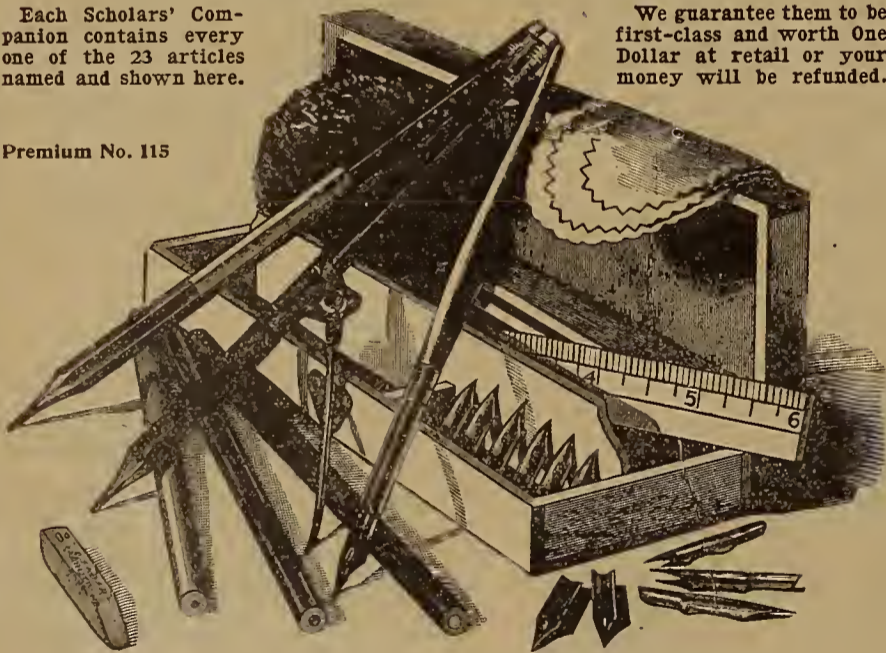
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# Russian Characteristics

By Edward A. Steiner

**T**HE Russian peasant is as much misjudged as is his country. By some he is characterized as vivacious as the Frenchman; by others, as sedate as the New England farmer. In my judgment he is less happy in temperament than the Frenchman, and inclined toward melancholia, which the American farmer is not.

His appearance is rough and almost solemn, his face inexpressive, and his movements are slow and deliberate but graceful. Of virtues he has developed those of a passive character. He can suffer, endure and die as no other European can. He can lie down anywhere, on anything, at any time, and soundly sleep the "sleep of the just."

The Russian soldiery is made up largely, if not entirely, of farmers' sons, and in endurance they surpass every other military body.

The Russian peasant's frame is as hard as steel, his wants are very few, and he can live on almost nothing, and does not complain nor suffer from it. Walking through a village one often stumbles over men asleep, lying on the cold, moist earth, seemingly as comfortable as the American farmer on his spring mattress. All the critics agree that he dislikes bodily motion. I have seen hundreds of men standing perfectly still for hours, as if they had been cut out of stone. They like the gentle swaying of the body; and if the Russian farmer would get "onto" the American rocking-chair it would be hard to get him out of it. Even on his feast-days, when in other countries all is bustle and confusion, he prefers to stand still and get his chief pleasure from the fact that he does not have to move about.

Neither fortune nor misfortune moves him. He lives in the moment, for the

moment, and has no sorrow for the yesterday and no care for the morrow. He becomes criminally negligent in his care for those dependent upon him, and such a thing as saving in good times for hard times is almost unknown. That is the reason why famine strikes Russia more frequently than any other country in Europe. If one crop fails there is no reserve to draw upon.

This may all come from the consciousness of his own ability to pull through any difficulty when he is confronted by it, but I think that it is not so much conceit as it is downright laziness. This carelessness manifests itself in the smallest as well as in the greatest things in the affairs of the home and of the state; and this lethargy will keep him in subjection until fire burns in his veins and he begins to "get a move" on himself.

He is a delightful story-teller, and when you meet him in the village inn, enthused by his dose of "vodka," he will spin endless yarns which display a great deal of crude imagination. In the long winter evenings you will find the male portion of the whole village in the dram-shop, sipping the whitish fire-water, telling each other the most fanciful stories about witches, goblins and man-eating giants, until the "baba's" patience is exhausted, and she comes to disturb the solemn assembly by telling her liege lord that it is time to go to bed. In return he heaps upon her complimentary names, kicks and cuffs; but if she is persistent she breaks up the meeting, much to the disgust of the other men, who call their coward comrade a "womau-ridden husband."

The Russian peasant is very pious, but he has not yet coupled his religion with morality. He will not eat the meat he has stolen, because it happens to be a fast-day. He is a mixture of good-heartedness and rudeness, of deep feeling and callousness. He is exceedingly submissive and outwardly

friendly, though you are not always sure what lurks beneath the mask. He is very charitable, especially toward prisoners, whom he never calls "criminals," but "unfortunates." With such a one he shares his last copeck, his bite of bread. On the road to Siberia there is always an open hand for the hungry prisoner or for the starving fugitive, and a candle is kept burning in charitably inclined huts, which are to the unfortunates veritable lighthouses upon a stormy sea.

The Russian peasant is governed by his feelings, which give him his good and his bad qualities. His family life is well regulated. He is a good husband according to his own standard. The children are much loved, especially by the mother, who often spoils by her tenderness as much as does the father by his harshness.

Among these peasants the condition of the wife is pitiable. Lest I be accused of exaggeration let me quote some current proverbs which are their own proofs. The Russian peasant says:

"I love you like my soul; I beat you like my fur coat."

"Seven women have but one soul among them."

"A woman's soul is like mist."

The woman has no choice in marriage, no right of property. With the farmer, the mechanic and the middle classes, if such exist in Russia, the woman is valued largely for the strength of her muscle, the deftness of her fingers, and for the paid labor that she displaces. She is, in fact, the great Russian labor-saving machine. In choosing a wife the peasant does it by these standards, and his wife is secured in the market just as he gets his cattle, except that he does not have to pay for her. It is a strange fact that there are still matrimonial markets in many Russian districts where the marriageable maidens gather, clad in their best garb, to be viewed by the matrimonially inclined youth. If he asks her name and age it is an indication that "Barkis is willing." Her parents are interviewed, all the details arranged, and soon the wedding-bells ring, and in a few years the buxom maiden grows

to be an old woman. She has all the hardest work to do in addition to the care of the household.

According to Russian custom and law a man may force his wife to labor for him, although she has no right to demand even bread from his hand. If he leaves her there is no law which can compel him to give anything toward her support. A man may testify against a woman in court, but not a woman against a man. Whipping is more common than other forms of endearment, and the young woman sings in her folksong:

"What kind of a husband art thou, my lord?  
Thou dost not beat me nor pull my hair!"

The catalogue of bad characteristics is not yet exhausted. The Russian peasant lies as naturally as a cock crows, and therefore he follows each affirmation by a solemn oath—the more oaths the bigger the lie.

When the Russian has the means he lives well and fares sumptuously. This has led to a greed for money which cannot be equaled among any other class of farmers, and to thieving, which has become a national vice. If you do not watch a Russian peasant he will steal everything except hot iron, millstones, boilers and real estate. This vice has entered the official classes, and an honest official is as rare as strawberries in December.

The greed for money has also led to great servility, and a peasant will lower himself to the level of a beast for money. For it he will do anything; without it he will do nothing. He expects to be paid for every civil answer he gives to a question; and if he does not think the fee big enough he does not hesitate to say so.

Another bad quality is his love of drink. He does not become fighting drunk, but exceedingly affectionate; he wants to hug and kiss every one he meets, which, although not so dangerous as fighting, is more disagreeable.

He is really dirty, much as many modern writers try to cleanse him, and a visit to his "izba" will convince you that fresh air and soap and water are almost unknown commodities. [CONCLUDED ON PAGE 8 OF THIS ISSUE]



WINTER SPORT IN RUSSIA

## FARM AND FIRESIDE

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"The Grout Bill," says the National Grange Bulletin, "is a bill regulating the sale of oleomargarine and other imitation dairy products. It contains three specific provisions; namely, giving states authority to legislate in regard to such products when transported from another state in original packages or otherwise; increasing the present tax of two cents a pound upon such products to ten cents a pound when colored in imitation of yellow butter, and reducing the present tax to one fourth of one cent a pound when sold in its natural color. Thirty-two states have already enacted restrictive legislation in regard to the sale of this product, and the first provision of the bill is to meet a possible decision of the United States court against the constitutionality of those laws, although the latest decision sustained them; the second provision does not tax the oleomargarine ten cents a pound, but taxes the fraud in coloring it yellow that amount, and the third provision enables the people who want to use his products to obtain it at less cost than at present."

"This bill has the support of every agricultural paper, organization and society in the United States, among which is the National Grange, every state grange and every Pomona and subordinate grange that has taken action. It probably would have the support of nine tenths of the people of this country if the matter could be voted upon. This bill has recently passed the lower branch of Congress by a vote of 193 to 92. It has been received in the Senate and referred to the committee on agriculture of that body, where it justly belongs. It now becomes the duty of the friends of honest butter to make the supreme effort of their lives to secure its passage by the Senate at the earliest possible moment. The bill has the indorsement of Secretary Wilson and the great Department of Agriculture, and will be signed by President McKinley when it reaches him."

"Notwithstanding all the influences in favor of the bill which we have named, and the fact that there are less than thirty manufacturers of this product in the country, it will require the strongest kind of a fight to

carry the bill through the Senate. Costing to manufacture but seven cents a pound, but when given the garb of yellow butter selling at a price only enough below butter to attract customers, it commands a price one hundred per cent over its cost. Eminent scientists claim its unwholesomeness when compared with butter. The claim that it is as honest to color oleomargarine yellow as to add coloring matter to butter is so nonsensical as to mislead no one who gives the matter the slightest consideration. When coloring matter is added to butter it is to intensify a color that already exists by natural right; but when oleomargarine is colored yellow it is to give the substance an entirely different color and to give it the appearance of butter to enable it to sell at a butter price. Hence, we say the tax of ten cents a pound is upon the fraudulent color, and not upon the substance itself, for the tax upon oleomargarine in its natural color is reduced by the bill to one fourth of one cent a pound."

"Over one hundred and five million pounds of oleomargarine and similar substances were made and sold last year, a large share of it being sold and used for butter. The present revenue and state laws are entirely inadequate to regulate the sale of this substance when fraudulently colored to resemble butter, the profit upon it being so great as to tempt people to violate all laws. It is not only sold as butter without any marking as required by the federal law, but is marked 'butter,' and when a semblance of marking it as required by the law is practised it is in such obscure places as to attract no attention or acquaint the purchaser of what he is getting. The only way to regulate this gigantic fraud is to enact into law the provisions of the Grout Bill."

THE chief of the United States Bureau of Statistics, O. P. Austin, in a press bulletin recently issued makes the following interesting statement:

"The foreign commerce of the United States in the calendar year 1900 will exceed that of any in our history. Basing an estimate upon eleven months' figures already received it may be said that exports will be nearly \$200,000,000 in excess of any preceding year, while imports will exceed those of any year except 1891 and 1892. Exports will be twenty times as great as in 1800, and more than fifty per cent in excess of 1890. Imports will be nine times as great as in 1800, and but little, if any, greater than in 1890."

"Exports show phenomenal gains in lines which must be gratifying to all classes of citizens. Products of agriculture show more than \$100,000,000 gain over 1899, and will amount for the year (again basing the estimate upon eleven months' figures already received) to about \$890,000,000, a larger lot than in any preceding year. Manufactures show a still more remarkable gain, having increased from \$308,000,000 in 1898 to \$380,000,000 in 1899 and to \$445,000,000 in 1900. In 1898 they formed less than twenty-five per cent of the total exports, in 1899 thirty per cent, and in 1900 more than thirty-one per cent. Products of the mine, forest and fisheries also show a marked increase over any preceding year, while the foreign merchandise re-exported also shows a higher total than in any preceding year, bringing the grand total of our exportations, as already noted, to a point nearly \$200,000,000 in excess of any earlier year, and more than fifty per cent greater than in 1899, and more than double that of 1897. The excess of exports over imports will also be greater than in any preceding year, amounting to about \$640,000,000 against \$34,000,000 in 1890 and \$6,500,000 in 1887."

REFERRING to the popular tendency to regard Russia as numerically far superior to any other civilized power the New York "Tribune" analyzes the latest Russian census and compares it with those of other countries as follows:

"The census of nearly four years ago showed the Russian Empire to contain about 129,000,000 persons. No census has been taken since, but a computation has been made of the yearly excess of births over deaths, and thus it is calculated that the population has by this time risen to 136,000,000. That is a large number. But it must be borne in mind that it includes a number of heterogeneous, and in some cases semi-hostile, elements. There are, for example, some 9,000,000 Poles, who are almost literally pinned fast to Russia with bayonets, and more than 6,000,000

Finns, who are being alienated in spirit with rapidity and success. There are nearly 6,000,000 Lithuanians and 11,000,000 Turks, and there are 4,000,000 Jews who are held in semi-servitude and semi-outlawry. These and other alien elements are not commingled with the whole mass, but remain apart from it in distinct communities. Deducting them, the real Russian population is found not to exceed about 86,000,000."

"These latter figures exceed those of any other civilized nation, but not by an altogether overwhelming majority. The population of Germany, which is practically homogeneous, is about 55,000,000. If to this we add the 10,000,000 Germans of Austria we have a race comparison of 65,000,000 Germans to 86,000,000 Russians. For political purposes we may well add to the Germans the 13,000,000 Magyars and others of Hungary who are not only non-Slav, but also anti-Slav, thus making a total of 78,000,000. The United Kingdom has a population of only 41,000,000; but if we add the British population of the Empire we have a total of about 52,000,000. Finally, there is the United States, with a substantially homogeneous population of 77,000,000, which comes not so far from Russia's total of true Russians; and if we add together the population of the United States and the English-speaking population of the British Empire we have an Anglo-Saxon race total of 129,000,000, far exceeding the Russian total and approximating to the grand aggregate of the whole heterogeneous Russian Empire."

"The rate of increase is also to be considered. In 1860 Russia had 75,000,000 inhabitants. The increase—including all gained by conquest and annexation—has thus been 61,000,000, or about eighty-one per cent in forty years. That is much more rapid than the growth of Germany, which has been only about fifty-two per cent, or of the United Kingdom, which has been only forty-one per cent. But while Russia has gained millions by annexation these others have lost millions by emigration. A far different comparison is that made with the United States. Apart from what we have gained by territorial expansion the domestic population of the United States has increased in forty years from 32,000,000 to 77,000,000, or more than one hundred and forty per cent. It will therefore not require many years for the United States to outstrip the population of Russia proper, and indeed its overtaking of the whole Russian Empire is within a measurable distance."

IN AN article in the "North American Review" for December, entitled "The future of the Anglo-Saxon Race," Lord Charles Beresford says: "The Anglo-Saxon race cannot hope to escape the temptations and the trials which always follow in the train of success. But the race has had the immense advantage of being constantly invigorated by new blood. To the little 'isles of the north and the west' came in turn Phœnicians, Carthaginians, Greeks, Romans, Danes, Angles, Saxons and Normans. Each left on the shores of the new country some of its more adventurous spirits, who mingled with the Celtic inhabitants, and in the course of time the whole were welded into a vigorous, hardy race. It is this race which we call the Anglo-Saxon people, and which now spreads all over the globe, penetrating to the most remote regions of the earth. The process of adding new blood and refreshing the corporate whole did not cease with the Norman invasion. The British have from time immemorial held out a hospitable welcome to all who sought liberty and progress and freedom from that worst of all tyrannies, ecclesiastical tyranny. Her sons, who sailed across in the Spanish wake to the shores of the New World, carried this love of the stranger with them, and in the United States to-day we see the old principle of incorporation going on; the race ever enriching its blood with that of the best and most enterprising of other nations—the men who are cramped by the restrictions of the decadent Old World, and who would be the breeders of revolution and anarchy if they did not find under the Anglo-Saxon flag the freedom which enables them to settle down as law-abiding citizens."

"It is the extraordinary capacity for absorbing and assimilating the progressive forces of other nationalities that has kept the Anglo-Saxon race moving with the times, and which will long postpone any decadence such as has befallen its predecessors."

It is this infusion of fresh blood which has kept alive the fearless energy, sturdy determination, versatile ability, peculiar aptitude for self-government and the unrelenting spirit of enterprise which characterizes the great Anglo-Saxon people. These characteristics which guide the brother nations have brought them to their present dominant position in the world. The British Empire comprises 11,712,170 square miles of territory, soon to be increased by the unity of South Africa. The United States within its own borders and the islands lately added to its territory rules over 3,692,125 square miles. Thus together the Anglo-Saxon race owns, controls or dominates 15,404,295 square miles—very nearly one fourth of the total land surface of the globe. . . . The Anglo-Saxon race includes under its immediate sway over one fourth of the population of the world. No race that has preceded it has ruled nearly one fourth of the earth's surface and over one fourth of the population of the world."

"But the advancement of the race is not confined to the limits of its world-wide possessions or the numbers of its ubiquitous people. Since the world began never has such a commercial race flourished on the face of the earth as the Anglo-Saxon. The bulk of the merchandise of the four quarters of the globe floats under the Union Jack or is owned by the country which flies the Stars and Stripes."

"There are rocks ahead," however, which may yet wreck the Anglo-American barque. With moderately fair skies and smooth seas the supremacy of this great race has been built up, and with success have come all the evils which are so historically associated with the fall of empires and nations of the past. In the motherland the corruption of money has wrought fearful havoc in the ranks of society. In the United States there are ominous mutterings of the coming storm. The plutocrat is gaining power each day on both sides of the Atlantic, and the democrat is likely to be crushed under the heel of a worse tyrant than a king who wore the purple, or any ecclesiastical dignitary who sets up claim to temporal power."

"This is the danger which threatens the Anglo-Saxon race. The sea which threatens to overwhelm it is not the angry waters of the Latin races, or of envious rivals, but the cankering-worm in its own heart, the sloth, the indolence, the luxurious immorality, the loss of manliness, chivalry, moral courage and fearlessness which that worm breeds. This danger, which overthrew Babylon, Persia, Carthage, Athens, Rome, and many other mighty nations and races in the past, now threatens the race to which we belong; but to it we oppose what they never possessed on anything like the same principles or to the same extent as we—the power of democracy."

"As long as the heart of the nations of two great Anglo-Saxon countries is sound and beats true to those ideas of liberty and progress which are the most cherished talisman of the race, the future before the race is safe enough; but before the Anglo-Saxons can play their part properly in the world's history they must purge themselves of all that belittles their fair fame, and help each other to carry out those lofty ideals which have ever kept us as a race of sailors and soldiers, as well as a race of merchant adventurers."

"We are a practical, common-sense people, and it does us no harm to have infused into us from time to time a little of that Celtic temperament which is so easily kindled into warm enthusiasm. The Anglo-Saxon race has held its own where its predecessors have failed, because of its cool, calm, almost phlegmatic and critical way of regarding all questions; but it is just as well to remember that this is the spice of enthusiasm, of adventure and daring, which is also an admixture in our blood, that has kept us steadily striking out in fresh directions, ever increasing the world's knowledge and our own importance. The law of life is progression. Nothing stands still. In reality the molecules of the hardest rock are in perpetual motion. To appear to stand still is to go back. There are no signs of such a retrogressive movement in the Anglo-Saxon race; and, therefore, we may look confidently forward to its future, and hope and pray that there is something, after all, in the visionaries' prophecy that through that race 'all nations of the world shall be blessed.'"

**ABOUT RURAL AFFAIRS**

**Fifty Years of Gardening** I do not claim having had fifty years' experience in gardening, although it is not many years less than half a century ago that I began to take considerable interest in my folks' garden, at least during the summer, when strawberries, raspberries and tree fruits were ripe. For not less than thirty years, however, I have been actively engaged in the annual garden-making, first on a home-garden basis and on the old style of growing vegetables in small raised beds, then gradually expanding to large operations for market purposes, and by degrees changing to the improved methods of the present day. The modern American garden is a totally different thing from the American garden of thirty years ago. Its evolution is not due to the efforts of any one man. Many have done faithful work for the improvement of and in our garden practices. For a large share of the achievement the credit should be given to our seedsmen, foremost among them the late Peter Henderson, and to his books and other writings on garden matters. A little credit also belongs to your humble servant, the writer; and I am very proud to say that I believe my persistent efforts for the past thirty years in this direction have not been entirely in vain. Whenever I come across a nice home garden I feel like saying to myself, "I have helped to make this garden what it is."

**Old and New Gardening** The avowed purpose of the Pan-American Exposition, to be held this year in Buffalo, is to show the progress that has been made in American industries during the nineteenth century. A hundred years ago, I imagine, American gardening was a rather feeble plant. Even thirty years ago, as I then saw it, there was nothing much to brag over. But how it has grown! I would like to see this progress illustrated on the grounds outdoors, even if only on a small plot, on one side being shown the typical American garden as it was, with short, raised beds, and rows running across the narrow way, all the work to be done with the hand-hoe and hand-weeders, with a maximum of effort and a minimum of results. Then on the other side there should be the long, smooth, even surface laid off in long rows to be worked with the hand wheel-hoe, the garden-rake and modern weeders, with a minimum of effort and a maximum of results. The seed-sowers and the wheel-hoes and other weed-slayers have been much improved of late; yet while they are found in every typical modern garden, their sale and use are still subject to great increase. I am sure that the Planet Jr. and Iron Age people and manufacturers of other such goods will be perfectly willing to furnish not only their most improved seed-drills, wheel-hoes, fertilizer-distributors and similar tools for use in such a garden exhibit, but also persons who will keep such machines in motion, and be ready to explain their use to visitors. For instance, if a boy were employed there right along running one of the improved hand wheel-hoes through the rows, thus demonstrating to the visitor "ad oculos" how easy it is to keep a garden-patch clean and tilled, the good home garden would receive a boom such as we, with all our efforts and teachings, have not succeeded in giving it. In an outdoor garden exhibit I would also like to have some of our new vegetable cultures shown up in contrast with the older methods, especially the new onion culture side by side with the old; the new or newest celery culture, etc. I myself would gladly grow and furnish Prize Taker and Gibraltar onion-plants for such a purpose. Our home gardeners should be taught that it is a very easy thing to raise onions that are in every way the equal of, if not superior to, the imported Spanish onions now sold in our grocery-stores at high prices.

**Exposition Notes** My friends should not think it strange that I allude so frequently to the coming Exposition. To us here, who are constantly reminded of it by the group of towers and towerlets which in great numbers and wide circles surround the grand centerpiece, the electric tower, now only to be seen in its steel framework, carrying its point nearly four hundred feet high, all showing in bold relief against a background of clear sky

above the surrounding city buildings, the Pan-American seems to be the event of our eventful lives, the paramount object of our interest and thoughts, and the never-failing topic of our conversations. We feel that everybody everywhere in America is, or should be, interested in it almost to the same extent. Should this enthusiasm carry me beyond the limits of good taste in my talks about the Exposition the unbiased editors and publishers of FARM AND FIRESIDE may be expected to put a damper on it. We believe that we have good reasons for the claim that the Pan-American will be the most instructive and by far the most interesting of all Expositions ever held, not excepting the World's Fair of 1893 (Chicago) or the one just held in Paris (1900). It seems to be a case similar to that of the Niagara cataract. The more one sees of it the more one finds to admire, and the greater appear its wonders. New points of interest come up everywhere, and in spots where least expected. If ever there was a fairy-land we are to have it in the Pan-American. Its wonders, its blaze of light and display of colors will discount anything related by Queen Scheherazade in the "Arabian Nights' Entertainments." Then the dim light of Aladdin's "wonderful lamp," of a smoking, smelling oil-lamp, on which the tallow candle was a great improvement; now the dazzling whiteness of the electric fluid, the sparkle of the thousands of lights more brilliant by far than the diamond-bedecked walls of these fabulous caves and grottos. Never before existed opportunities for electrical exhibits such as are in the vicinity of the Niagara Falls Power Development in the year 1901.

**Coffee Substitutes** I believe that health is the normal condition of the normal person. Sickness is simply the penalty for faulty living, errors in eating or drinking or other things. People can use tea, coffee, alcohol, tobacco, etc., and live to a good old age. My own experience, however, is that my general health, my nerves, my stomach, etc., are better without tobacco than they were with it; that I feel better when using alcohol as a medicine (rarely) than as a beverage, and that I can easily overdo the matter in the use of coffee and tea. For these reasons, too, I have expressed myself repeatedly in favor of coffee substitutes rather than of the genuine strong coffee and teas. We need something to drink, it is true, but I think there are plenty of harmless beverages that we can use without taking into us what may do harm. Mr. T. B. Terry says in the "Practical Farmer:" "Tea, coffee, cocoa and chocolate are all unnatural drinks. Even when pure they contain much the body does not need, and it taxes the vitality to throw off this foreign matter. They stimulate, but do not furnish much permanent nutrition. As a result stomach, heart and kidney troubles may come." What we are mostly after in all these drinks is liquid (water) and flavor. It is not absolutely necessary that they are nutritious in the strict sense of the word, although I believe that chocolates (cocoa), and coffee as usually prepared, with cream and sugar, contain considerable nutriment. Coffee and tea are stimulating, no doubt, but I am not sure whether it is wise to spur us on to faster living by any kind of stimulant except in cases of necessity. Good wholesome food properly prepared is probably all the stimulant we need, as it builds us up in the only natural way, or as it was intended for us to be built up. On the whole, therefore, I still hold to my preference for cereal drinks, so-called coffees, rather than to the beverages made of real coffee or tea. I am going to have some soy-bean (American coffee-berry, so-called) coffee again, and would like to hear from those of our friends who have grown this cereal and are using it in this way; especially also whether they find it preferable to clear wheat when to be used for the purpose of "coffee-making." The Ralston Health Club, of Washington, D. C., publishes the following recipe for making coffee of wheat: "Get whole clean wheat such as you would use for seed. Put one quart or more in a roasting-pan and set it in the oven, watching and stirring it so it cannot burn or even scorch. There is a wide difference between roasting and burning. The latter removes all life from the grain; the former cooks it and opens the cells, so

that they freely give up their nutrition. If the browning is not thorough this release of the food values cannot occur when you come to boil it later. All attempts to secure the true flavor and the full nutrition will fail if it is not browned enough, and will also fail if it is scorched or burned. It will assume a rich brown color when done. See that it is stirred so that all grains are evenly roasted. When apparently cooked add two tablespoonfuls of molasses and one heaping teaspoonful of butter to every quart of the wheat. Then roast a few minutes longer until the grain has absorbed all the molasses and butter. It will now burn more readily, and greater care is needed. The wheat will now be as porous as a fine microscopic sponge. It is rich and valuable food, but will not keep long. Seal up in glass cans, and it will probably keep good a month. Now we are ready for boiling, which should be done just before it is to be served on the table. Do not grind it. Use nothing to clear it. Put one and one half heaping tablespoonfuls of roasted wheat to each cupful of water and a little over, and boil for ten minutes. Drink while hot, the same as coffee. You can drink it clear or use cream or sugar." The Ralston Club warns against the use of the prepared coffees and coffee substitutes found in our groceries, as they usually contain deleterious substances mixed in to produce the coffee flavor and keeping qualities. I shall try soy-beans prepared after the foregoing recipe, and am thankful to my friend Terry for having called attention to these things. When we prepare our foods at home rather than buy them ready-prepared for us we know exactly what we have, and if we do our part properly we can eat and enjoy just as good things as money can buy without the fear of putting a lot of injurious substances and adulterated foods into our stomachs and systems. I do not like to take unnecessary risks.

T. GREINER.

**SALIENT FARM NOTES**

**Evergreen Shelter Belts** One does not fully appreciate the beauties of evergreens until winter comes and all the other trees stand bare and gaunt. Then the spruces, cedars and pines and arbor-vitae are grandly beautiful. They hold the colors of summer-time despite the frosts and snows, and they seem to defy the fierce storms of winter. They remind me of a few men I have known—men of noble character and steadiness of purpose; men who loved the sunshine of life, yet met its storms without a quiver. What a splendid wind-break the spruces and arbor-vitae make! How quickly the sod greens along the sunny eastern or southern side of a row! How the titmice and sparrows gather at evening and hide amid the thicket of branches, and how they make the orchard ring with their merry chirping when daylight streaks the eastern sky! I cannot understand why people, especially farmers, do not plant more of these grand trees for wind-breaks and ornament. If I was a young man just starting on a farm of my own I would plant evergreens by the hundreds. I would plant them on the north and west sides of my house and yards, and protect them from the fierce blizzards and driving snow-storms of winter, saving food and fuel and making my home not only far more comfortable, but beautiful as well.

The vast difference between feeding stock and choring about in an exposed wind-swept yard and in one protected by a belt of evergreens is scarcely conceivable by one who has not actually experienced it. When a blizzard or bitter cold wintry wind is sweeping across the country it is a terrible task to feed and water the farm animals in and about an exposed yard, while in one that is protected a person can attend to the chores in comfort. During a winter storm the snow is swept about an exposed yard, piled up in great drifts against buildings and under sheds, and driven through every crack and chink in the stables, sifting down on the shivering animals and chilling them to the very bone. I have seen days when it was next to impossible to do the feeding and watering about a farm-yard that was exposed to the full fury of a winter storm. The snow struck one's face like needle-points, and a bucketful of water would freeze over in a few minutes, while the animals cuddled together and shivered, too thoroughly chilled to either eat or drink, and despite a roaring fire in the stove the rooms in the house were as cold as a barn. At the same time in yards protected by a belt of evergreens it seemed like another climate. The cutting wind howled harmlessly over, the powdered snow fell like mist and lay

where it fell, not an atom being driven into a building or under a shed, the chores were attended to without any difficulty, and the animals and fowls appeared to be quite comfortable, and ate and drank about as usual, while the usual fires kept the rooms in the house about as pleasant as when no storm was raging outside.

When a few trees that cost very little will make such a great difference—will add so much to the comfort of the farmer and his family, his animals and fowls—it would seem that little or no urging would be necessary to induce him to plant them. But when planting-time comes—the balmy days of spring—most of them forget all about the blizzards and wintry storms that made them so uncomfortable in winter, and the planting is not done. A few farmers do not forget so easily or become too busy to set trees, and the work is done and the shelter belt is on its way to usefulness at the earliest moment possible. The time to order the trees is now. Order them and mark out the ground they are to occupy during the mild days. If this is done the planting will be done. Young Norway spruce or red cedar do not cost much, and a single row will in time make a perfect wind-break and stop the fierce rush of the worst winter storm that ever raged.

In planting a wind-break that will be thoroughly effective in the shortest time I would plant two rows of Norway spruce twelve feet apart, setting the trees six feet apart in the rows. This conifer is a rapid grower, and makes the most effective wind-break of all. Where the soil is thin or dry, and hot winds prevail in summer, perhaps it would be better to plant cedar; and it should be heavily mulched, not close against the trees, but a foot or so from them and over a strip at least six feet in width, to keep the soil moist during the prevalence of the drying winds. Wherever the Norway spruce succeeds, and that is over the greater part of the United States, it is the tree to plant.

I would buy nursery-grown trees eighteen to twenty-four inches high, prepare the soil as for corn as early in the spring as it will work nicely, and set the trees as soon as the nurseryman could get them to me—the earlier the better. Then I would keep the soil thoroughly stirred and loose on the surface, and all weeds down through the summer, using a disk or a weighted steel-toothed harrow for this purpose. And this sort of cultivation should be continued five or six years. I would have a few trees set in a nursery row, with which to fill vacancies should any occur. The trees will not make much growth the first year, but when the feeding roots get well out they will grow rapidly. I have had them to grow twenty to thirty inches in one season. When they reach a height of twenty feet their owner would not take twenty dollars apiece for them. I have seen Norway spruce shelter belts thirty feet high along the west and north sides of farm-yards that the owners declared were worth a thousand dollars.

A farmer friend of mine declares that he can make a shelter belt that is quite as effective with deciduous trees, and that while not being so ornamental will be worth more in the end than one of spruce. He planted a belt of maple, ash, cottonwood, catalpa and walnut, twenty rows eight feet apart, with the trees six feet apart in the rows, kept the soil mellow and clear of weeds, and at the end of six years the trees averaged eighteen feet in height, and the belt checked the wintry winds about as effectively as a belt of spruce. In about ten years he began to thin out, and obtained quite a large quantity of fuel and poles. He contends that at the end of ten years he will have obtained fuel and poles enough to pay good rent on the land occupied and still have a first-class wind-break. He set four-foot trees, cultivated well and pruned carefully. His shelter belt is effective in winter, cool and pretty in summer, but still far from being as grandly beautiful as a double row of Norway spruce. Either of these wind-breaks are good, and when up thirty to forty feet are worth hundreds of dollars to any farm. Not only do they shut out the wintry blasts, but they also make the farm home so much more attractive to its owner and his family. I have heard many men say, in speaking of a certain farm home that is protected by a grand double row of spruce, "If I had a home like that ten times its market value would not tempt me to part with it!"

FRED GRUNDY.



## FARM THEORY AND PRACTICE

CANADA PEAS AND COW-PEAS.—Two valuable legumes, known by farmers as peas, are receiving much attention of late, and it seems impossible to prevent their confusion in the minds of many farmers. Inquiries come to me continually showing such confusion of the two legumes. Farmers are making mistakes in culture, using the seed of one and the methods of culture of the other, with failures as results. The *FARM AND FIRESIDE* goes to hundreds of thousands of readers, and through it I can reach many who need to know how very different the Southern cow-pea is from the Canada pea. It is unfortunate that the former is called a pea, as it is not one, but is a bean, a tender bean, requiring late planting in a warm soil, like all other beans, while the Canada pea is a true pea, thriving in cold soils and latitudes.

The cow-pea is the clover of the South, a nitrogen-gathering plant that enriches the soil and makes a hay even richer than that of clover. There are many varieties of this pea, some maturing only in the most Southern states. Some varieties ripen seed and mature the vines for hay in a number of the Northern states. Warren's Extra Early, the Whip-poorwill and even the Black mature on many warm soils north of the Mason and Dixon line. The seed is not sown until the ground becomes warm—after time of planting corn. The crop makes a wonderful fertilizer for the soil. It makes rich summer pasturage. It makes rich hay, but the vines are rather difficult to cure. It is a humus-making crop of great value wherever it matures. The requisites are heat and a fairly long growing season in the North. The natural home of the cow-pea is in the warm latitudes.

The Canada pea is far different in its requirements. It is a true pea. That means early planting in a cool soil. It goes nicely with oats in this respect, and usually is seeded with them, so that the vines may be held up for harvesting. Like all peas, the planting should be deep. A good plan is to take the springs off the drill-hoes and weight with a heavy log-chain. Four inches is not too great a depth. Then the oats are drilled in at the usual depth. The mixture makes a rich hay, or with later harvesting a crop of rich grain is gotten. Canada peas do best in latitudes too cold for cow-peas. The confusion and resultant loss should cease. Associate the Canada pea with the cold North, the cow-pea with the sunny South. Plant the former early in cool soil, and the latter late in warm soil, if you live near the dividing-line where each can be profitably grown.

SOIL STIMULANTS.—It is a common error to suppose that a "stimulant" is a bad thing for the soil. Nothing will arouse the criticism of a fertilizer manufacturer more quickly than an intimation that his goods are stimulants. The old-time friends of lime resented the statement that it is a stimulant. The truth is that the soil is a great storehouse of inert plant-food, and one of our great needs is stimulants to hasten the chemical changes that make this food available. The frost of winter, the admission of air, the use of the harrow—all are stimulants. The man who harrows repeatedly is freeing plant-food in much the same way as the one who uses lime. He is hastening the disintegrations of the soil and doing other things that tend to enable the plants to get hold of the land's strength. This is legitimate. Our business is to convert fertility into plants. There is folly in it only when we fail to keep the soil full of vegetable mold.

THE FERTILIZERS.—The so-called commercial fertilizer contains available plant-food. This food fosters the growth of plants, so that they get more out of the original store in the soil. Oftentimes they contain only one or two elements of fertility—the ones that are deficient in available form—and their presence enables the plants to make full growth, which means full draft upon the other nine or more elements they must have from the soil. So far that is stimulation. But they usually do more than this. The presence of fertilizers in the soil means the freeing of inert fertility. This occurs in various ways. An excellent illustration is afforded in acid phosphate. We know of the stimulating effect of land-plaster. Roughly speaking, one third of an acid phosphate is land-plaster. This results from

a chemical change when the rock is treated with sulphuric acid to make the fertility in it available. Hence, this fertilizer is in part a direct stimulant; a fact in its favor—not one against it.

THE TRUE VIEW.—Let us get away from a fear of the word "stimulant" when it arises in treatment of soils. The man who tills incessantly frees all the readily available plant-food in the soil, using up the humus, if he adds no manure or sods. The man who limes does the same. In the long run the use of an acid phosphate has the same result. But we must have plant-food made free—that is the way to get crops. Disaster comes only by ignoring the necessity of a full supply of the humus that we use up rapidly by use of tillage, lime or phosphates, and by failures to supply all the elements of plant-food that may perchance be in too small quantity in the soil we are cropping. When we are after a crop we incite it to action and use up all the fertility we can induce plants to employ. That is business. There must follow restoration of vegetable mold, or the soil becomes lifeless.

DAVID.

NEW YORK DAIRYMEN'S ASSOCIATION  
ABSTRACTS FROM ADDRESSES

Dr. C. M. Twitchel made an address on "Milk-making Machines," in part, as follows: Three factors are to be considered—the man, the cow and the feed—and it is to the first two that attention is here called. Success in any undertaking rests upon a few simple propositions: A knowledge of the machine; an appreciation of the details; ability to direct the energies and forces, and ability to dispose of the product.

Milk production beyond natural conditions belongs to the nervous temperament. When a dream came of the possibility of adding to the normal meat-making powers, the first step was taken in the fixing of type in accord with functions. Here was the first crude recognition of distinct temperaments and their purposes, and out of this has come the breeds and their abnormal development. Man has been all the while the dominating, the controlling factor.

To-day the extremes of beef and milk type are before us. The cold, selfish, phlegmatic type on the one hand, storing every ounce to its own purposes—growth and fat; and the warm, sympathetic, unselfish, highly nervous organism, striving to spend itself for the benefit of others. It is motherhood intensified in this supreme effort to feed the world.

Six thousand pounds of milk yearly mark the minimum limit of individual self-support; eight, ten, twelve thousand, or more, the range of possible profitable production, the limit being unknown. For this great production there must be the dairy type, the loosely constructed nervous organism, the large barrel, wide loins, large udder, great flow of blood, and, more than all, intelligence.

Milk and butter fat especially are the products of nerve-force, and to be invited through intelligent contact. The cow and her owner must be friends. Kindness and sympathy must dominate every step; education must be constant. The perfection of dairy-cow machinery must be backed by an increasing desire to give forth to the utmost for the man who twice a day takes the place of her calf. Whatever serves her comfort or peace of mind promotes production, for motherhood knows no limits.

Begin the education of the future cow by educating her dam. Take the calf in hand at once upon birth. Grow with sole reference to future services. Begin early to handle and train, never to play with the calves. Competition in the market is forcing men to do better service to their animals, and the earlier the currents are set in the right direction, the greater may be your expectations. Allow no caretaker to have charge unless he is in full sympathy with your purposes, and has a large appreciation of the problem.

Prof. Jas. W. Robertson, Dairy Commissioner for Ottawa, Ontario, Can., spoke on "The Progress of Dairying in Canada." He said, in part, intelligent labor, justice and patience have brought us our success in dairying. Specific intelligence applied to dairy practice results in production with the least waste of material. We have made some progress in our cheese trade, exports having greatly increased. This is due to improvement in its quality and regularity of supply. Cheese-factories have increased from three hundred and fifty to seven hundred. Much progress has been made in general agriculture in the production of bread-

stuffs, cattle, eggs and butter. Better facilities for transportation have greatly benefited our farmers, and we owe much to organization and co-operation.

We organized a dairymen's association, and we were fortunate in having good leaders, who encouraged the people to exert themselves. Our exhibitions have helped to educate the people; farmers' institutes and dairy-schools have also been a means of progress. Of great value has been the education in regard to soil and plant growth. We want to get a man to walk on soil with a knowledge of what he is walking on, and to regard it as something more than dirt. The man who knows its use in plant growth does more intelligent and effective work—he gets an inspiration from the knowledge. Progress means a shaking up of the dry bones of agriculture and giving them life; that is, in giving new life to the man who tills the soil.

Progress has come by a better knowledge of how to feed plants and how to rotate them, and learning how to develop plants through the selection of seeds. Selection in corn can increase the crop twenty-five per cent; one hundred years of good behavior back of the corn crop amounts to something. Progress has been due to improvement in cattle and the breeding of better cows, and to co-operation among farmers, also co-operation with their government representatives, so that they will work for their interests and secure better transportation of dairy products. By legislation they prohibited the sale of oleomargarine and filled cheese.

Mr. F. E. Converse, Superintendent of Live Stock, Agriculture and Dairy Exhibits to the Pan-American Exposition, reported the progress made in the work of preparing for the exhibit this year. He said the purpose of the exhibit was to bring all trade relations closer together. We think it will help us to sell our products in a foreign market. One of the best departments will be that of the dairy. A new building has been built for the exhibit, and everything done to provide the best accommodation for exhibitors.

Dr. Van Slyke, chemist at the New York Experiment Station, gave the results of some experiments made at the station as follows:

Ripening cheese is the breaking down of the casein in the milk. The methods of curing cheese in many factories is unsatisfactory; the moisture of the cheese is not so easily controlled as temperature. Seventy-five per cent of moisture is about right to start with in curing, and it should not go below thirty per cent. Loss of weight in curing is due to the evaporation of moisture. The amount of water evaporated depends on the size of the cheese, the temperature of the curing-room and the amount of moisture in the air of the curing-room. The loss is the greatest with a small cheese in a high temperature. There is also some loss of fat in a high temperature. Curing cheese at a temperature of about sixty degrees Fahrenheit has proved the most satisfactory. Water means money to the dairyman when in the cheese in the right amount. If you lose too much moisture you have lost water to sell at cheese prices. In a large factory the losses may be several hundred dollars a year. A less price will be obtained for the cheese that is too dry.

The texture of the cheese is the best when cured at a temperature of sixty degrees, and containing about thirty-three per cent of moisture; less moisture will make crumbly cheese. The texture of the cheese should be such that it will melt in the mouth.

Dr. W. H. Jordan, Director of the State Experiment Station, delivered an address on "The Education Underlying Intelligent Dairy Practice." He said that we must first produce a better man in order to produce a better farmer. Man himself is the object of first consideration, and the farm should be made the means of serving him.

Public schools should consider what a person is to do, and should give the farmer's boy opportunities of studying agricultural science. He needs the education that will better enable him to use the knowledge to be obtained from the bulletins, agricultural papers and farmers' institutes. He needs the education that will give him more respect for, and confidence in, law and scientific knowledge. The agricultural colleges are not available for the education of the rural population. They can take only one in a hundred, and the ninety-nine must go to the public schools. The public school should teach what is of the most importance in the ordinary affairs of life. In the rural districts primary studies in agricultural studies

should be taught. Text-books will be forthcoming when called for, and the demand will develop competent teachers. Farmers want the education that fits them for home-makers, that will help them to obtain the means of a comfortable livelihood, to meet life intelligently and help solve its problems.

Prof. Robertson made an address on "The Gospel of Bread and Butter." Bread and butter were made to stand for what a person obtains by his own effort for personal comfort. His theme was intelligent work in making the soil feed the man. He said the best knowledge was that obtained by doing things. Very essential to the farmer is a knowledge of the laws of plant growth. He described the development of the germ in a kernel of wheat, and the growth of the plant.

The greatest question of our time is how to grow boys and girls. To do this we must give them the best food we can produce on the farm, and they should have that which is most economical, which contains the elements needed for their growth. Whole wheat with a good deal of butter is a good basis for a meal.

Prof. I. P. Roberts, of Cornell University, read a paper on "The Silo and How to Fill It." From the expensive silos built of stone and cement has been evolved the tub silo that is built on the principles by which the large water-tanks are constructed. We have nothing more economical or that makes better ensilage than the tub silo. The staves should be about six inches wide. The edges need not be beveled, but they should be straight. Woven wire makes the best hoops.

In preparing the ground for corn it should be cultivated in a way that it will not bake down hard. It should be loose and light at the time of planting. I prefer to do the most of the cultivation after planting. I would harrow light soils soon after planting. Corn needs plenty of sunshine, so I would plant it thinly. The distance apart depends on the variety planted. As soon as you can see the rows start the cultivator. Frequent cultivation is an important factor in making the crop. Seal the silo with oat chaff, first putting on building-paper. If the corn is so dry that it does not contain seventy-five per cent of water, the ensilage will be improved by adding water when filling the silo.

W. H. JENKINS.

## THE OSAGE-ORANGE TREE

From reading articles on the Osage orange, or Bois d'Arc, as it is called here, I am led to believe that many who ought to be interested do not know the real value of this timber.

It is a native of Texas. On lowlands it attains a growth of three or four feet in diameter. It is said by some Texans that it will not rot at all; at any rate, its lasting qualities cannot be excelled by any other timber. As I write I have in mind a quarter of a mile of posts that were set in 1857 or 1858. The posts are still sound and hold barbed wire; originally planks were nailed to them. Nails and staples can be driven into this timber, although it is a little difficult. Farmers never fasten on their barbed wire with pieces of wire, as has been suggested.

Osage orange is valuable for other purposes besides fence-posts. Farmers use it in building barns, by setting in rows of posts the desired height and nailing plates to them. Blocks are sawed from the trees and used for the foundation of buildings. Our mills saw it into lumber from which wagons are made. Wheels made from this timber do not shrink. It is used for picket-fencing, swingletrees and doubletrees, and for many other things.

It is of quick growth, and I think every farmer who owns land where it will grow should cultivate it. Seed or plants can be easily obtained. Lowlands unfit for cultivation could be planted with Osage to advantage. I notice that lowlands seem best adapted to it.

B. W. HILL.

Texas. Many farmers in this region have grown Osage orange for fence-posts. The majority grow them for their own use; some raise them to sell. I do not know of any one who has planted a certain amount of ground to any kind of forest-trees, but a good many have planted Osage orange around the entire farm, and when trimming the hedge left untouched a fine, thrifty plant every twelve or sixteen feet. In a remarkably short time they grew large enough for posts. When cut, sprouts soon filled their places, and the supply of fence-posts was never exhausted. Chestnut, mulberry and cedar all make good posts, but none of them makes as rapid growth as the Osage orange.

Iowa.

W. E. CHALFON.

# NOTES FROM GARDEN AND FIELD

**RESISTANCE TO FROST.**—Every observant gardener has noticed that there is a difference in the degree in which individual plants of the same kind will be affected by frost. Sometimes a light frost kills or injures one tomato-plant or one bean-plant, while another standing next to it, and apparently growing under exactly the same conditions, escapes injury altogether. An individual plant of this kind sometimes comes out all right, while all others around it are killed outright. This opens up a rather interesting line of inquiry. May it not be possible to breed up a race or strain of tender plants that are more resistant to frost affects than the ordinary run of these plants usually are? The Rhode Island Agricultural Experiment Station has begun a series of experiments in this direction, and these may lead to important results. The following is from the station's report:

"Two plants of the same variety standing side by side may show altogether different results, the one being killed or severely injured, and the other remaining practically untouched. At times these differences may be due to varying atmospheric conditions, but much of it must be the result of difference in inherent vigor and resistance of the individual plants. It is possible in the case of tender plants, by selecting and breeding from those individuals which show greatest resistance, to develop a hardier strain. This question has been under test with garden-beans. Three varieties of bush-beans were planted in a hotbed in the spring of 1899. After they were well up the sash was removed, exposing them to frost on a cold night. Many of the plants were killed outright, others severely hurt, while a few showed little injury. Seed from these was saved and subjected to similar treatment in the spring of 1900. This time an unusually hard frost occurred on the night when the sash was first removed (the temperature was supposed to have fallen as low as twenty-eight degrees). Yet a few plants remained unharmed, others were less severely injured and many were killed outright. Other seeds saved from the resistant plants were planted in the open ground in comparison with ordinary seeds. The plants from these have shown greater vigor in resisting cold and outward conditions."

Nothing definite appears to have yet been settled in regard to this question except a promise that careful selection may produce valuable results in securing plants less subject to frost injury. There may be a chance for us to gain much in earliness of such crops as early sweet-corn, early string-beans, tomatoes, etc., and to secure such gain the course to be taken is that suggested by the report of the Rhode Island station experiments.

**THE SAN JOSE SCALE.**—I think I have already told in these columns that the San Jose scale has invaded my orchards. It was first found on some Bartlett trees, and from them has spread to other pear-trees, and also to apple-trees near by. Where it first came from I don't know. It must have come with stock obtained at one of the many nurseries which furnished material for my plantings. The great question, however, is how to get rid of it before the whole vicinity becomes infested. I have cut down and burned, root and branch, every pear-tree which showed signs of being infested with the scale. Some of the larger apple-trees will have to meet the same fate. But I will find it necessary to watch every tree and bush on the place quite closely, and destroy them entirely, or treat them in such a way as to clear them of the scale. Professor W. F. Massey, of the North Carolina Experiment Station, states positively that painting trees or shrubs all over with common whitewash will surely clear them from any scale that might have found a foothold. I have not tried this, and yet am almost persuaded it is true. But why not add a little kerosene to the whitewash, and thus add another chance of success to the treatment? Yet why should not a good covering of ordinary whitewash be effective in choking out the scale? It is worth a trial, anyway.

**FORCING LETTUCE.**—The Rhode Island Experiment Station has also recently conducted some experiments for the purpose of determining to what extent chemical fertilizers can be substituted for stable manure in the production of winter lettuce. Indications were that "with soil properly lightened to give it the requisite physical condition

equally as good lettuce can be grown with chemicals as with stable manure." I usually prepare my greenhouse soils by composting with loam, sods, sand and stable manure, mixing all these well and leaving until the manure has become well rotted. This soil, of course, is very loose and very rich. My experience is that plants grown in it are often very susceptible to the attacks of damping off and other diseases. Lettuce in such soil is quite apt to be affected with leaf-spot, rot, etc. For onion-plants I prefer to place a several-inch layer of clear sand upon a foundation of rich soil or even old manure, as I have found that I can sow the seed in the clear sand, stimulate the young plants by means of applying weak solutions of chemical fertilizers until the roots reach down into the manure-filled medium underneath, and thus effectually protect them against the attacks of the damping-off fungus. I believe that good lettuce free from disease can be grown in much the same way, but that it would be better to make the layer of clear sand even much deeper. I like to have my greenhouse beds not less than eight inches deep, and of these five inches in the bottom might be made of very rich compost, or possibly of clear horse-droppings (well rotted before using), and three inches of clear sand on top. We might also try a bed of clear sand, and feed the lettuce-plants by freely watering with water in which small quantities of nitrate of soda, potash and phosphate are dissolved. In ordinary soils, however, I frequently have the leaf lettuces, of which Grand Rapids is undoubtedly the best for forcing purposes, entirely free from disease, when the close-heading sorts, like Tennisball, Boston Market, or the "hot-house" and "forcing" lettuces of the various seedsmen, are badly damaged by leaf diseases and rots.

**EARTHWORMS EATING CELERY.**—W. B., of Brandywine Manor, Pennsylvania, asks whether anything can be done to prevent the common earthworms from eating celery while it is growing. I suppose that earthworms are feeding mainly under the surface of the ground, and living more largely on decaying vegetable matter in the soil, such as is furnished by rotten or rotting stable manure, etc., than on living plant tissues. Celery when banked up with earth may be subject to the depredations of earthworms, but the real culprit which injures celery-stalks growing and bleaching under boards is (with me, at least) the common snail or slug. Both these creatures are very sensitive to contact with alkaline substances. In order to kill off the earthworms (which by many are considered entirely harmless, if not even beneficial) it is only necessary to mix a good proportion of lime or ashes with the soil. Even a good dressing of salt (celery can stand large quantities of it) or muriate of potash will have a tendency to clear the soil of earthworms. Slugs are easily killed by bringing them in contact with some alkali. Removing the boards from one side and immediately dusting the stalks with slaked (powdered) lime or spraying them with salt-water, lime-water or a solution of muriate of potash will speedily destroy every slug reached by the application. Replace the boards, and after a few days repeat the treatment. I think you will have no further trouble from either earthworms or slugs.

**NOVELTIES OF THE SEASON.**—About the next thing which we will have to do now is to make a selection of the new things which we wish to test next season. For that purpose, of course, we have to hunt all through the catalogues of our leading seed-houses. These catalogues will now come to my table quite freely, and I shall speak of the promising things mentioned in them in the next two or three issues of FARM AND FIRESIDE. But I would also like to hear from our progressive readers about their experiences with new varieties. Have you found anything of especial value for your own locality or your own special purposes? Tell us all about it. If there are better things than any I have been growing I would like to be told of them. I will only repeat that the average run of American seed catalogues are highly interesting and instructive publications. They are costly things for their respective publishers, too. Most of them, however, can be had on simple application by postal-card. But if such firms as Henderson, Burpee, Maule, Vaughan, Rawson, Gregory, Dreer, Johnson & Stokes, and many others, ask you to send a few stamps (to partially pay postage and as a guarantee of good faith) for a copy of their costly catalogues, don't hesitate to inclose the stamps with your application. T. GREINER.

## TWO GOLDEN APPLES

Commenting on Mr. Powell's article which recently appeared in these columns the "National Stockman and Farmer" says: "Mr. Powell, as our readers already understand, is well informed concerning choice fruits, and especially fine apples. In his section, Oneida County, New York (about latitude forty-three degrees), Grimes', as he states, is a remarkably good apple, and keeps well. But in central Pennsylvania, central Ohio and farther south it drops badly, and is little more than a fall apple, though its fine quality is still maintained. It has been extensively planted since it was brought into notice by the late Dr. Warder, in his "American Pomology," about thirty years ago. The tree is a beautiful, thrifty grower, with remarkably tough branches, and it seems somewhat strange that it is so short-lived; but this defect is coming into notice South as well as North, and, together with its not keeping well when grown southward, is making against it in recent years.

"Stuart's Golden, which, as it becomes better known, is taking the place of Grimes', is, as Mr. Powell suggests, an Ohio apple. It originated in Fairfield County, forty miles or so southeast of Columbus. It is not a new variety. The original tree grew (is still growing, we understand) in a seedling orchard of the old style, and its excellence was long known to lovers of choice apples in the adjoining neighborhoods. These persons obtained scions and grafted it in their orchards, but no special effort to send it out was made until more recently. The fruit was sent to Mr. Downing, and after full examination he gave it a place in his large work, "The Fruits and Fruit-Trees of America," naming it after the family on whose farm it originated. Though a beautiful apple, it is not so attractive in the general market as the red apples; but as a rule those who buy it once ask for it again, and do not object to paying an advance on the regular market price. There are not a few who say concerning it, as Mr. Powell does, 'It is simply delicious.' In recent years it has been somewhat widely distributed east and west, and has proved very satisfactory.

# ORCHARD AND SMALL FRUITS

CONDUCTED BY SAMUEL B. GREEN

## INQUIRIES ANSWERED

**Budding and Grafting.**—I. L., Kappa, Ill. The full details for budding and grafting would require too much space for the limits of these columns at this time, but in the past we have published several articles in FARM AND FIRESIDE upon this subject to which you might refer. For instruction in detail about this matter I would suggest that you send to the Farm, Stock & Home Publishing Company, Minneapolis, and get a copy of "Amateur Fruit-Growing." This will cost you fifty cents prepaid, and contains just the information you are looking for, and much more, on fruit-growing. The peach-tree will not graft readily, but is easily propagated by budding.

**Best Location for Peach Orchard.**—G. W. S., Orange County, New York. As a rule the rich, moist soils of valleys are not so well adapted to peaches as lighter land. This is largely due to the trees in the valleys growing late into the autumn and the fruit-buds not being fully reopened, and in consequence of which they are killed when those on the hills are all right. But there are other reasons for avoiding valleys for peach orchards, and among these perhaps the fact that the valleys have the lowest average temperature through the winter comes first. The cold air from the surrounding hills settles into the valleys, and they will often be from three to ten degrees colder at night than locations fifty to three hundred feet higher up. On the other hand, they are hottest during the day. Thus it is that valleys have the greatest extremes of daily temperature in winter. In summer they do not get so free a circulation of air as land higher up, and consequently are more liable to injuries from plant diseases. These thoughts are just as true when applied to the apple orchard as to the peach orchard. Orchard fruits and grapes generally do best in locations elevated somewhat above the surrounding country.

**Plum and Cherry Seedlings—Peach-borers.**—J. V., Rescue, Neb. The best way to manage the pits of plums and cherries is to not allow them to get very dry before caring for them. When gathered in the autumn they should be mixed with sand in a box and buried out of doors, as recommended for the chestnut and chinquapin in this issue. However, in case of a large quantity, for instance, a hushel or so, a good way to do is to select a dry piece of land and put down a layer of the pits about an inch thick and about three feet square, and then cover with about the same thickness of fine sandy loam or sand, and so continue until the pile is perhaps two feet high. Then the whole of the pits should be covered with inverted sod and a coat of mulch three or four inches thick. I would also recommend putting a board at least ten inches high on edge all around the

pit, so it will not be easy for rodents to get into it. In the spring of the year the soil in the pit can be sifted and the seeds are then ready to sow. This should be done in drills, about three feet apart, and the seed covered about two inches deep.—The peach-horer is very troublesome in many sections of this country. The best remedy is to go over the trees in the spring and fall and dig out the borers. Many preventives have been tried in the shape of washes, to protect the trunk from the moth, which lays its eggs in the trunk, and from which come the borers, but none of them are perfectly satisfactory. The best treatment of any probably is to keep the trunks of the trees covered with a paint made of soft soap and lime during July and August, but this is not entirely satisfactory.

**Figs—Chinquapins.**—G. H. C. W., Washington, D. C. The fig is propagated from cuttings of the short-jointed new wood taken off when the tree is entirely dormant. These should be made eight or ten inches long if to be planted in a hotbed, but if grown in the house in pots two inches is long enough. They should be set out in the early spring, and when rooted planted out. They root so easily in this way that it is practically the only method used in their propagation, although they may be budded or grafted. The method of planting the fig is practically the same as with any of our hardy fruits. In California it is customary to plant them about thirty feet apart each way, and the stronger-growing varieties need fully as much room as this. For garden culture, however, in the more Northern states, eight feet is sufficient distance between the plants.—The chinquapin is propagated in the same manner as the chestnut. The seed should be gathered in the fall, and may be planted at once where there is no danger of the nuts being pushed out of the soil by frost, or from the attacks of mice or squirrels; but ordinarily there is considerable danger from these sources, and it is best to put the nuts into a box, in alternate layers with sand, each layer being about one inch thick. The box should then be buried out of doors in some place where the water will not stand. It is a good plan, also, to thoroughly moisten the contents of the box before burying. Treated in this way the nuts will come out in good shape in the spring, when they may be planted about two inches deep in drills three feet apart. This allows sufficient room for cultivation with a horse.

**Locust-seeds—Best Time to Prune Apple and Peach Trees.**—C. M. G., Richmond, Ohio. Locust-seeds are worth from fifteen to twenty-five cents a pound at wholesale, according to the demand for them. I do not know of any one who is looking for them at present, but would suggest that you write to some of the larger nurserymen and seed-dealers, many of whom handle these seeds.—The best time to prune apple-trees, if severe pruning is to be given, is on mild days in the latter part of the winter. The wounds, however, should be at once covered with a good thick coating of white lead. If only light pruning is to be done, you will find that the wounds will heal over quickest if the pruning is done in June. It is best in the case of all trees to avoid pruning as much as possible, but to prune a little often rather than very much once in awhile. Peach-trees should receive a pruning each year, and after the tree is formed this should consist of cutting back the new growth from one third to one half its length. This will tend to keep the tree in compact form and will lessen the amount of bloom. When these trees are left to grow without pruning they are apt to become too spreading and also to setting too much fruit in good years. The pruning of peaches should be done in the latter part of the winter or even very early in the spring. In the case of almost all of our cultivated trees the new growth may be pruned at almost any season of the year without serious injury; but if the cuts are to be made on the wood more than one year old the worst possible time to do it is just as they are starting in to grow in the spring, since at this time the sap is apt to flow from the wounds and to cause permanent decaying spots.

**Grape Cuttings.**—J. R., Carbondale, Pa., and P. W., Fairplay, Mo. The best time to take grape cuttings for planting is in the autumn, before they have been exposed to very severe weather; but in the case of our very hardy varieties the wood may be cut at almost any time during the winter. In gathering cuttings care should be taken to use only wood of the growth of the previous season, which is firm and short-jointed, as that which is pithy is very liable to fail. The bottom cut should be made at a joint where the wood is solid if it is pithy between the joints. The cuttings should be made about eight inches long, tied in bundles of about one hundred each, and put in the ground with the tops downward. In covering, care should be taken to work soil in between the bundles and to pack it firmly, and the bottoms should be covered about six inches deep, and then have a coat of straw or other mulch, to protect them from very severe freezing. In the spring the mulch should be removed and the cuttings allowed to remain in the ground until they show some signs of growth at the bottom cut. This will occur in the form of a "callus," which is a little pushing out of a ring of wood from just inside the bark on the face of the cut. When this has taken place the cuttings may be safely planted in any rich, light soil six inches apart, in rows three feet apart. In planting, the cuttings should be put at least six inches in the ground, and great pains taken to make the soil perfectly firm around the bottom of the cuttings. If properly planted they will be set so solid that they cannot be easily pulled up. If this treatment is carefully followed out good success is reasonably certain. If, however, the cuttings are planted before they are "callused," and are not properly set in good soil, they are very sure to fail.

RUSSIAN CHARACTERISTICS

[CONTINUED FROM PAGE 3]

modities. Once a week he does clean up thoroughly in the communal bath, which is not missing in the smallest village.

There is among Russians a strong communal feeling. Land is held in common by the village. Laboring men are all united in "artels." The spirit of brotherly dependence is great; whether it is the spirit of brotherly love is doubtful. Advocates of social democracy will find communism in every Russian village, and there they may study the effects of common ownership. Whatever may be the ill or the good of it, one thing is sure, it does not develop the individual; it makes masses, but not men.

It is, to my mind, a state of undevelopment rather than a sign of progress. For this reason the Russian will never be able to be a citizen; he will always remain a subject—a part of a huge machinery. Modern social democracy may ultimately end in czar-like despotism. This may not become true, of course, in America, but human nature is nearly everywhere the same. The Russian farmer is eager to leave his farm and engage



A SLAV WOMAN CARRYING "FULL DINNER-PAIL"

in any other calling where the work is not so hard and the pleasures are greater. He will engage in all sorts of ventures to make money quickly, and, like his American brother, he is often "buncoed" and badly beaten; after which he returns to his farm "a sadder if not a wiser man."

He lacks the sense of stability which is necessary to the development of an agricultural people. He likes to wander from place to place, and his pious pilgrimages are very often only excuses for tramping and begging. The Cossacks, of whom we hear so much, are only warlike peasants who prefer a roving life to the settlement in agricultural communities.

It is asserted that the Russians will not make good colonists. This may be doubted. Of course, the Russian will not move as an individual from place to place, like our squatters and Western pioneers, but he moves to-day successfully in colonies, and in Asia he is successfully intrenching himself as a colonist. These communities influence the surrounding uncivilized tribes, which are being won completely to submission to the Czar and to the payment of taxes.

The Russian peasant is a good trader, and he can drive as hard a bargain as any Yankee, although his business operations are always on a small scale, displaying more timidity than courage.

On the whole he has many virtues, and his faults may be due to his primitive condition rather than to any innate tendency to vice. He is too much oppressed by the ruling classes to make any progress. Schools are scarce, books are few, the priest does not help him, and he is more to be pitied than blamed. With a proper change in the government, with an opportunity to take hold upon some knowledge, all the good things that may be said of other people may then be said of him also. Until then the Russian peasants will remain an unleavened mass of faithful, devoted souls, who will fulfill their destiny in the narrow world in which they live. They plow and sow in laughter and in tears, as other mortals do, and will reap their harvests here and hereafter.

CAPRIFIED FIGS

To all outward appearances, the fig-tree, unlike other trees and plants, develops fruits without first producing flowers. But these appearances are misleading, for on cutting the fruit open it will be found that it contains a large quantity of inconspicuous flowers closely grouped around the rind, which is really the receptacle for them.

Furthermore, there are four distinct kinds of flowers found in the figs; namely, male, female, gall and mule flowers. Male, female and gall flowers are found in Capri, or wild, figs, the number varying in greater or less degree in the various crops.

The essential point of difference between the Smyrna class of figs and the Adriatic class lies in the fact that the Smyrna contains nothing but female flowers, and that unless they are pollinated, either artificially or through the agency of the fig-wasp, Blastophaga psetus, the fruit never reaches maturity, but shrivels and drops from the tree when one third grown. The Adriatic, of which there are fully one hundred varieties growing in California, contains mule flowers which cannot be pollinated, but which, nevertheless, develop and mature edible fruits, although the seeds are sterile.

In other words, the Smyrna fig is valueless unless the flowers have been caprifigged; while the Adriatic—and that embraces all varieties of figs which have matured their fruits in the past without the aid of the insect—cannot be improved upon nor benefited in any way, for their flowers cannot be fertilized.

The first Smyrna figs grown in the United States were produced on the Fancher Creek Nursery, in a very limited number, in the year 1890, by transferring the pollen from the Capri fig and introducing it into the Smyrna fig by means of a toothpick. All figs treated in this manner developed into large, fine fruits with perfect seeds, while untreated figs shriveled up when about the size of a marble and dropped to the ground, thus proving conclusively that caprifigation was an essential factor in the production of this fig.

The Capri fig stands in the relation of male to the Smyrna, or edible, fig. It occasionally produces an edible fruit, but without flavor, its principal value being that it is the habitat of the Blastophaga, for without it the insect cannot exist.

The propagation of the fig-wasp takes place in the following manner, in the June crop of the Capri figs, and it is the same in all succeeding crops:

The male insect, which is wingless, is the first to appear from the galls. It crawls around in the fig, and with its powerful mandibles makes an opening in the galls in which the females lie and impregnates them, and then perishes within the fig in which it was born.

The female insect, which is winged, enlarges the opening in the gall made by the male, crawls through the zone of male flowers surrounding the orifice of the fig, its body becoming covered with pollen in its outward passage, and either enters the following crop of Capri figs, depositing its eggs in the gall flowers, from which a new generation of insects is developed later, or if the fig has been removed before and hung in the branches of a Smyrna fig-tree, the wasp forces its way, losing its wings in the operation, into the female fig, then in the proper state of maturity to admit its entrance, and in its endeavors to lay its eggs, and laden with pollen obtained in its outward passage from the Capri fig, fertilizes the female flowers, and perishes, leaving no offspring, the female flowers being so constructed that it cannot deposit its eggs.

All Smyrna figs thus entered produce fertile seeds, develop and expand; and although the wasp sacrifices its own life, it paves the foundation for the propagation of the fig-tree as well as for the production of a fruit which would otherwise be worthless.

The Smyrna fig commences to mature about the middle of August, and continues to ripen its crops until the latter part of September.

The figs are allowed to drop of their own accord, and are practically dried when they fall. The process of drying is very simple. The figs are gathered from the ground every other day, transferred to the drying-ground, dipped into a boiling brine made by dissolving three ounces of salt to a gallon of water, and then placed on trays, the time of drying varying from two to four days, according to the weather. The dipping of the fig hastens the drying and makes the skin pliable.

After the figs are dried they are placed in sweat-boxes, where they are allowed to remain for two weeks to pass through a sweat. These boxes hold about two hundred pounds each.—G. C. Roeding, in Meehan's Monthly.

GRANGE-WORK

The Chicago "Drovers' Journal" says: "The National Grange, which met at Washington, D. C., did some good work in discussing and considering questions of much importance to farmers. The best results are always obtained by a free and open discussion of those things which pertain closely to the business. In this way the general community can get the benefit of the best ideas of the leading men and women. The state granges are doing a great deal toward improving the road system and in extending the rural mail delivery. There is strength and benefit in organization, and the farming fraternity have found the grange organization has done them good in various ways."

CORRESPONDENCE

FROM CALIFORNIA.—We have a very fine climate, neither cold winter nor hot summer, so it is pleasant to have a home here. We have a very good market at Red Bluff, on Sacramento River, with both steamboats and railway lines. Land is very rich. Fruit grows well, and is a sure crop. One and one half miles from here is a fruit-ranch of five hundred acres in one tract, and much money is made from it. A small tract will support a family. M. G. H. Red Bluff, Cal.

FROM NEBRASKA.—In this state we have one hundred and sixty-five skimming-stations, where the cream is separated from the milk with a separator and sent to a central point to be manufactured into butter. This system is practically displacing the small creameries in our state. I want to know more about it. Is it a good thing? Will some of the subscribers of FARM AND FIRESIDE give both the good and bad features of the new system, that we farmers may determine whether or not we dare make a venture in establishing, or helping to establish, such stations, and in patronizing them? O. M. Springview, Neb.

FROM KANSAS.—I have lived in western Nebraska and Kansas for fifteen years, and found it a very healthful country. This is a prairie country, with some timber on the creeks. The divides, or lands between two creeks or rivers, are so level that you can see as far as the eye can reach. When you get on a divide road you can travel for miles without a hill or hollow. The grass on the level land is mostly buffalo-grass; in the canous or hollows it is mostly blue-stem and grama-grass. Wild fruit grows on the creeks—wild plums, grapes, cherries and currants. This is an excellent stock country; cattle and horses will keep in good condition on the buffalo-grass when there is no snow on the ground. We don't have to feed stock much in the winter, for when we have snow it melts in a few days. The soil here is black and very rich, and yields abundantly when we get plenty of rain. Last year the crops were light on account of a scarcity of rain, and the grasshoppers bothered the crops. There was very little corn raised, but quite a lot of wheat. Flour is worth \$1.80 a hundred pounds; corn, thirty-six cents a bushel. Anybody can do well here with a little money to buy a few cows, and raise cattle along with farming, so that when crops fail the cattle will help out. Land is very cheap here now. You can get one hundred and sixty acres with fair improvements for from \$200 to \$500. Creek farms sell for more on account of the timber. M. E. P. Herndon, Kan.

FROM OREGON.—This climate is about the same as that of Fort Worth, Texas, except the summers are cooler. Cabbages, carrots, beets, parsnips, lettuce, onions and radishes grow here all winter. In the thirteen years of my residence here there have been four winters only when it froze enough to kill these vegetables. When I lived in Illinois I never had any idea a country so far north could have such a fine climate; it doesn't look reasonable that it should, but it does have it. I think, from observation and experience, this will be the paradise for farmers. Wheat, oats, clover, alfalfa, timothy and nearly all kinds of grasses do well here; also Oregon apples, prunes and cherries have a name far and wide. Lane County is the best spot in the state. We have plenty of rain, but not too much to raise good crops. This part of the state is now receiving considerable immigration. I am not writing this to sell any of my holdings here, for I am contented, but for the benefit of those who wish to change their location. I think it would be hard for them to find a better place than Lane County. All kinds of vegetables grow well here. Our potatoes are extra fine and are shipped to California by the thousands of bushels. The Californian asks for Willamette Valley potatoes. I was in the extreme southern part of this state last June, in Ashland and Medford. While there I was in several groceries, and the patrons came in and asked for Willamette Valley potatoes and refused to take potatoes grown elsewhere. Hops are grown here very extensively. I am located in the upper end of the great Willamette Valley, about seventy-five miles east of the Pacific Ocean. The coast range of mountains lies between us and the ocean, protecting us from the wind-storms. East of us lies the Cascade Mountains, snow-capped the year round. The scenery here is the most magnificent of creation. Clear water and cold springs abound everywhere in this country. Land here can be bought at from \$2.50 to \$100 an acre, and city lots from \$100 up, depending on their location. Eugene, Oregon. M. S. B.

Advertisement for Pratt Food Co. featuring an image of a horse and the headline "Animals Need Rich Warm Blood". The text describes the benefits of their horse feed and provides contact information for Pratt Food Co. in Philadelphia and Toronto.

Advertisement for Sears, Roebuck & Co. featuring an image of a mill and the headline "SEND NO MONEY". The text describes a flour mill for sale, highlighting its features and price.

Advertisement for D. M. Ferry & Co. featuring an image of a seed container and the headline "FERRY'S SEEDS". The text promotes their seeds and offers a free annual seed catalog.

Advertisement for DandC Roses featuring an image of a rose bush and the headline "DANDC ROSES". The text describes their 32d annual edition of a rose culture guide.

Advertisement for Big Strawberries featuring an image of strawberries and the headline "BIG STRAWBERRIES". The text describes a strawberry nursery and offers a free catalog.

Advertisement for Petaluma Incubator featuring an image of an incubator and the headline "DON'T WORRY". The text describes the benefits of their incubator and offers a free catalog.

Advertisement for Marilla Incubators featuring an image of an incubator and the headline "SELF-REGULATING". The text describes their self-regulating incubators and offers a free catalog.

Advertisement for O. E. Thompson & Sons featuring an image of a hatchery and the headline "KEEP THEM AT IT". The text describes their hatchery services and offers a free booklet.

Advertisement for The Globe Incubator featuring an image of an incubator and the headline "DON'T SET HENS". The text describes their incubator and offers a free catalog.

Advertisement for Dressed Poultry featuring an image of a chicken and the headline "THE GLOBE INCUBATOR". The text describes their dressed poultry and offers a free catalog.

Advertisement for Seedless Cherry featuring an image of a cherry and the headline "SEEDLESS CHERRY". The text describes their seedless cherry and offers a free catalog.





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POULTRY-HOUSE MANAGEMENT

**A** POULTRY-HOUSE should face the south, for then in winter the warmth is received and the fowls made more comfortable. This is a great point and has much to do with winter laying, as exposure is sure to cause roup, and frosted combs will stop the hens from egg production until they are completely well. The nests are best when made roomy and placed in the locations suitable for seclusion and partial darkness, as nothing conduces so much to the comfort of a laying hen as freedom from disturbance. For the sake of cleanliness and economy the nests should be covered with a wide board and the roosts made over the boards. This not only protects the nest, but by catching the droppings admits of greater facility in cleaning, and leaves the floor clear for passing out in order to collect eggs. The whitewash-brush is as necessary to the fowl-house as the currycomb in a stable, and it should not remain idle long at a time. Porcelain eggs are better than rotten ones to have in the nest, and a dust-bath enables the fowls to clean themselves from dirt and vermin. The size of the coop, provided it is not too small, is nothing compared to cleanliness, and ornament should not be paramount to comfort and convenience. Any breed will give satisfaction provided the farmer is not derelict in his duty to them, and furnishes them sufficient material for conversion into eggs. The hen is really an egg-factory, and must have material to work upon. The construction of the poultry-house depends upon the climate. Some are willing to have an outer and inner wall, with sawdust and ashes between. Dry dirt, coal ashes or chaff will answer as well as sawdust, but wood ashes absorb moisture and should be rejected. It is not necessary to have a dead-air space, however, if the poultry-house is covered with tarred felt or waterproof paper. The paper should be applied on the outside of the house and painted, never on the inside, as it will then not only keep out rain and snow, but protect the boards as well, while the cost will be less. Some put the paper on the boards and then shingle the sides, only allowing a small lap for the shingles, as they easily shed water when they are perpendicular. If the roof is flat only roofing-paper and paint should be used, but if the roof is shingled put paper under the shingles.

PULLETS AND HENS

The chicks from hens' eggs are likely to be stronger and more easily managed, but hens two or three years old will not lay as great a number of eggs as will pullets in the first year after they commence to lay. If, however, one has a choice lot of well-developed pullets, do not fear to set the eggs from them; but do not use the earliest eggs, as they are not so likely to give as strong chicks as the later ones. The best-laying hens, all things considered, are those one year old—fowls that were hatched the previous season in March or April—consequently the best plan for all fowl-breeders is to raise chickens every season to be the layers of the next year, and to kill the unprofitable stock regularly every fall before molting, or as soon as they cease to lay; but if the three-year-old hens are giving good results keep them. Never discard a good hen on account of her age. Experiment with both pullets and hens, and keep the most profitable individuals, whether young or old.

BULKY FOOD

Bulk in food is required for the health of poultry as well as for man and animals. Rich and concentrated food is not readily digested, and invites disease. Some believe that a craving for bulky food is one of the causes of feather-eating in winter or among fowls confined. Clover cured only enough to preserve it is excellent, and fowls will eat a portion of it all winter when they would turn away from cabbage. What is not eaten will furnish exercise in scratching over. In winter, if poultry stand unemployed, they are disposed to have disease. Idle meditations always lead to bad habits, while a healthy and vigorous body suggests business, which with fowls means eggs in the winter season, and early chickens.

DIPHTHERIA AND POULTRY

As an instance of the contagious nature and deadly effects of diphtheria Professor Gerhardt, of Wartzburg, stated that twenty-six hundred fowls were sent from Verona to the neighborhood of Nesselhausen, in Baden, where there is a great fowl-rearing establishment. Some of them must have been affected with diphtheritis before they started, and in the end fourteen hundred of them died with it. In the summer one thousand chicks were hatched from eggs collected from many different places. Six weeks after their hatch diphtheria manifested itself among the chickens so badly that in a short time all died. A parrot that hung in a cage in the house was also attacked, but recovered. In November an Italian (Leghorn) hen, while being "painted" about the jaws with carbolic acid by the chief keeper, bit the man's wrist and foot. He became ill with a fever, considerable swelling at the wounded parts occurred, with all the symptoms of thauematic diphtheritis. His recovery was very tedious. This was not the only case of transmission of the disease to men. Two thirds of all the laboring persons employed about the establishment became ill with ordinary diphtheria, one man conveying the infection to his three children. It is worth knowing that during all this time no other diphtheria cases occurred at Nesselhausen or in the neighborhood, and the inference seems obvious that all these cases originated with the sick fowls.

EARLY CHICKS

Among the best hens for bringing out chickens are Wyandottes and Plymouth Rocks. Some of the varieties will not suit for the purpose at all, such as the Leghorns, Spanish and Houdans. Such fowls may not perpetuate their species if their eggs are not hatched by other fowls, but if left to themselves, as in a natural state, where the eggs which they lay would not be gathered every day, but left in the nests, they might, when the nests get full, take to sitting on them. Such varieties seldom get broody, however, which compels those who wish to breed from them to keep a few fowls of another kind to hatch their eggs. March, April and May are the best months to hatch early chickens; but eggs may be set even in January by those who have houses and wish to have well-grown chicks in the summer, either for exhibition at shows or early laying. The risk of losing the young broods, however, during cold weather, and the extra care and attention they require, does not repay the trouble of having them. Some varieties may even be very successfully cared for later than the months mentioned, owing to the rapidity with which they grow to maturity. If an increase of eggs is desired in the poultry-yard before large sums are expended in purchasing good layers it is best to keep no hens after the fourth year.

LARGE NUMBERS

If it is desired to keep hundreds instead of dozens of fowls, plenty of space must be afforded the several flocks, and proportionate runs, houses and conveniences must be provided for the needs of these increased and increasing numbers. Any one can advantageously manage forty or fifty adult fowls and chickens who will follow the directions constantly published. But if hundreds of fowls are to be bred the work becomes more complicated, and the results are not always so fortunate as is anticipated when this is undertaken by inexperienced parties. To attempt the keeping of a thousand or more fowls upon one place, for instance, is not the easy work that the same person fancies it to be. In a single body or collection no such numbers can be kept together with profit. Plans have been proposed, and there are writers on poultry who tell how this may be accomplished to advantage. But this thing, like many another problem in successful fowl-raising, is not yet solved. It is not assumed in this assertion that one thousand or ten thousand domestic fowls cannot be managed upon one place (provided the farm be large enough), and under one competent general superintendence; but to keep large numbers of fowls upon one place they must be divided into small flocks, or colonized. For

each colony a separate house should be provided, and ordinarily these runs must be fenced; and to keep them in good thrift throughout the year each lot must have ample space for range. This requires a good deal of land; and it also requires so much attendance to feed and look after this excess of numbers that the cost of their care, feeding, doctoring, housing, etc., will reduce the income from them unless there is first-rate skill and ability employed.

NAMES OF BREEDS

It is an interesting study to consider the various breeds of fowls and note their origin. Their names arise from the place whence they came, or from some other peculiarity in their form or appendage. For instance, the Dorkings are named after Dorking, in England; the Black Spanish after Spain; the Houdans (pronounced Hoodan) from Houdan, France; the Shanghais (now extinct) were named after Shanghai, China; the Cochins take their name from Cochon, China; the Siberian, or Russian, fowls from Russia; the Malays, Javas, Columbians, etc., are named from the respective countries. There are also Guilders, from Guilderland, Holland; the Bolton Grays and Bays from Bolton, England, and the Shakebag Games from the fact that they were taken to cockpits in bags, which the owner shook as a challenge for some other bird. There are many others, such as the Crevecoeurs from France, Silky fowls from China and Japan, Leghorns and others, all of which indicate whence they are named. Then there are the Creepers, a small variety with short legs; the Jumpers, mentioned by Buffon, another of the diminutive races, are so short-legged that they are compelled to progress by jumping instead of stepping. Rumpers, or tailless fowls, came from the wild breed of the island of Ceylon.

THE PLYMOUTH ROCKS

Plymouth Rocks are claimed by some to combine more of the desirable qualities that go to make up a profitable fowl than any others. Their marked characteristics are hardiness, early maturity, excellent flesh and as layers in winter. They are sufficiently hardy to endure our severest winters, and can be hatched early in the spring—about the middle of March—and at ninety days old will weigh from two to three pounds, not being all framework, but plumb and well feathered, with flesh in the right place; in short, just such as will command the outside price in any market at the early season of the year. They are not the largest of the breeds, nor the best for all purposes, as they do not excel in everything required, mature fowls weighing about fifteen pounds to the pair; but this weight they will make up in less time than is required for the Asiatics, taking into account the proportion of flesh and bone. They are much more active than the Brahmas or Cochins, are good foragers when given a run, and if necessary stand confinement remarkably well, never trying to get over a six-foot fence around their inclosure. Pullets hatched in April generally begin laying by the first of November, and continue through the winter into late spring without becoming broody; and for the latter reason they will lay more eggs in a year than some other breeds.

INQUIRIES ANSWERED

**Hatching Goose-eggs.**—S. G. C., Uniontown, Ky., writes: "Can goose-eggs be hatched in incubators?"  
REPLY:—Yes; but the egg-drawer must be considerably deeper in order to allow plenty of room.

**Sulphurizing Meat.**—C. J. C., Vienna, N. Y., writes: "Give process of sulphurizing meat for fowls. Is it injurious to them?"  
REPLY:—Simply expose the meat in a box with a lid, such as an old trunk; place the meat in the box, ignite one teaspoonful of sulphur for every cubic foot of space, close the lid and keep it closed for twenty minutes. The meat will keep a long time and is not injurious.

**Clover-leaves.**—F. E., Portsmouth, N. H., writes: "My hens get a great deal of leaves, seeds, etc., from the leavings of clover and hay. Is it necessary to give bulky food?"  
REPLY:—They will need no other bulky food if they have an abundance of clover-leaves; but a head of cabbage as green food will be excellent as a change of diet from the dry food.

**Making an Incubator.**—G. V., Cochranton, Pa., writes: "Please inform me how to make a fifty-egg incubator."  
REPLY:—It would require a long article. Full details, with directions for operating, also brooder, are given in "The New and Complete Poultry Book," issued by the publishers of this paper. The incubator may be made any size, but the depth must not be changed.

POTASH

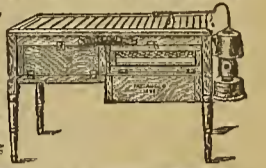
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**QUERIES**  
READ THIS NOTICE

Questions from regular subscribers of FARM AND FIRESIDE relating to matters of general interest will be answered in these columns free of charge. Querists desiring immediate replies, or asking information upon matters of personal interest only, should inclose stamps for return postage. The full name and post-office address of the inquirer should accompany each query, in order that we may answer by mail if necessary. Queries must be received at least two WEEKS before the date of the issue in which the answer is expected. Queries should not be written on paper containing matters of business, and should be written on one side of the paper only.

**Land-roller.**—A. S., Sheffield, Ill. See illustrated article in May 1, 1900, issue of FARM AND FIRESIDE; also October 1, 1900, issue.

**Dairy Rations.**—D. J. S., Proteus, Tenn. Send to the Secretary of Agriculture, Washington, D. C., for Farmers' Bulletins on Dairy Rations.

**Sorghum Fodder.**—R. W. L., Bradford, Pa. The use of sorghum fodder has largely increased during the past few years. Nearly all seedsmen list sorghum-seed in their catalogues.

**Bisulphid of Carbon.**—A. L., Wallhoding, Ohio, asks if the use of bisulphid of carbon in wheat-bins to kill weevil injuries the wheat for seed or flour. Not if used according to directions. The liquid quickly evaporates, and does not injure the grain in any way.

**Preserving Posts—Alfalfa.**—C. L. B., Marysville, Ohio, writes: "Is there any cheap, successful way of treating common timber to make fence-posts last like cedar?—After breaking new ground for corn, then sowing to wheat, then to alfalfa, will the alfalfa catch, the ground being rich and drained?"

REPLY:—There are several common methods of treating fence-posts to make them last longer, and each has its advocates. Placing the ground-end of the posts in boiling coal-tar for several minutes is one method. Another is painting the posts with a mixture of pulverized charcoal and hoiled linseed-oil. An excellent method is to char the posts and while hot treat them with coal-tar until they are thoroughly impregnated. Whatever method is used, the first thing necessary is to thoroughly season the timber.—Alfalfa should not be sown on winter wheat like common clover. Rich, well-drained soil is what it likes, but it is better to sow it alone, a little before corn-planting time, on ground prepared as for oats, only finer.

**Stable Floor—Octagon Barn.**—A. L. A., Gallagher, Ill., writes: "I wish to ask about floored stables. Is there any advantage in a floored over an unfloored stable?—Is there any advantage in an octagon over a square barn?"

REPLY:—Where the first cost can be afforded, a solid cement floor is the best and the cheapest in the end. It is rat-proof. It is a saver of liquid manure. It can be easily cleaned and thoroughly disinfected when necessary. With an abundance of hedging it is as comfortable for animals as any other. For keeping animals clean that are tied in stalls nothing equals the combination of cement bottom and false stall floor of planks. A floor of any kind of good lumber is superior, however, to the common dirt bottom.—A barn in octagon form has more space in proportion to the lumber used than a square or rectangular one.

**VETERINARY**

CONDUCTED BY DR. H. J. DETMERS

To regular subscribers of the FARM AND FIRESIDE answers will be given through these columns free of charge. Where an immediate reply by mail is desired the applicant should inclose a fee of one dollar, otherwise no attention will be paid to such a request. Inquiries should always contain the writer's full address. Queries must be received at least two WEEKS before the date of the issue in which the answer is expected. Veterinary queries should be sent directly to DR. H. J. DETMERS, 1315 Neil Avenue, Columbus, Ohio.

NOTE.—Parties who desire an answer to their inquiries in this column must give their name and address, not necessarily for publication, but for other good reasons. Anonymous inquiries are not answered.

**Book Wanted.**—D. W., Lonestar, Okla. Write to a book-store in any one of our large cities and you will probably get what you desire.

**Incomplete Paraplegia.**—J. M. O., Mayoworth, Wyo. The "weakness in the hind quarters," or incomplete paraplegia, of your horse, being already of over nine-months' standing, will most likely prove to be incurable, no matter what you may do; and although in the course of time a slight improvement may possibly be noticed, a complete recovery is out of the question.

**A Sore Knee.**—B. L. R., Brown, Mo. In the first place you neglect to say whether the sore, or whatever else it may be, is on the fore or on the hind knee; and secondly, your meager description leaves me in doubt whether it is simply a bruise, lesion or injury, or a semi-malignant botriomycom. I therefore advise you to have the horse examined by a veterinarian.

**Severely Injured at Parturition.**—J. W. R., Guy, Washington. There can be no doubt that your mare was severely injured when last June her dead colt was taken from her, and that this injury, which never was, and probably never will be, repaired, constitutes the cause of her peculiar lameness. Whether or not she will ever be able to produce a colt will have to be ascertained by an internal examination made by a competent veterinarian.

**Bloody Urine.**—D. F. S., Nebraska, Pa. Bloody urine is urine that contains blood in substance, and not merely the coloring matter of the blood in solution. Please consult answer to U. E. H., Tallmanville, Pa., in issue of January 1st. The admixed blood either comes from the kidneys or ureters if the admixture is uniform, or from the bladder or urethra if in streaks or more or less coagulated clots or patches.

**Probably Spavin—Itching.**—F. M. B., Rosedale, Kan. Concerning the lameness of your horse please consult article headed "Spavin, Ring-bone and Navicular Disease" in FARM AND FIRESIDE of December 1, 1900.—If the root of the tail of your horse is constantly itching wash the same first in a thorough manner with soap and warm water, and then, as soon as dry, make an application of a mixture of liquid subacetate of lead, one part, and olive-oil, three parts. Repeat this application once a day until the itching ceases.

**Chronic Diarrhea—Swelling on Cow's Jaw.**—S. E. N., Fresno, Cal. Chronic diarrhea, or what is essentially the same, a chronic intestinal catarrh, does not easily yield to any treatment, and is a disease in which a good and rational dietetical treatment is of much more value than medication. As to the former, it is very essential to feed nothing but food absolutely sound and neither contaminated with fungi or their spores, nor otherwise in the least spoiled. Besides this, all the food must be easy of digestion and invariably be given in small quantities at a time, but the feeding-times must be increased. As to medication, powdered radix rhei (rhubarb), about one dram with each meal, is to be the most recommended where the high price does not prohibit its use; also in small doses, say one to one and one half scruples two or three times a day, comes next. Besides these medicines, which in large doses act as a physic, and in small doses as a tonic, a mixture composed of sulphate of soda, ten parts, common salt, five parts, and bicarbonate of soda, one part (an artificial Carlsbader salt), may do some good service. The dose is a tablespoonful with each meal, or a little less if more than three meals a day are given. It is also essential that the horse is not exercised or put to work immediately after having eaten a meal. Concerning the swelling on the head of your cow please consult answer headed "Actinomycosis" in present issue.

**Mange.**—L. F. K., Montoursville, Pa. In the treatment of mange of horses it is not so very material what remedy is used as it is how carefully the treatment is conducted. Besides this, an old and inveterate case does by no means yield so easily to any treatment as one of recent origin. Further, I never said that creolin is a "sure" remedy. It is sure enough if properly applied and otherwise every precaution against a reinfection is used. It has the advantage of an easy application and of not being poisonous, and for this reason, and for this reason only, I have recommended it to farmers, who frequently succeed in doing far more damage than good when handling or applying heroic or poisonous medicines. Quite a large number of remedies are just as effective, and some of them even more effective, because more heroic in their action, than creolin in the treatment of mange; but all of them are more or less poisonous and require more careful handling. I will mention, among others, a good tobacco decoction with or without other ingredients, a solution of arsenious acid, various quicksilver preparations, either in solution or in the shape of ointments in combination with soft soap, and many others. Internal medicines are useless. You probably failed by not sufficiently guarding against a reinfection, because the history of the case as you relate it points that way. Since you have failed so often, and may fail again, no matter what "remedy" you may use, I advise you to apply to your "state veterinarian," whom I know to be one of the best-informed and most reliable veterinarians in the United States. You may address him either at Harrisburg or Philadelphia. Mange of horses, I think, will be within his official province.

**Sores on Udder—Puerperal Paralysis.**—B. B., Gratiot, Wis. All that I can make out from your letter is that one cow is troubled with sores on the udder, and that your other cow died of puerperal paralysis, or so-called calving, or milk, fever. Concerning the sores, keep your cow on a clean and dry floor, out of mud and manure, and apply to the sores twice a day a mixture composed of liquid subacetate of lead, one part, and olive-oil, three parts.—Puerperal paralysis is an infectious and often fatal disease of cows, makes its appearance very soon or within a few days after calving, and attacks particularly such cows as are good milkers, have been well fed, are in a good, or a very good, condition as to flesh at the time of calving, and are kept or allowed to calve in a place that is not overclean. Therefore, in order to prevent the disease, especially in a district or locality in which it is of frequent occurrence, it is advisable to keep a cow that is known to be a good milker on a somewhat lighter diet during the last six weeks before, and the first two weeks after, calving; to see to it that the cow has immediately before, and after calving a clean stall and clean bedding not contaminated with disease germs; to induce the calf to suck as soon after it is born as it is able to do so, and after the calf has sucked, to milk the cow at least once every two hours, unless the calf is very vigorous and abundantly able to get away with the milk as soon as produced, and to keep the udder empty. If in spite of these precautions danger should yet be apprehended, the uterus of the cow, as soon as the latter has cleaned, may be irrigated with about one gallon of a one-per-cent solution of creolin in blood-warm water.

**Laws Regulating Practice of Veterinary Medicine.**—A. W., Cable, Ill. The best way to obtain the laws regulating the practice of veterinary medicine in the state of Illinois will be to apply for them to the Secretary of State.

**Dysentery Neonatorum.**—A. W., Sherman, N. Y. Dysentery of new-born animals is an infectious disease, and where it has become epizootic there can be no doubt that the premises in which the young calves or lambs, as the case may be, are kept have become thoroughly infected, and the only way to get rid of the disease will have to consist in a most thorough and radical cleaning and disinfection of these premises. A medicinal treatment of the diseased young animals is effective only if the same are over five or six days old and are not yet so low down that they have lost their appetite. In such cases the following combination of medicines almost invariably will effect a cure, provided, of course, it is given in time. The prescription is as follows and the dose is for a calf: R. Powdered opium, ten grains, powdered rhubarb (rad. rhei), half a dram, carbonate of magnesia, two scruples, and camomile (flor. matricaria camomilae) tea, five or six ounces. Half of this quantity should be given at once and the other half ten or twelve hours later. If, however, the calves or lambs are only twenty-four hours old or yet younger when attacked the disease is absolutely fatal and medication is of no use, and calves or lambs becoming diseased when between two and five days old very seldom recover.

**Actinomycosis.**—J. W. M., Mercersburg, Pa., and A. P., Ferry, Mich. While actinomycosis (so-called lumpy-jaw), or rather an actinomycom situated in the connective tissues immediately beneath the skin, and therefore movable over the tissues beneath, can be removed either by a surgical operation (extirpation) or by destroying it with caustics, an actinomycom situated in a bone, and therefore immovable, or in inaccessible parts cannot be so treated. In these latter cases the much-heralded potassium-iodide treatment, in which, however, I have but little confidence, may be tried. As to the former, in which the actinomycom has its seat in subcutaneous connective tissues, provided the visible tumors are the only ones in existence, an extirpation or a thorough destruction by caustics as a rule will be successful. An extirpation, however, should be attempted only by a competent veterinary surgeon, while destruction by means of caustics requires less anatomical knowledge and professional dexterity, but also considerable carefulness, precaution and good judgment, and consequently cannot be entrusted to everybody. I will briefly describe the latter operation: Besides the caustics to be used, a sharp knife with a keen point, a wooden stick of hard wood about six or eight inches long and shaped at one end like a dagger, very smooth and about one quarter of an inch thick and not more than seven eighths of an inch wide an inch and a quarter from its point, some absorbent cotton and a good, strong rope will be needed and must be kept in readiness. The caustics, in the shape of a thick liniment, are composed of two parts (say one half ounce) of arsenious acid, of one part (two drams) of fused caustic potash, of two parts of powdered gum acacia and of four parts (one ounce), or a little more if the liniment does not get too thin, of distilled water. The whole must be thoroughly mixed and be dispensed in a vial with a mouth one inch wide. As the operation is painful the strong rope will be needed for securely tying the head of the animal in such a way to a post that the tumor to be operated will be accessible. Besides this, it will be advisable to have a strong man take hold with one hand of a horn, and with the other of the nose of the animal, as this will steady the head and enable the operator to perform the operation in a very short time. As soon as the head of the animal is fixed the operator makes an incision one inch wide into the center of the tumor, then takes his dagger-shaped stick, wraps a little absorbent cotton around the tapering point, dips the cotton-covered point into the opened vial containing the caustic mixture, turns it around until enough of the latter will adhere, and forces it into the incision to the center of the tumor, and shoves the cotton saturated with the caustic off his dagger-shaped stick with another stick, so as to leave the cotton in the center of the tumor. This operation is to be repeated until the whole tumor is filled with caustic-saturated cotton. This done the operation is finished and the animal can be released. Great care must be taken not to get the exceedingly caustic and poisonous mixture in contact with the hands nor anything else except the interior of the tumor. As accidents may happen it is advisable to have some water handy for washing. The props of cotton inside of the tumor may be left undisturbed. The latter will swell to perhaps double its size, but after about three days the swelling will subside and the tumor will gradually begin to shrink and to become hard. In a few weeks a whitish line of demarcation will begin to form all around the tumor, and in a few weeks more the latter, hard and solid, will drop off and leave a comparatively small wound, which will soon heal to a puckered scar more or less hidden by the hair. The exact time at which the line of demarcation and the dropping off of the tumor will take place cannot be stated, for it depends upon the thickness of the skin, the size and location of the tumor and the performance of the operation. On an average it will be about six weeks. Two or three tumors on the same animal may be operated at the same time. If there are hidden, or inaccessible, tumors, new tumors may be expected to make their appearance on the surface; in such a case even the most successful operation may have been made in vain.

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**THE GRANGE**

Conducted by MRS. MARY E. LEE, New Plymouth, Ohio

**T**HE closing days of the nineteenth century witnessed many gatherings of men and women striving for the betterment of their kind. None were more earnest and sincere, none more courageous to meet the new conditions and accept the new burdens than were the state conventions of the grange. For more than a quarter of a century has the grange battled not for the farmers only, but for the best and truest interests of mankind. It has had its days of darkness and despair, but through it all there have been those who kept steadily in view the beacon-light of truth. To their clear vision and lofty nobleness we owe all that is true and pure in our order. Not a state but has its leaders whom it loves and reverences for the good they have done and may yet do. By the homage we pay these enlightened ones may we read our future career of weakness or of strength. For lofty souls will yield their tribute of love to battle-scarred veterans. 'Tis only among small souls and petty minds that jealousies and bickerings and struggles for power exist.

Hon. S. H. Ellis, whose name has been prominently identified with grange-work ever since the founding of the order, has laid down the master's gavel. It was his desire to retire from active work; but all honor to the Ohio State Grange, it would not have it so. The man who had served it so faithfully and well in its dark days of adversity is needed to perpetuate the work he has so nobly done in the past. He was elected a member of the executive committee. F. A. Akins, for many years the beloved secretary of the Ohio State Grange, was elected to fill the unexpired term of Hon. F. R. Derthick, chairman of the executive committee. By a decisive vote Hon. F. A. Derthick was elected master of the State Grange. Mr. Derthick was not an office-seeker. He was loyal to our confession of faith, "The office shall seek the man, not the man the office." What Tennyson said of King Alfred we may ascribe to our honored and beloved master:

We know him now: all narrow jealousies  
Are silent; and we see him as he moved,  
How modest, kindly, all-accomplish'd, wise,  
With what sublime repression of himself,  
And in what limits, and how tenderly;  
Not swaying to this faction or to that;  
Not making his high place the lawless perch  
Of wing'd ambitions, nor a vantage-ground  
For pleasure; but through all this tract of years  
Wearing the white flower of a blameless life,  
Before a thousand peering littlenesses,  
In a fierce light which beats upon a throne,  
And blackens every blot.

If there is anything more absolutely barren of artistic surroundings, more hopelessly gloomy and forbidding than our rural school-houses, I would like for you to point it out. No matter how lovely the houses of the farmers, how sumptuous the furnishings of the church, the school-house stands out a miserable object-lesson of lack of taste and intelligence. Yet we send our little ones to this bleak building, expecting them to imbibe noble and high ideals. We appreciate the effort of architecture and fresco and stained glass in instilling a worshipful frame of mind in the church-goers. We instinctively believe that such surroundings soften the carnal mind and make it a fit recipient for spiritual truths. But we send the child, with his impressionable mind, to a building so devoid of taste, beauty and comfort that the sensitive soul shrinks from it, and we marvel why John or Mary hates to go to school. No wonder the child detests the bare walls, the windows guiltless of curtains, the dirty exterior of the school-building. There is a spark of divinity in him which even all this hideousness cannot quench. He loiters by the woodside and purling brook; he reluctantly enters the tasteless room; he hastens from it and its surroundings at the first tap of the bell. When school is closed for vacation he does not return to the school-ground as to a hallowed spot. It is not here that he dreams of the thundering plaudits of the multitude as he enters the pulpit, the court, the Senate or the Presidential chair. Ah, no! It is among surroundings far different than these that our Websters and Calhouns are made. It is the whispering leaves and the nodding grass that can tell you the secrets of the boys' and girls' hearts.

The Greeks had a true appreciation of the value of groves and brooks in forming the artistic and philosophic mind. They built their academies amidst towering for-

ests. There the students flocked to learn the lessons that made Greece famous in the world of art, letters and philosophy. Thither the young men and old came, after the toils of the day, to renew their faith, zeal and courage, to dream noble dreams, and create those masterpieces in art and philosophy that made them the envy and wonder not only of their own time and country, but of all future time. It was to the grove-begirt academy that the exile returned in his dreams. It was of its glory and worth that he boasted even in his banishment. To the Greek mind there was no divorcing the highest life from the school. And after more than twenty-five centuries we are compelled to sadly acknowledge that no rival has appeared to dim the luster of the fame of Homer, Plato and Aristotle. We copy their statuary, we imitate their poetry, we imbibe their philosophy; but we do not surround ourselves with the natural beauties, the interpretation of which made them seers, poets, artists and philosophers.

We have natural scenic advantages. We have fertile soil and sunny skies. With small expenditure of time, labor and money we could surround our modern school-buildings with the attractions that would make them beloved. Instead of bleak grounds covered with unsightly cinders there could be shrubs and trees and grass. Over the glaring windows graceful vines could be trained. Native vines and shrubs would lend artistic beauty and teach the worth of common things for decorative purposes; and the childish mind, which is nature-loving, would love and care for them. The school would be a place to love, a retreat in which to dream of future glories. It would be associated in the child's mind with that which is truest and best.

We dread that first day that ushers our innocent little ones into the sordid influences of the school. Do we ever stop to think that the dark surroundings render the child's mind more pervious to dark and evil suggestions? "Oh, mama, I could be good always," exclaimed a little four-year-old girl as she entered a beautiful home. "Ain't fings bootiful?" I think our little babe revealed the real philosophy of the utility of beautiful things. It is hard to think evil thoughts in the presence of refined surroundings. Even he who would desecrate the altar shudders under the calm and beatific face of our Savior. Does it not strike you as a strange anomaly that the very institution which is intended to develop the mental and spiritual faculties of the child, which should instill in him the highest and noblest truths, which should fit him for a high type of manhood, is dreaded as a moral scourge? We look upon the school-days as a necessary evil. We doubt whether we do not pay too high a price for the three "R's" when we sacrifice the nobility and gentility of childish innocence to brutal influences. Were we able we would employ a private teacher. We are not, and we send him forth shorn of the kindly influences of home, knowing full well that his plastic mind is as ready to receive evil impressions as well as good; and that these impressions, be they what they may, will influence the child's life and actions and leave an impression which only death can remove.

We cannot entirely overcome the evil, but we can so surround the child with noble things that his better instincts will have a fair field for development. We can hang inspiring pictures on the walls; we can beautify the grounds; we can employ as teachers noble and high-minded men and women whose influence will ever be on the side of morality and justice. And with the broad foundation training at home we can send him forth to the school, confident that about him will still be shed influences that contribute to a high and noble manhood. Is it not worth the effort on the part of our granges and women's clubs?

The general topic for discussion in January sent out by the National Lecturer is, "Why do we favor the Grout Bill, and what influence can we exert in the United States Senate to aid its passage?"

Supplementary topic, "Why are we opposed to the Ship Subsidy Bill, and what can we do to defeat it?"

Both topics are of unusual interest. The Grout Bill is receiving the loyal support of all farmers' organizations. It is a step in the right direction. Write your senators, and urge them to vote for the measure. We hope every grange will discuss both these topics in a spirit of fairness, devoid of partizan bias.

Many of our younger readers have probably read with delight "The Jumping Kangaroo and the Apple-Butter Cat," written by John W. Harrington, and illustrated by Conde. Mr. F. Harrington, father of the author, tells us this charming story: "Conde made all of his drawings from life. The larger animals he found in the zoo, but the ants and frogs had to be gotten in the country. Kerchug, the frog, was made miserable by his enforced residence in the city, although he was fed all the dainties supposed to be fancied by frogs. One morning Mr. Conde came into his studio and found Kerchug unconsolable. 'We are through with you, old fellow, I guess,' said he; and straightway put him in a box, took the next train, rode seventy-five miles, and placed the now-delighted Kerchug in his native pond." I wonder how many boys and girls would show this much kindness to any creature?

Ohio is justly proud of her experiment station. Under the efficient management of its able director, Prof. Charles E. Thorne, the station has grown in usefulness and power. It is to-day the peer of any station in the United States in lines of original research and in practical value to the farmer. Probably no man gets nearer to the ordinary farmer than does Prof. Thorne. Surely no one has the farmer's interest more at heart or the practical grasp of affairs better in hand than has he. The director of an experiment station must be more than a specialist. He must have a broad and comprehensive insight and a liberal sympathy to enable him to deal justly by all interests. Prof. Thorne has these qualities, and to him is due very largely the splendid efficiency of our experiment station. All honor and praise to him who has so nobly performed his duties. Let us encourage him in whatsoever way we can. It will be a dark day indeed for the interests of Ohio agriculture when from any cause whatever the splendid talents of Prof. Thorne are cramped.

I was in our state library one day last week. One of the assistants said to me, "When some of the rural clubs and granges write us for books they request that no agricultural works be sent out. They say the Patrons will not read them. What would you do?" To which I replied, "Never send a library to a rural community that does not contain at least one agricultural book. Ascertain if you can the kind of farming practised in a given locality, and send out at least one book dealing with that phase of agriculture. I cannot believe there is a community in our state that has not at least one or two families who are progressive enough to value rightly agricultural books. Go after those one or two families."

Can it be possible that we know so much about our business that there is nothing more to learn? Is it true that any community has attained that high eminence of proficiency that there is absolutely no realm of agricultural thought that it has not explored? If so, then do you grievously wrong yourself and the world at large by hiding your light under a bushel. If you have learned all the secrets of producing and marketing the finest type of produce at a satisfactory profit the world is willing to pay you a fabulous sum for your secret.

Methinks that it is not so much a superabundance of knowledge as a dearth of it that makes one shun the agricultural works. No one hates an education and its concomitant blessings save the narrow, ignorant, jealous bigot. No one ever scorns a higher plane of life save he who dwells on a lower. That farmer makes a humiliating confession who demands that no agricultural books be sent to his community.

I like to think that my readers and I love the same things, read the same books. Let us read together Tennyson's "Crossing the Bar" and Lowell's "Commemoration Ode." If you do not have Lowell's poems you probably got Steadman's "Anthology," which was mentioned in December 15th issue. This beautiful ode is found in it. Let us also begin the reading of James Bryce's "American Commonwealth."

In our comment on new books in December 15th issue one very important feature of the new International Dictionary was inadvertently omitted; namely, the supplement. This supplement contains more than twenty-five thousand new words. Our language is growing richer year by year. The South African war, our Eastern complications, the new discoveries in science have all contributed their quota of new words.

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## TURNING THE NEW LEAF

By Frances Bennett Callaway

TURNING a new leaf for even a day is a serious thing, but turning the new leaf of a year, a century, a thousand years, that is tremendous," and stirring the embers and crackling hickory logs into a blaze, my grandfather reflectively laid down the shovel and tongs.

On this New-Year's evening my grandfather had gathered with his family a few old friends, who, like himself, were trying to make the world better and happier; and as the night wore on they began to recall incidents in the past century which had in some way shaped their character or been a turning-point in their lives. With our physician, Dr. David, it was a book loaned to him when he was a hungry, lonely boy which had taken him into the very heart of the love of God. With my grandfather's friend Daniel, the rich manufacturer, it was a kindly letter from his employer when he was a struggling lad that made a man of him.

"How little we realize the consequence of our simplest deeds until we look back from the vantage-ground of a night like this," said our good old pastor, Father Michael. "I was a hardened, wicked man, when a friendly word from an old lady as I stepped from her pew in church melted my heart and made it soft and warm in one moment. After that, step by step I came into the light. Now, John," turning to my grandfather, who was peering into the embers as if seeing visions, "what is your story?"

"It is a long story," replied my grandfather, with an inquiring look over his glasses at the company, "if I begin at the beginning."

"Grandfather, we want the whole story!" chorused the children. "The whole story, beginning eighty years ago—all the events of your life!"

"How greedy you are!" laughed my grandfather. "The story of eighty years would take encyclopedias; but I will give you a few pages, a few pages." And mending the fire until the red-leaved flames danced merrily again, he began:

"The first great event of my life was on the night my father brought home from town a box of matches. There was a block of them together, and when, after most careful scratching, one of them went off with a hiss and a yellow flicker it was more amazing to us than a whole evening of fireworks would be now. You must not suppose that this first box of matches was used commonly every day. On the contrary it was placed on the mantel-shelf beside the clock, where it was considered as a valuable and curious piece of bric-a-brac.

"The next happening was a broom-corn broom which mother bought with a pile of rags; and this broom, I remember, was considered so great a luxury that it was always kept behind the best room door. In those days we went once a week for our mail, which generally consisted of a county newspaper. A letter, unless it was a good one, was looked upon rather as a piece of bad luck on account of the expense. The keeper of the Pine Tree Tavern, I remember, was driven almost to distraction because a man who left the place owing him a grudge kept sending back letters at twenty-five cents apiece.

"After the broom-corn broom, children, the next notable event was moving out of the log house on the grass-grown lane into Squire McKelvie's modern frame house on the stage-road. We now seemed in touch with the world, for we no longer had to go through the woods to school, and the stage passed at least once a day. Often it was filled with important personages, whose luggage was strapped on behind, and occasionally a great blast of the horn would announce a visitor. At that what a tumult and commotion there would be you can hardly imagine. To this day I can hear the rustle of stiff skirts as my sisters changed their gowns, and a clatter of fire-irons as a fire was hastily built in the best room. Then there would be scurrying after chickens for a potpie, and cold pastries would be set in the bake-oven to warm. You remember, mother, how many pies used to be baked in those days."

"I remember very well," said my grandmother, with a pause in her knitting, "that one day when the minister called in unexpectedly my mother had a pumpkin pie all ready to be baked on every chair in the best room, and she was in an agony lest he

should sit down in one of them, for he was such an absent-minded man. You remember when he married us, John."

"Yes; he was just beginning to say, 'I baptize you,' when Tom Draper upset a candlestick, and that recalled the good man to his senses. Daniel here was best man, and he minds about it. The ceremony, children, took place in the old Draper mansion, a great house with a hall like a banquet-room, a carved, winding staircase, and balconies up-stairs and down. A grand place it was, with a sun-dial in the garden and pinks and tulips and hollyhocks; but your grandmother was the sweetest flower of them all."

"Now, John, that is nonsense enough," interrupted my grandmother, with a flush that made her appear like a girl again.

"You should have seen her in the Tuscan straw tied with a broad blue ribbon," continued my grandfather, "and the white crape shawl embroidered with curious flowers, and the pearly taffeta silk striped with silver, which her rich merchant uncle had sent her from town. I do not know whether she was more proud of all this finery or I more humbly glad that a girl like Mary could love and trust me."

"Do come back to your story, John," requested my grandmother, putting her hand on the arm of his chair, "and tell the children why we were married in the Draper place."

"To be sure," assented my grandfather, giving grandmother's hand an affectionate squeeze. "In those days, children, we had no meeting-house, and as the Drapers had the largest house in all the country round all our church services were held there, as well as prayer-meetings and singing-school. Young people thought nothing of trudging two or three miles to singing-school in those days, and sometimes on a stormy night we would change partners; and this brings me to the beginning of my story—to the incident that changed my life. I took Nelly Wilder to singing-school that night, and Tom Draper took Mary Tomlin. I remember thinking that Nelly was an exceedingly pretty girl." Here the old gentleman gave my grandmother a quizzical look.

"Nelly was a pretty girl and a well-meaning one," said my grandmother, going placidly on with her knitting. "I can remember just how she looked that November night, in her turkey-red calico, with her white embroidered tucker, and the red morocco shoes she had earned picking blackberries. The damp air made her soft dark hair cling in pretty little ringlets all around her white forehead, and her eyes sparkled like stars."

"Yes, Nelly was a pretty girl," resumed my grandfather, "but some way I couldn't think a girl who was overstocked with sense would wear a thin calico dress and red morocco shoes on a November night like that; and when it began to blow and rain, and Jack proposed that we change girls, I was wonderfully pleased, wonderfully pleased!" And my grandfather chuckled as he rubbed his hands over the glowing embers.

"You see, Nelly Wilder lived a mile on the farther side of Drapers', making it quite a bit out of my way on a stormy night, while the Tomlins' place joined ours; and a very convenient arrangement Mary and I found it to be, not only for dark and stormy nights, but for starlight nights and kind of duskish evenings when the road always seemed lonesome without company. I remember how I admired Mary's lively conversation on this particular evening, and how her heavy calfskin shoes and linsy-wolsy dress appealed to my common sense. I remember the pattern of the stuff was striped red and green, and she told me her own mother spun, dyed and wove it herself. Oh, Mary had a fine mother!"

"But to go back to Tom." Here my grandfather sighed and looked very pitifully into the red coals. "It being a cold, raw, sleety night Nelly Wilder brought out a glass of wine and insisted that he should drink it. Now Tom hesitated, for his father was very strict with him, as mine was with me, and Tom promised his father that he would never touch wine. You see, Tom was of that excitable nature, as quick as a flash about everything, and he was sure to be very good or very bad. For that matter, Tom and I were alike in those days, and I was never behind him in any kind of deviltry." Here my grandfather sighed again.

"Why, it is mother's wine; home-made

wine,' insisted Nelly, laughing at him. 'Home-made wine never hurt any one.' And seeing Nelly so pretty in her red gown, her eyes sparkling with delight, her cheeks bright and warm from their run through the wind and rain, Tom took the glass of wine that looked so innocent, and drank to the light in Nelly's eyes. It would take too long to tell you, dear children, the whole story of that glass of wine; but the pain, the wrong, the degradation, yes, and the brutality, of it runs like a scarlet thread through more lives than we can count, all down the century, and the end is not yet.

"Well, well, we are going to turn over a new leaf presently, a new leaf. Tom kept on going with Nelly after that, and always drinking a glass of her mother's home-made wine, because there isn't any harm in drinking home-made wine, and from that he began drinking hard cider in his father's cellar, and after Nelly married him he drank openly.

"From that time things went from bad to worse, until they were as bad as they could be, and Nelly, who didn't know enough to boil potatoes, was no help to her husband. Nelly died first, of a broken heart, and I helped to bury her, poor girl! Then it was Tom's father who was stricken down, for Tom had ruined him, and the old Draper place had to be sold. After his father's death Tom disappeared as suddenly as if the earth had opened and swallowed him up. There were left four little children, whose inheritance—the wages of their father's sin—was sure to be paid, sure to be paid.

"Why do you physicians never tell people about these things?" said my grandfather, turning almost fiercely upon Dr. David. "Why do you leave them in such awful ignorance?"

"We wear ourselves out telling them, John," replied Dr. David, sadly, "but they will not believe us. Besides, there are grave treatises on this subject, printed in large letters at great expense by the state, but no one heeds them."

"What do you mean, David?"

"I mean our asylums for the epileptic, the imbecile, the insane, and our prisons and penitentiaries, John. They speak plainly enough."

"In time to come we must hear them, David." And my grandfather, after a little silence, continued his story in a subdued, trembling voice.

"I found Tom in a penitentiary at last. He was a great, broad-shouldered man, with silvered hair, and his face was handsome still.

"How could such a thing have ever happened, Tom?" I asked, as I took his hand through the grating of his convict cell.

"I was mad with drink. I knew nothing of it until they told me afterward."

"How we gripped each others' hands at that! I could not let him go. Then I told him how I had been looking for him a long while, and gave him all the messages of love from his dear old mother, and told him she loved him more than any words could tell. And Tom as he listened to it all bowed his head in his arms and sobbed like a child.

"If I could only live it all over for her dear sake!" he moaned.

"For your own sake, Tom," I cried, choking back my own grief. "You have friends to love you. We will set you on your feet again and help you to begin a new life, to turn a new leaf. When," I asked, eagerly, "when is your time out?"

"I can never forget the look on Tom's face, the perfectly despairing look, as he answered, 'Never—never—'

"Who knows, children dear, if I had gone home with Nelly Wilder on that November night and taken the first glass of wine, if I should not have gone on step by step as Tom did? Who knows?"

"But I have rambled a long way from that sunshiny morning when Mrs. Draper gathered my sweet bride a nosegay of fragrant May-pinks in that pleasant old garden. We were soon settled in our own little home, and how careful and prudent we were!"

"After paying the minister not a dollar was left in my pocket, and my father would not give me any money lest it should ruin me." At this we all laughed, and grandfather the heartiest of all.

"But my father gave me a farm—I couldn't spend that—and Mary's father gave her a cow and seven sheep and a dozen hens. Phrosina gave us a set of spoons, and Rachel a china tea set, and Mary's brother Mose gave us some fine silver candlesticks. How rich we were when we looked at them, though, to be sure, we didn't have many candles, and often sat in the firelight to save burning them. We drank roasted barley for coffee, and tea made of thyme and wintergreen out of the china tea-pot. I never tasted tea equal to that. Mary's mother

gave her bedding and linen and the best of tinware, a good part of which was burned up in the oven of the stove the first time we lit the fire. But we didn't mind a little thing like that, we were so happy.

"To be sure, we worked very hard in those days, and were hardly ever idle a moment. If we had it all to do over again we would do differently. Mary wouldn't piece so many sunrise counterpanes and wild-geese quilts, to be stored away in the attic, and I wouldn't pile up so many stone fences for other people to pull down again, maybe. We would take more comfort with the children, and more time to go neighboring, and count a little more on golden opportunities for friendly, happy times and a little less on copper pennies, which never buy the best things, after all.

"In time, with working and saving, we had enough laid up to buy the Draper place; and I remember how proud we were of the fine old mahogany furniture and camphene-lamps. But it wasn't long before this home was no longer good enough for the children, so we moved into town, and the tenant, who had a new house to live in, made over the old Draper house into a very comfortable pig-pen. What a history those few bits of timber have had!

"We old people will soon be moving on, we trust, into houses of more imperishable material; you young people will live out the story of the new. You can profit by our mistakes and failures; we have educated you into richer and nobler ideals of life than we ever had to begin with. Ah, the clock is striking the hour—the new leaf turns—good Lord grant that it may be written in love, without a spot or stain!"

## OPPORTUNITIES FOR THE NEEDLEWOMAN

Although not widely known, the making of handkerchiefs, coarse and fine, is one of the most lucrative occupations for needy women in large cities. It is estimated that in London alone fully one third of the sewing-women find the most profitable work to be the dainty squares of fine linen, mull or cambric which are displayed over the shop-counters in such tempting dozens.

Sometimes the purchaser buys the material and leaves the cutting, design and hemstitching to the needlewoman; again, the embroideress is intrusted with the entire order, and if it is a large one, and she is a regular customer, she receives besides the stipulated pay a commission from the large shops where the provision is made.

Deft needle art and good eyesight are prime requisites, whether the work be the painstaking hand-embroidered design or initial or the quicker, yet just as detailed, machine-worked pattern; and the daintiest of all pretty home occupations is this converting of filmy linen and lace into the fascinating squares which men and women, poor and rich alike, find a necessity.

The fetish of fashion is as powerful in handkerchiefs as in all else, and just now the initial-workers command a better price than their sisters whose skill lies in the delicate blossoms and tendrils, the elaborate leaves and sheer stitches which are a legacy from the old courts of France. Perhaps the best paid of the handkerchief-makers at the present day are those who can successfully imitate the fairy products of the Irish and Italian convents for private orders, and at the same time excel in the fine machine-work upon cambric, so much used in the great department-stores of large cities.

Another avocation for the working-woman skillful with the sex's historic weapon—the needle—is the marking and making of table napery and household linen.

In Europe, where sheets are often not woven wide enough to cover the bed in one piece, women go from house to house of the wealthy, uniting the widths of the sheets with pretty insertions, that the seams of four or five widths may not be in evidence. The Italian peasant women do a great deal of beautiful, interesting work of this description, having learned many of the old stitches in convents from samplers, from which generations of needleworkers have been taught their graceful art.

Bed-spreads, canopies, curtains, towels, table-linen, pillow-cases and sheets of all the old Italian families show wonders of insertions and borders, of queer little vases and doges' caps, of cupids, dogs and cornucopias, and of exquisite blossoms.

I have in mind a wonderfully wrought dower chest filled with household linen for the marriage of a daughter of a North Italian house not many years ago. Five women had been working upon the huge store for a twelvemonth. Among other notable pieces there was a bridal sheet in fifteenth-century design, with dressing-table

cover and curtains to match; there were pillow-cases with Scripture stories in squares of lace; there were covers and shams of dainty Gothic lace, and table-cloths, napkins, doilies, towels, bed-linen, each by the dozen, marvelously embroidered in peacocks, unicorns, tiny figures of children, scorpions, eagles, foxes, flowers or arabesque. One curious bed-cover was worked most elaborately in cream and buff-colored thread, the exact imitation of one of unknown antiquity found in a sepulcher in the fifteenth century.

All of the ordinary table-linen was of course hemmed very narrow by hand, and embroidered with a monogram of letters three inches long in linen thread and silk. Biscuit and bread cloths, chocolate-tray covers and table-centers were all handsomely worked with wreaths, garlands and scrolls of flowers—pinks, lilies, poppies, forget-me-nots. Linen huckaback and damask towels were either hemstitched or embroidered, while sheets and pillow-cases for ordinary use showed borders of drawn-work and hemstitching and frills of ruffling or embroidery, each bearing linen floss monograms or initials five to nine inches in length.

In these days of the reign of the couch-pillow artistic pillow-covers are a necessity, and their design and execution form paying employment. The range of choice is practically unlimited, from the delicate parlor satins to the cretonne and denim of the nursery and smoking-den.

I know of a woman in Philadelphia whose clientele has been established for three years, who commences her rounds as early as September for the making of Christmas presents. She is put in a room by herself, with whatever materials are necessary, and there all day long she fashions the daintiest trifles of lace and satin and cardboard and flowers. In one family alone she told me she made four pillows (one for the college son, one for the mistress, one for the daughter, and the fourth for the little boys' room), two glove-cases, two necktie-boxes, one collar-box, a darning-bag for grandmother, a dress-bag for satin slippers, a key-pocket, a hot-water-bag cover, some veil sachets, some blotters with kid covers, a few book-covers and book-marks, and a slipper-case footstool.

With the advent of Lent this same woman is in demand for the marking and making of household linen, and the preparation of those daintiest of all outfits, the doll-like habiliments of the new baby. She spends her summers out of town, has sent her daughter through college, and is now the owner of two comfortable houses, one of which she rents. So much for enterprise with that tiny instrument the needle.

Many a girl and many a woman would be glad to learn the intricacies of needlecraft if they had a patient, inexpensive teacher who would pass an hour with them in their own homes, instructing them to unravel the mysteries of the art; for sometimes a question of car-fare, inability to be absent from home, ill health, or more often a disinclination to array one's self and start out, makes the home teacher in all lines welcome.

One who could teach the different stitches of embroideries and laces thoroughly could, with a little exertion, get up a paying class of pupils. The work, indeed, might be enlarged to embrace plain sewing—that much-needed and much-neglected accomplishment—knitting, crocheting, mending, yes, and the cutting out and making of plain dresses.

Apropos of mending, little by little that old-fashioned accomplishment of our grandmothers has found its place and come to stay. More than one woman counts over a handsome little profit Saturday night, the proceeds of her week's mending. The patrons are mostly clerks and employees of big establishments who board in the city, and are very glad, for a small consideration, to have buttons, hooks and eyes, stockings and underclothes attended to weekly, and skirt-brands replenished and refurbished.

ANNETTA HALLIDAY ANTONA.

DRESS ACCESSORIES IN DRAWN-WORK

In the eyes of the dainty matron dress accessories are as important a feature as the dress itself. Each season calls for something new in this line. Fichus, yokes and ties are in evidence this season, for which mousseline-de-soie and chiffon are popular materials. They crush and soil so easily, though, that they have constantly to be replaced by something new and fresh, which soon becomes quite an expensive item in the "little things" of dress. The Mexicans put

their beautiful work to a great many uses for both table and house furnishing, but have yet to learn how artistically it can be applied to dress.

Fig. 1 is a square yoke, done on lawn, with insertions of drawn-work one and one fourth inches deep. Between each row is a space of goods one eighth of an inch deep covered with herring-bone stitch. This is the "buttonhole" pattern, and is worked with the ordinary buttonhole-stitch and "knot-stitch" into diamonds. Seven threads are knotted at the top of the drawn threads, the eighth and ninth threads being buttonholed in the shape of a V. This is succeeded by three more rows, done like the first, which, graduated properly, bring them to the middle of the insertion. This same process is

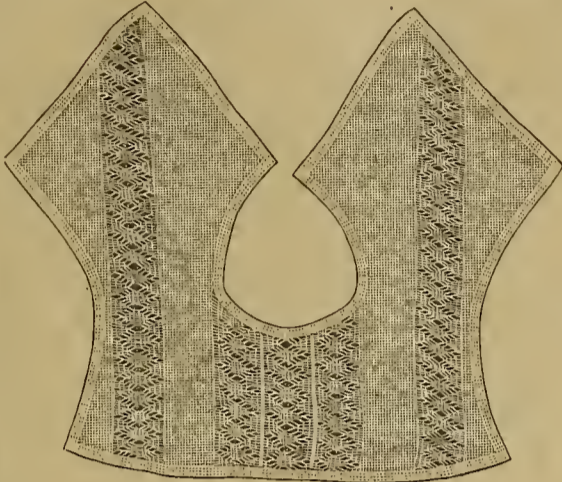


FIG. 1

again repeated, beginning at the bottom and working to the middle. Eight rows will have been worked, which completes the diamonds.

Fig. 2 is a circular yoke, in all-over drawn-work. The threads are drawn crossways and lengthways, forming small squares. Five threads are drawn and five left. The squares are filled in with antique work, in the manner of the illustration. No. 100 thread is used for it, and also for Fig. 1.

Fig. 3 is a child's collar in "block-work." A square is required for the blocks, and a pencil to dot them with. One thread of each block is drawn, then buttonholed in the drawn threads, the goods cut away from the buttonholed portions, and the centers to the diamond squares filled in. In this collar the threads are carried in two parallel rows each way, and "knotted" in the spaces and across each square. Very fine lawn is used and No. 150 thread. When the work is completed the neck is then shaped.

MRS. J. R. BINFORD.

COLD FEET AND DIPHTHERIA

"An ounce of prevention is worth a pound of cure" is as true now as the day it was uttered. Some children are greatly troubled with cold feet at night. Their mothers appear to think that if they take anything warm with them when going to bed their feet will become tender and more susceptible to the cold. There is, undoubtedly a vein of truth in this idea, but it is not all truth. Far better take something in bed to keep the feet warm than to have the child suffer all night with cold feet. In addition to their not sleeping well they are much

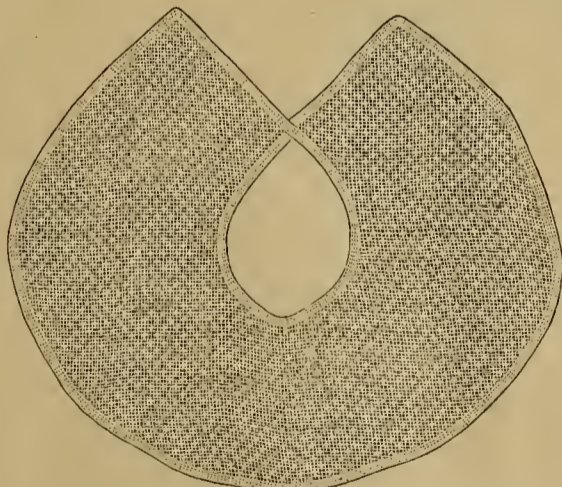


FIG. 2

more subject to colds, sore throat, croup and that dreaded disease diphtheria.

The hot-water bag is without doubt the best contrivance for keeping the feet warm. It is even better than the dry heat of the soapstone. Soft coverings of flannel or outing-flannel should be made for either the bag or the stone; these can be closed with a draw-string or buttoned over with a flap.

It is not a good plan to allow children to wear their stockings to bed with them. Not only do the stockings need to be aired at night, but the feet should be bare, that the pores may be able to do their duty. Spong-

ing the feet each night with tepid water is an excellent plan.

Tar and turpentine in equal quantities, held over the fire, that the fumes may escape into a room previously made as nearly airtight as possible, is an excellent remedy for diphtheria. The child will necessarily inhale the fumes, and coughing and spitting will result. The deadly membranous matter will be spit out and the disease will immediately begin to allay. It seems wonderful that a cup, some tar, some turpentine and a fire should do more than many a skilled physician in cases of diphtheria, but such is the case. The fumes of the tar and turpentine lessen the trouble of the throat and drive the disease away. Begin at the first appearance of the disease.

ELLA BARTLETT SIMMONS.

THE MOTHER'S COMPENSATION

Louise graduated at a state normal school. Among her graduating presents from her friends was an ebony ruler.

"That is a joke, is it not?" said one of the teachers to her.

"Why, no, I guess not. Do you think so?" was Louise's answer.

"Anyway, remember, when you have a school or grade of your own, that there is a better way of reaching and managing pupils than by a rod," continued the teacher. "The matter of parents using or sparing the rod is not the business of the teacher; and, Louise, if you are successful as a teacher it will be without the rod."

The fall-time came, and Louise had no trouble in receiving an appointment. The things she had to teach interested her, and she felt equal to her task in that direction, but new and unexpected experiences were upon her. Bright, energetic boys swore, chewed tobacco, smoked cigarettes and cigars if they could buy them, and often used coarse language, besides profane.

She wrote to the teacher at the school who had earlier advised her, acknowledging that she had punished three boys (with the rod) for swearing, but with no marked improvement. In her letter she said: "The boys do not seem entertained at home; they are always around the saloons, the hotel or the village store. I have been thinking about getting up some kind of reading or literary club for them, and not allow any to join who swear or smoke or chew tobacco. What do you think of that project?"

The older teacher groaned as she read the dear girl's letter. She knew that Louise was fully in earnest, but she also felt sure Louise was not even making a beginning of reform there. When Louise received an answer to her letter she read:

"I do not want to discourage you, but if I were there and thought best to exclude any it would be the good ones I should rule against. The club ought to be for those who smoke and swear. And if you get the boys in a club, do not preach a word to them. Try to fill their minds with better things than the idle gossip or coarse talk of street-corners. Put physical culture or a drill of some kind in the programme as an excuse for advice as to the care of the body, the precious body, which, if it is not a healthy, perfect body, handicaps the whole life. But those parents—cannot any one arouse them?"

Again Louise answered: "You do not realize anything about the parents here or you would not think of arousing them. They do not seem to take an interest in the school."

It is hardly possible that intelligent parents of boys and girls growing so fast to young manhood and womanhood take no interest in all school-life means to them. They may have fallen into a careless way, but if they are reminded surely they will arouse not only to responsibility, but to blessed opportunity. To watch the progress of the children's education and be in close touch with their school and teachers are some of the compensations of mothers.

So through the goodly columns of FARM AND FIRESIDE let the fathers and mothers hear. How often do you visit the school where your children attend?

"Never!"

So it is where Louise teaches. The minister goes once in awhile, and always makes a few or many remarks, as it happens. You live far from the school; perhaps the children have to be taken back and forth. If so, why do you not stop for half an hour very often? You are too busy. If not sick, no other excuse should have any weight. Although there may be small children in

the family, the wife and mother manages to make an afternoon's visit to some neighbor several times a year if she really wishes, and may have to ride a few miles to reach that neighbor. Go at least once a month to the school, if for only through one class recitation, not minding whether it is always your child's class or not. You will soon come to have an absorbing interest in the school if it is worthy, or you will help by your interest to make it better. In your riper judgment see whether everything is as pleasant and comfortable as it can be. You do not like to be taxed in order to ornament the small school-houses, but you may have a statesman's picture or some things you can spare to fix a cozy corner for the pupils who have to bring a noon-time lunch.

Speaking of lunches, one of the sweetest memories of my school-day lunches was on a cold, snowy day when a dear woman—one of those whose heart and soul kept pace with the little school—sent over to us a hot dinner; and such a fine dinner, too! She sent a table-cloth and dishes, with her love. No lunch of the fine social functions since has ever meant what that did, for it expressed in symbolic language that the woman (whom all acknowledged as the leader in literary things) thought our school-going worthy of help and cheer.

Perhaps as you visit the school you will see the need of better hygienic measures; at any rate, go and keep some pace of your children's progress or lack of progress. Open your houses for their little evening entertainments. If Louise does hold a club it will have to be at the school-house, because none of the mothers would consent to the boys coming to their houses and bringing in so much dirt. To be sure, the worn-out mother has worked hard all day, and cannot bear games and noise at night from her own boys. Even the father, if at home, reads himself sleepy in his chair, or is busy with accounts and assuring himself and wife that farming does not pay.

The day usually comes first to the mother that she rouses to the fact that her boys are

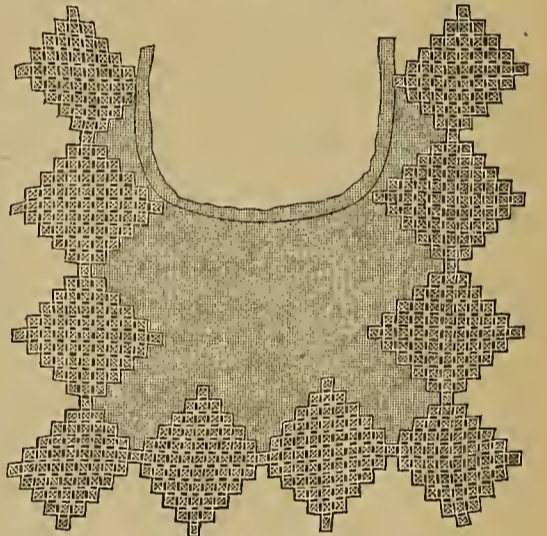


FIG. 3

not happy or contented an evening at home, and whether she can put it in words or not, she has lost one of the great compensations of her motherhood. She has failed to magnify her office in the daily home-life; the evenings in the home especially have been a failure. If the father of the family does not help in planning the entertainment for the children only more falls on the mother. If the father must be busy, then take some room for the children's evening—the early evening hours before bed-time.

The girls may like to do their crocheting or patchwork; give the boys some good tools if they have taste for manual work. If you have little money to use, still make the buying of tools a necessary expense, and economize in some other way.

You take all the papers you can afford to take, but perhaps not one of them interests your boy. You say he ought to be pleased because you are. Suppose you give up even your best paper and let him choose one for himself. Perhaps he wants an illustrated or a funny paper. Let him read the jokes to you after supper, and all laugh together. Consider the tastes of your children, gradually lifting them to higher ideals.

There are two view-points from a mother's every-day life that may be taken. Looking from one, the life of many mothers is full of hard work and self-sacrifice; but from another it is possible to stand on a little higher ground and find a sunnier side of life. To be able to make a happy home, where the children and the husband are content, is the grandest of all work set for woman. Standing on this higher ground she is not a slave to her family, but companion and co-worker with each one, and should be co-worker with the teachers of her children. MARY JOSLYN SMITH. [HOUSEHOLD CONCLUDED ON PAGE 19]

## AN ALABAMA YANKEE

By Francis Lynde

## CHAPTER VII.

## THE END OF AN ENMITY

ALAN was afoot and racing in to share Une' Ephraim's peril when the musket bellowed and the old negro dropped to his knees.

"Bob! Dick!" he shouted; but there was no need. As if one impulse had prompted both, the two young men broke cover and met beside the old freedman who had been "Une' Eph" to both of them ever since they could remember.

"It was an accident—I saw it," Captain Robert protested; and then, "Where are you hurt, Une' Eph? Help me lift him, Dick!"

Together they stood the old man on his feet, and the threatening gun-barrels began to disappear one by one.

"Use hu't in my ol' heart, Marse Robbut, ter see you two boys er-layin' off ter kill-up one nudder dat way. I ain't hu't noways else."

Captain Robert said, "Thank God!" and Captain Dick tried to scowl, and made a failure of it. Then they both smiled rather grimly and shook hands; were still shaking hands when Alan ran in panting.

"Has he told you—about Uncle Jasp'?"

"Well, dar now, ef I didn't clean forget 'bout Marse Garth when I see dem guns come er-pokin' out'n de bushes! I—"

But Alan was already half way through his breathless narrative, and Captain Dick was unbuckling his sword-belt.

"I'm your prisoner, Bob," he said, quickly. "Parole me, and let me take a horse and go to him. The whole thing is a mistake; three fourths of my troop are chasing Byers now—on information given by my father!"

Captain Robert stopped the sword-surrender and gripped the enemy's hand again.

"I'll go with you. But how shall we settle this little 'affair of outposts?'"

Dick laughed hardily.

"I've got a good lieutenant; have you?"

"Yes; but—see here, Dick, how many men have you got behind that breastwork?"

Dick's smile was no more than a grimace.

"Fourteen that can see the forward sights on their carbines, and three that can't. But they'll stay and wrestle it out."

"Don't be foolish, Dick. I have fifty men in line here, and you couldn't cut your way out if we gave you the chance."

Dick looked away and bit his lip. Then he wheeled suddenly, to face the breastwork.

"It's all up, boys! Come out and throw down your arms!"

They did it, sullenly at first, but with lightening faces and better grace when they saw how hopelessly they were outnumbered.

Captain Robert laid his commands upon his lieutenant while Dick was bringing up the horses. A squad was detached to go with Une' Ephraim to guard the two houses on the crest road, and a detail was told off to take the prisoners to the rear.

In the midst of it Dick came up with three of the cavalry-horses, holding one of them while Alan climbed to the saddle. Robert joined them quickly, mounting from the ground, like a true Southern cavalier, and saying to Alan:

"Pitch out swiftly, little Buddy, and show us the way. There's no time to lose."

They were three abreast as they galloped down the westerly slope; but in the Claybourne old-field Alan took the lead and kept it. Fear was tugging fiercely at his heart again—the fear that, after all, they would be too late to save Dick's father.

The fear was not unfounded. Through the fields they had a clear track, but beyond the fences the roads and open forest were clogged with men and horses, batteries and commissary trains, regiments in column and regiments deployed; a mighty current not to be stemmed by three horsemen who were going in the opposite direction.

They tried stemming it, and were glad to get back to the open field again.

"What shall we do, Dick?" said Robert. "You know this old stauping-ground better than I do now."

"Head 'em to the left," said Dick, laconically; and that was what they did.

But this was the long way around, and by the time they gained the rear of the moving regiments they were opposite the Federal division headquarters. This camp was not yet broken, and they were about to ride around it when Alan caught sight of a familiar figure, and charged the guard-line at the imminent risk of being shot.

"Lieutenant! Oh, Lieutenant Brinkerhoff!" he called. "Where is Uncle Jasp'?"

The Lieutenant shook his head gravely and would have told, but just then he recognized Captain Robert.

"Ah, good-morning, Captain. A prisoner?"

Robert cut the social amenities short.

"This is Captain Richard Garth, on parole. Dick, Lieutenant Brinkerhoff, of ours." Then, curtly, "Lieutenant, you arrested Captain Garth's father yesterday on the charge of harboring bushwhackers. What has been done with him?"

The Lieutenant shook his head again, more gravely than before.

"I'm sorry," he began. "We brought him over here this morning, and a double detail has just

been told off to—" he glanced at Dick and finished in a way to leave something to be inferred. "There were two of them; the lame man, and a spy that was caught last night. Anything wrong?"

"Everything's wrong!" snapped Robert. "He's no more guilty on that charge than I am!"

"But your brother here—"

But Alan was not there. He had seen two squads of men marching two bound ones to the rear through the open wood, and was off at a gallop down the guard-line, with the sentries shouting at him, and some of them pointing their guns. But he saw only a limping figure in the open ranks of the leading squad, and being once assured of this nothing short of a bullet would have stopped him.

Robert's horse rose on its hind legs and cut a swift quarter-circle in the air.

"Run to headquarters, Brinkerhoff, and get the General's authority to stop it!" he shouted; and a straining half-second afterward the two captains were thundering down the guard-line and through the open forest.

It was Alan who won in that race; and since he charged the firing-squad much as he had the guard-line, the second lieutenant in command thought it was an attempt at a rescue and ordered his men to form and fire.

Then he saw it was only a boy, and struck the guns up with his sword. Three or four Minie

balls whistled over Alan's head, and he bent to the saddle-bow. The next instant the horse was careering riderless and Alan was on his knees before the astonished officer, pouring forth a stream of passionate incoherence.

"Oh, you mustn't, you mustn't! What I told on him wasn't true—I thought it was, but it wasn't! I—"

The second detail had come up with the other prisoner, and a grave voice said, "Alan, lad!"

Alan looked up and saw his father, bare-headed, coatless, bound, a prisoner, on the way to execution; all this at the hands of the Lincoln men, whose coming had been so eagerly longed for! Saw, sprang up and clenched his fists, and was nearer becoming a fierce little rebel than he had ever thought to be.

What foolish thing he would have said or done is not to be here set down. The Covenant blood is slow to boil, as all the world knows; but when the fire is hot enough it is apt to boil as steam-engines do when they burst.

Before he could get his breath the two captains came tearing up. Captain Dick dropped from his horse and put himself in front of his father, much as if the guns were already leveled; and Captain Robert sought vainly for speech strong enough to fit the occasion.

"Heavens and earth!" he exploded. "You have my father, as well as Dick's! You fellows must

be hard up for somebody to shoot—to take two old men, one of them a cripple, and the other as loyal as any soldier that ever carried a musket! Take off those ropes before I forget that we are wearing the same uniform!"

"Easy, Captain," the Lieutenant protested. "We're only obeying orders, as you know."

"That's so; pardon me, Lieutenant—and put yourself in my place if you can. But I'll be responsible for both of your prisoners if you'll untie them. Lieutenant Brinkerhoff will be here in a minute with countermanding orders from the General."

There was an awkward little interlude after the prisoners were unbound. The two old men eyed each other askance; Alan still stood at bay; the men in the firing-squads shifted uneasily from foot to foot, and nobody said anything.

The upcoming of Lieutenant Brinkerhoff with orders to march the prisoners back to camp was a decided relief to all concerned; and a little later rescued and rescuers had audience of the division commander, who was just getting ready to mount and ride with his staff.

"One at a time, gentlemen, if you please," said the General, good-naturedly. "We'll take your case first, Mr. Joyce. Of course, you're free; Captain Joyce's voucher for your loyalty is sufficient. But I'd like to know a little more about that map business, and why you resisted and tried to escape when the guard halted you."

"I told you the truth last night, General. I was coming here to say a good word for an old neighbor. My eyes were pretty bad, and my little lad here, who had already been in the lines, made that map so that I could find the way."

"Humph! A very natural thing to do—and a very dangerous one," was the General's comment. "Go on."

"After stumbling about for a long time I knew I was lost, and began to be afraid of falling in

"Answer the question!"

Alan was struggling to get to the front, but his brother was holding him—holding him with a hand clapped over his mouth.

"I reckon you might call it 'entertaining,'" said the old man, slowly, "but we-all called it a raid. They got us up in the dead o' night to cook for 'em, and when they went away they took everyt'ing they could carry or drive."

The General turned to Stephen Joyce.

"Is this true, Mr. Joyce?"

"I have reason to believe it is. My lad took too much for granted; we all did, for that matter. This is what I tried to tell you last night, General."

"Very good; we'll let that pass. Now, then, Mr. Garth, what was your errand when you were arrested in the lines yesterday?"

The old man looked helplessly from one to another of them and opened not his mouth.

"I don't wonder you are ashamed to acknowledge it before the man who risked his life to save yours," said the General, with added severity and rising warmth. "Notwithstanding your grievance against the guerrillas you were on your way to bring them down upon your neighbor."

Garth looked up quickly.

"How do you know that, General?"

The commander turned sharply upon Alan.

"Tell us what you told Lieutenant Brinkerhoff yesterday—what you overheard this man say."

But Alan, who had been bursting with words the minute before, became suddenly tongue-tied. However, there was no help for it, and he repeated the overhearings word for word as nearly as he could.

Jasper Garth looked up again, a queer smile wrinkling his winter-apple face.

"We've been hating one another toler'ly fierce—the Joyces and my folks—and I don't know as I blame the boy. I've done my shares of the meanesses, too, but I hope I ain't as mean as that would come to. Seth Byers had bragged to me that he'd raid the Joyce place right under your noses. I tried to warn Joyce one way and another, and finally concluded I'd better bring help. The 'captain' I was going to notify was Captain Joyce. I allowed maybe he'd send a guard to his father's house if he knew."

There is a story in the Bible about a man who sat in sack-cloth and ashes and strewed dust upon his head; and while one might count ten Alan Joyce envied that man his opportunities. Failing these, he did the next best thing, and flung himself upon the lame old man in hearty boyish contrition.

"Oh, Uncle Jasp'! Uncle Jasp'!" he cried. "I thought I was forgiving you—but can you ever forgive me?"

The old man held him close. After all, Alan's name was "Alan Jasper."

"Oh, it ain't so bad as all that, Alan, boy. Besides, Dick's been telling me about your running your legs off to save an old man 'at you thought was trying to get you-all raided, and if—"

Stephen Joyce was the interruption. He was groping his way blindly, his strong old face working and the fire in his burned eyes gratefully quenched for the moment. And over Alan's shoulder the two old friends clasped hands.

The General took Captain Robert's arm and led him aside.

"It seems to be only a little comedy of errors, after all, but it came desperately near being a tragedy," he said. "I envy you your father, Captain—and your father's friend. What can I do for them or for you?"

Captain Robert took his courage in both hands. It was two long years since he had looked upon his mother's face—or Eleanor's.

"There are two things, General: The parole of my old school-mate Dick here, and—a few hours' leave for me. It's two years since I've seen the old home place."

The General laughed. "Ab, you young men! I know you! I'll warrant there's a—"

What it was the division commander warranted Robert was not to know. An orderly galloped up with dispatches, and the General turned to his adjutant.

"A parole for Captain Richard Garth, and three days' leave for Captain Robert Joyce," he directed; and then to Robert. "There will be no decisive action this side of Chattanooga. General Bragg has fallen back beyond the mountains. Take your three days, and then ride hard and overtake your regiment. Trumpeter, blow 'boots and saddles!'"

The five of them walked out to the crest road together in the wake of the trampling hosts, with the morning sun not yet two hours high shining in their faces. The two old men were a little in advance, and they went silently for the most part. What they had to say was too large for speech.

The two young captains followed on behind, with Alan between them; and in this group it was the boy who was silent. What he was thinking of came out later on, when the description-begging reunion at the Garth house was over, and the resuscitated Pete had told his story and delivered the happily unnecessary farewell letter, and the two mothers and Eleanor, with Robert to help, had gone to the kitchen to prepare breakfast for Alan and Dick, who were the fasting ones.

Alan was sitting on the shaded porch-step with Mary at his knee, listening abstractedly to the talk between his father and Jasper Garth and Dick.

"No, Stephen, you're not going back to that torn-up house till Eph and Pete have put things to rights," Jasper Garth was saying. "You-all just make up your minds to camp down here with us for a little spell and let the young folks be together while they can."

"Oh, I don't want to rub it in on you that way, Jasper. You've been stripped about as clean as



"Together they stood the old man on his feet"



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## NUMEROUS OCCUPATIONS FOR WOMEN

The three most apparent results of our nineteenth-century mode of living may be summed up as follows: The family income is no longer sufficient for the needs of a grown-up family; there is a steady decrease in marriage, and the world is filled with women who are clamoring to exchange their old indefinite duties for the definite duties in which the majority of men are engaged.

The spark of self-dependence which smoldered for a time has burst forth into a steady flame; it has come like the rising of the sun to the noon-day splendor. Slowly, surely, the fin-de-siecle woman embarks upon ventures of every description. She not only enters the realms of art and literature, but even invades the domains of business and the trades, proving conclusively that honest purpose combined with unceasing labor will bring a sure reward. Mere endeavor creates power. This demand for work by women has increased the number of occupations, and now scarcely a day passes without the papers chronicling the story of some woman engaged in an enterprise entirely foreign to the old familiar lines of labor.

Although many women of rank and position in England have entered upon a business career, it remained for two titled women, Lady Dorothea and Lady Estella Hope, to demonstrate that a peer's sister can be successful in the practical business of pony and cattle raising. These two ladies spend most of their time on their farm at Edenridge, near London, where they have been most successful in breeding and raising Shetland ponies and Jersey cattle for the market.

"We take great pleasure in our farming," said one of the sisters. "We are very proud of it, and are glad people should know how successfully we have proved that women can make this sort of thing pay if they have the taste for it."

Another Englishwoman, Miss Shaw, now a resident of this country, has adopted an equally novel occupation, that of canine physician. At Miss Shaw's early home in Oxford, where her father was professor in chemistry, her dearest companions were dogs, and both her father and mother were great lovers of these four-footed animals. When it became necessary to turn a hand to earning a living, Miss Shaw, although a finely educated woman, preferred to earn a living by doctoring dogs—silken-haired poodles, big mastiffs and ferocious hull-dogs. She has a hospital fitted up in her own house, where one can find dogs afflicted with every kind of sickness—a bad cold, a sore throat, a sprained or broken limb, or perchance the dreaded distemper. One room is devoted especially to distemper cases, and no other cases are treated there. Miss Shaw loves her canine friends, and nurses them as tenderly and devotedly as one would nurse a sick child.

Another occupation which is eminently feminine is that of raising goldfish. The work of raising these brilliantly colored little vertebrates demands eternal vigilance rather than hard labor. These pets require careful and systematic cultivation, and to-day there are several goldfish farms devoted to the different branches of this industry which are successfully carried on by women. Other clever bread-winners derive comfortable incomes from raising Angora cats, canary-birds and all kinds of poultry.

Although skeptics may be inclined to laugh at the novel vocation undertaken by one woman, there may be more truth in the idea than we imagine. This young woman, acting upon the theory that music affects certain nerve-cells, is busily engaged in arranging music for invalids. A joyous melody quickens the nerves into more vigorous action, while a quiet, soothing music lulls the invalid to repose and brings about a normal condition in the patient. Since music calls into play certain laws of vibration and rhythmic action, it may be found that the "music cure" will work a modern miracle.

Every one is admiring the way the difficult problem of the struggle for life is being solved by the brilliant society woman Nellie Valentine Alout, daughter of the well-known literary Edmund Alout. She has formed classes in hat and bonnet making, and is very successful in her undertaking.

Among the trades which the army of women are invading those of paper-hangers and interior decorators are the latest. Women have now established the fact that they can do this work as well and as quickly as men. They have a very correct eye for matching and laying paper, and are particularly neat and careful workers. The disadvantage of dress is reduced to a minimum by the modern appliances for reaching high walls and ceilings.

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There are multitudes of young women to-day, eager, ambitious and energetic, who are conquering fortune by their own brain and brawn. Perhaps the hardest lesson they have to learn is the patient conquest of difficulties, for it is natural to expect immediate results. To achieve success is uphill work from the beginning, and it is a long distance from the foot to the summit of the hill. —Mary C. Spaulding, in the Ladies' Illustrated Journal.

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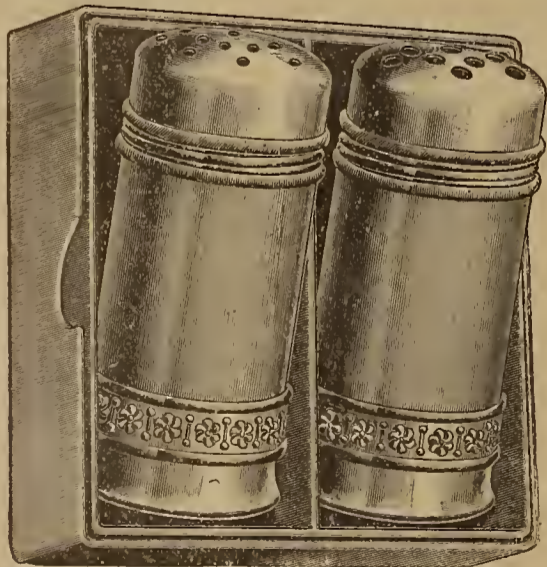
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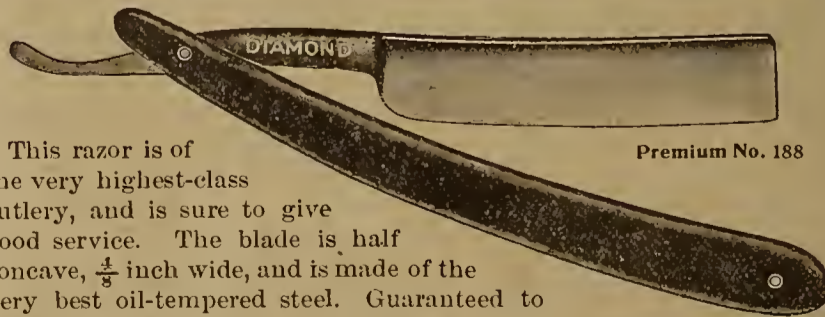
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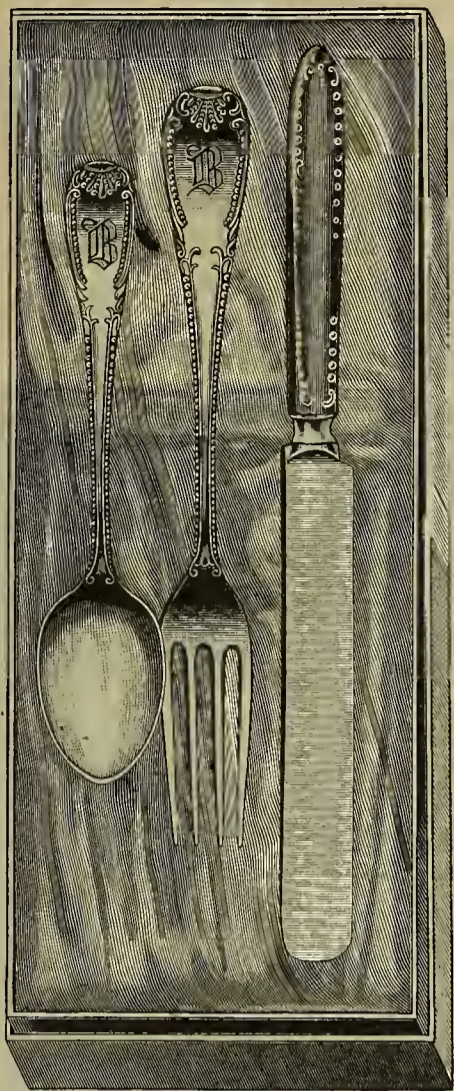
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### AN INITIAL LETTER

The spoon and fork will be engraved with any one initial in an Old English letter. The knife is made of steel, very heavily plated with silver.

The set of three pieces will be packed in a box lined with pink sateen, which makes them a very showy present. The length of knife is 7 1/4 inches, fork 6 inches, spoon 5 inches. Guaranteed to give satisfaction or money refunded.

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Premium No. 92

The full length of the Pie-Knife is 9 1/2 inches. Width, 2 3/8 inches.

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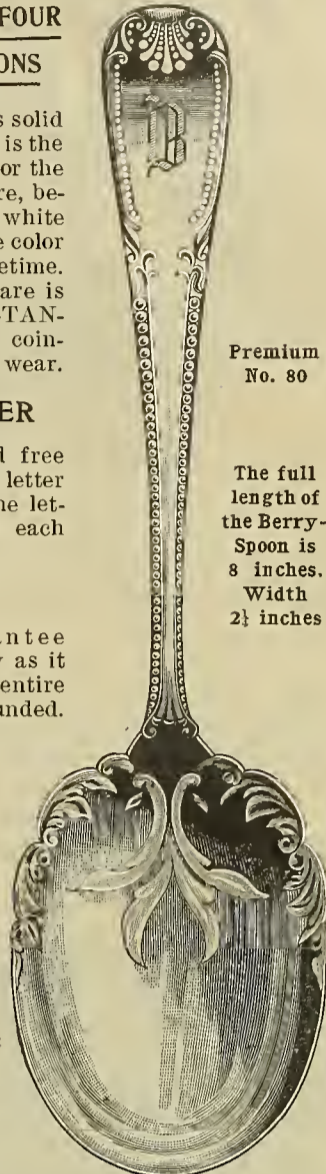
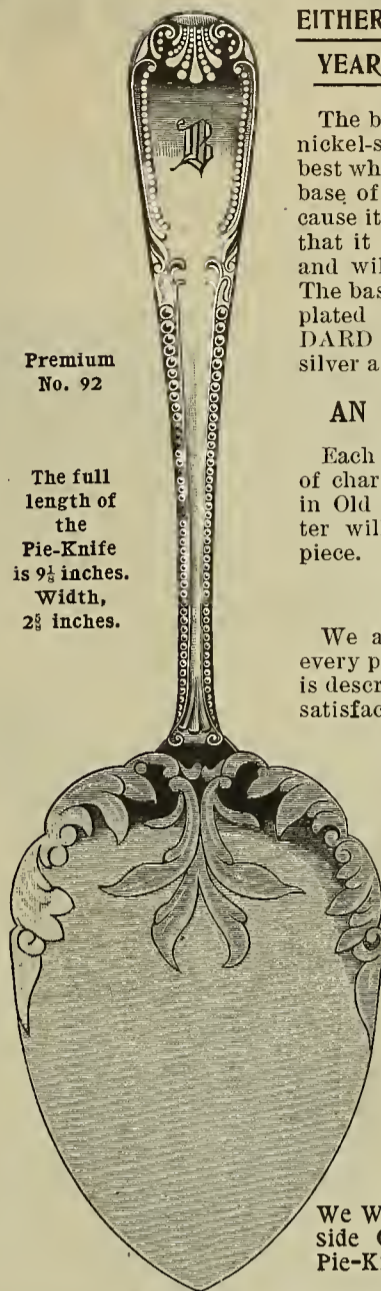
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### GUARANTEE

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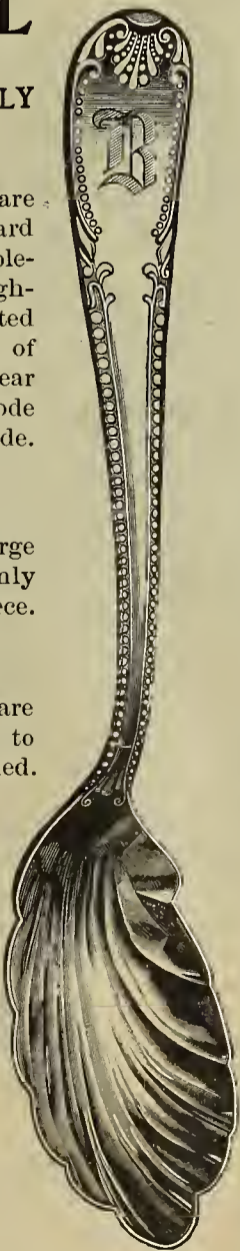
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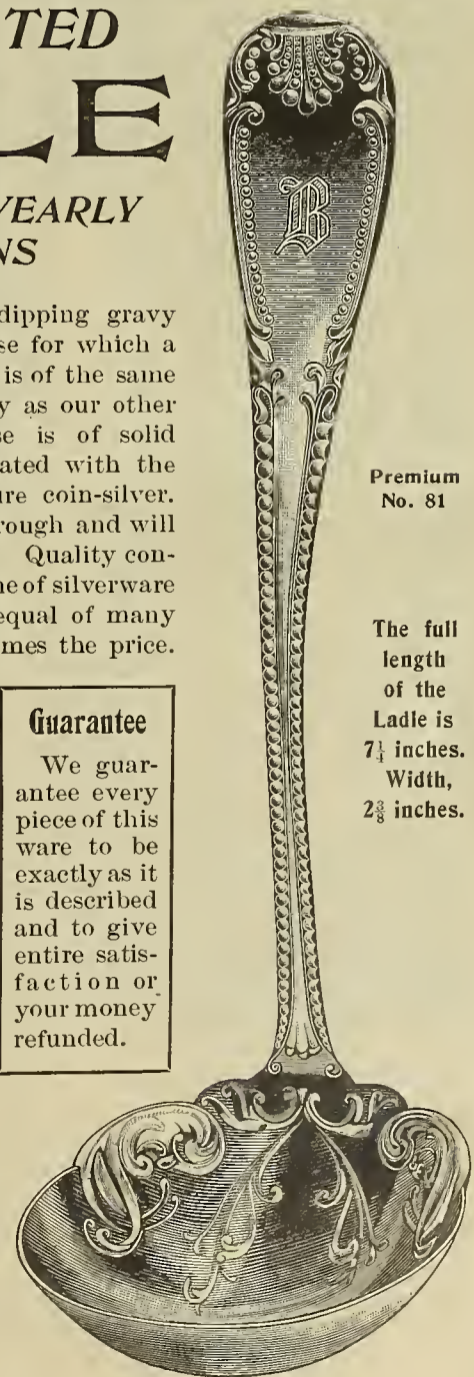
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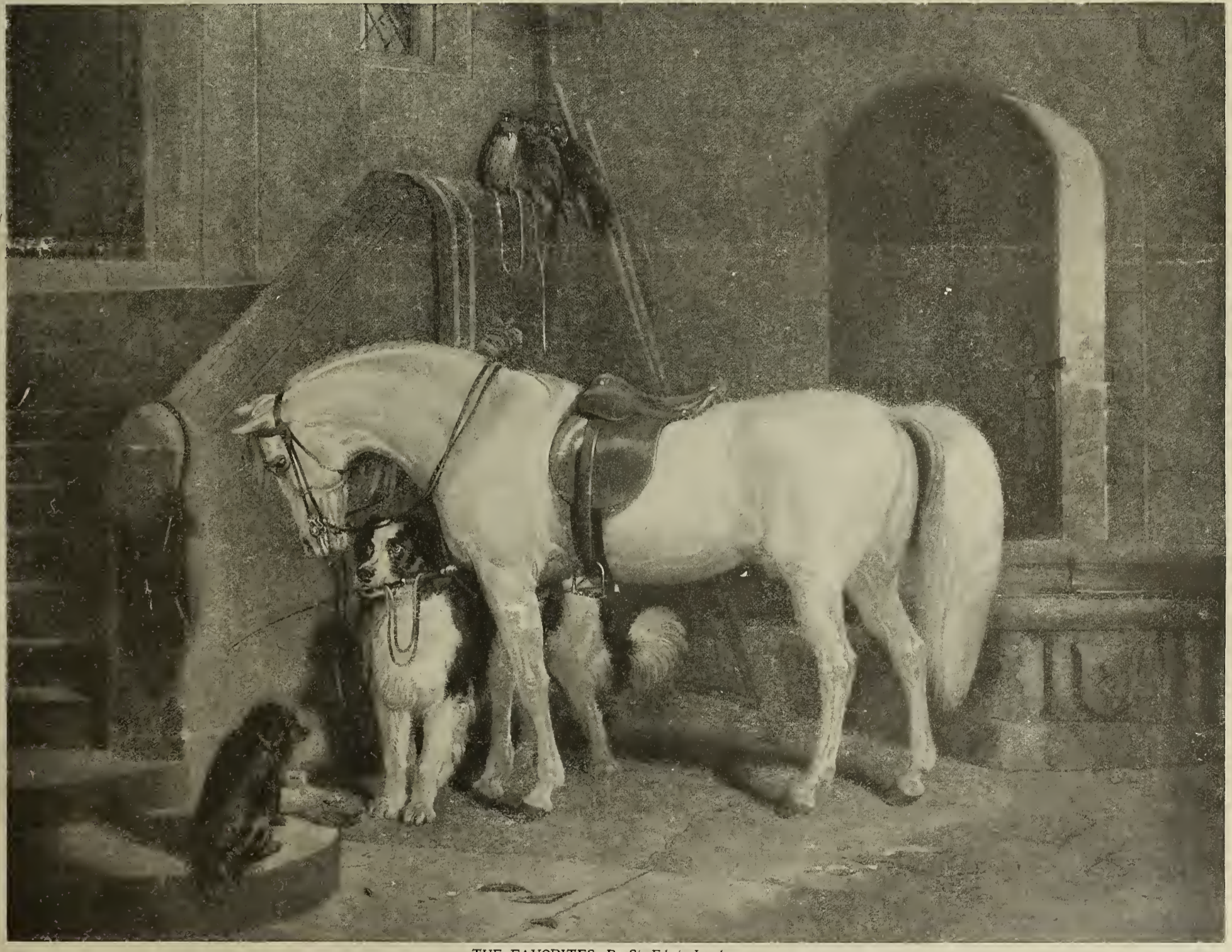
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## A Visit to Count Tolstoy's Farm

By Edward A. Steiner

AMONG the names of living European men that of Tolstoy has been carried beyond the boundaries of his native country of Russia, and is now known wherever human beings struggle to free themselves from sin and consequent suffering and unhappiness.

What brought him most before the world was the renunciation of his title, his withdrawal from society and his life among the peasants of his estate, where he performed the most ordinary labor, and where in every way he has become like one of the peasants who not so very long ago were practically his slaves. He has given up



COUNT TOLSTOY'S FAMILY COACH

all his property, considers nothing his own, but lives by the toil of his hands and brain, and has found happiness in hard work and salvation in strict obedience to the law of Christ. Besides his life of renunciation and obedience his writings have spread his name far and wide, and he is considered to-day one of the greatest writers of the age.

It was something more than curiosity which carried me to Yasnaya Polyana, thousands of miles across the sea and into the dreary heart of Russia; it was a desire to be in really vital touch with the man who has found his happiness in work and his salvation in an attempt to live the Christ-life upon the earth. The city nearest to the little community in which the Count lives is Tula, a large manufacturing center, where the agricultural implements of Russia are made. About ten miles' journey from here, through woods and sand, brought us to the village, lying on a slight hill circled by white beechwoods, more picturesque than the ordinary village, and certainly more famous than any other community of its size in this great empire. It was late in August, on the evening of a rather cool day, when I drove through the park which surrounds the house in which the Count lives. To the right of the gate is a duck-pond, where the women of the village spend their Mondays in washing clothes, which they accomplish by laying the wet garments upon a bench and lustily spanking them with an appropriate shingle. Further on, hidden behind giant oaks, is a two-story brick building, in which the Count lives. Though in a measure a perfect stranger to him I was heartily welcomed, and side by side we walked over the fields and through the forests of his estate, spending many hours and days in brisk exchange of thought, discussing many problems, while I received an insight into his life and an inspiration for my own, which I am glad to share with my readers.

The portrait in this article is a fair likeness of him, though there is color and light upon the face which the photograph cannot reproduce. He is seventy-three years old, his form is somewhat bent, his hair is gray, and yet he is seemingly robust, and a walk of ten miles is his usual exercise before supper. He works in the field until ten in the morning, retires to his study until two in the afternoon, then spends the remainder of the day among his people in the field, in the school-room or in their homes. The peasants we met upon our walk were well clad, well fed and seemingly happy, and, returning from their day's labor, they greeted the Count with deference in their demeanor and with the love-light in their faces.

They love the Count, and yet not so much as one might expect from what we have read; for if you hear them tell the story they will say, "The Count has done nothing for us." And yet he has won them from drink; he has kept them from starvation; he has aroused them from ignorance. He did not make, nor did he care to make, paupers of them, for what he requires of himself he requires of others; namely, to give everything and ask nothing in return. In

spite of the Count's peasant dress—his coarse linen blouse, the common black belt and mended boots—there are ages between him and the peasants. In spite of himself he towers above them. He is the Count; they are the peasants. To be as near to them as he is has cost him endless struggle. Many a time the spirit of his ancestors rose within him, and he stretched his hand toward the cane which had danced so lustily upon the backs of the mujiks in olden days, for they did exasperate him, yet he always withdrew; but those eyes could not help smiting the offender and cowering him into submission.

Tolstoy has formulated from the gospel five commandments which sum up his own principles of life and his teachings for the life of others:

"Not to resist evil, to bear with offenses and to do yet more than is demanded of us; neither to judge nor to go to law, for every man is himself full of faults and cannot teach. By seeking revenge men only teach others to do the same.

"To offend no one, and by no act to excite evil in others, for out of evil comes evil.

"To make no distinction between our own countrymen and foreigners, for all men are the children of one Father.

"Never to take an oath, because we can promise nothing, for man is altogether in the hands of the Father, and oaths are imposed for wicked ends.

"To be in all things chaste; and not to abandon the wife whom we have taken."

He had strange ways of educating his peasants—educating them through hardship, through sacrifice. When one told him that there were only three spades in the village he told him it was well thus; for in lending they were learning to love.

It is a method which with us often works the other way. He has stumbled and fallen like all mortals, and plowed into his face are the furrows of woe drawn by disappointment. He has had a weary road toward the cross—or, rather, underneath the cross—and many a time has fallen, bleeding and cursing.

On we walked toward the setting sun, between the ripened grain-stacks. Rabbits ran by us fearlessly, and the field-birds were not frightened from their nests; for it is a long, long time since the last gunshot wounded one of God's creatures.

The nightingale grew silent, the crickets chirped, and in melancholy mood we talked of failing health and coming death. Breaking into a silent moment I asked him, "Count,



COUNT TOLSTOY

what about the future? I mean the future of humanity. What will be the ultimate form of society?"

"The future," he answered, "is with God to know and for us to prepare. Our business is to live right now, and God will make all things right then."

Starting was his remark about socialism. "The greatest enemy to humanity is this social democracy. It is the preparation for a new slavery. It teaches a future good without a present betterment. It promises golden streets without the bloody Gethsemane."

"But isn't socialism a preparation for an ideal state?" I asked.

"No, indeed not; it is just the contrary. It will regulate everything—put everything under law. It will destroy the individual; it will enslave him. Socialism begins at the wrong end. You cannot organize anything until you have individuals. You are making chaos instead of cosmos. You will breed terrorism and confusion which only brute force will be able to quell. Socialism begins to regulate the world away from itself. You must make yourself right before the world around you can be made right. No matter how wrongly the world deals with you, if you are right the world will not harm you, and you may bring it to your way of thinking. The modern labor leader wishes to liberate the masses while he himself is a slave."

While he spoke his eyes rested firmly upon me; the sentences came from his lips like water from a spring. There was no possibility of replying; one could not disagree with him. He continued his speech—a sermon

among the oaks, which I alone heard—waking in me the consciousness of the self, impressing upon me the value of the individual and the power of the soul. He did not overawe or master me, but he made me master of myself. What he said there in his own speech, in that language which has all the melody of the Italian and all the forcefulness of the German, sounded to my ear like a recall to fundamental Christian ideas. I seemed to feel like Nicodemus, who heard as news what he should have known as a fact. "You must deny yourself; give up—renounce—sacrifice—follow me."

These were the echoes of his speech. "You must teach the whole truth—no half truth; if you teach that you lie," and his voice rolled like thunder and his eyes flashed lightning. "Young man," he continued, and he touched my shoulder and his eyes searched mine, "art thou a teacher in Israel and knowest not these things? What right have you to teach that which is not the word of Jesus?" He said this not in anger, but firmly and kindly.

The woods through which we passed were dense, the underbrush well cleared away by the peasants, who use every stick they can find for fuel. We climbed over a rickety fence into a large orchard where there were many apple-trees, and some small, poor fruit upon them, and then came upon the barn, where just one horse is left for the use of the family—the Count always walks. There is an air of neglect about the farm-yard, but that is the usual condition on Russian estates, and the Count does not claim to be a model farmer. He seemed very much interested when I told him about the intelligence and thrift of our farmers; but he feared that they did not love the farm-life for its own sake, and deplored the tendency manifested all over the world away from the farm into the city. He considers the love and use of money the world's greatest curse, and for nearly twenty years not a penny has passed through his hands. His sons are settled on neighboring estates, and when they lose their money, as they often do, he is greatly delighted.

"The truly happy life," Count Tolstoy said, "can be lived only on the farm, away from the struggle of the markets, content with what the earth brings forth, living upon God's bounty, asking nothing of men and giving them everything they need."

When I left him he had thrown around his shoulders a linen sheet, and he was walking across the brown, sear fields and over the fresh-plowed furrows, scattering the seed which was to bring forth its hundredfold in the next harvest. So he has from this little place scattered seed unto the hearts of men, which may be covered by earth and by snow, but which will bring forth its fruit in its season.

I left him, envying him his quiet, happy life; a life of self-denial and of self-sacrifice; a life beautiful in its simplicity and powerful through its truthfulness. For truth is more powerful than guns or armor, and Tolstoy is a more powerful factor for good in the world than the Czar and all his army.

I left him in that sleepy village convinced of a truth which so few farmers realize, that no place in life is so lowly but that we may exalt it; and that the tiller of the soil, if he be industrious and content, has solved the problem of happiness which so many are striving to solve.

"Tell your farmers and farmers' sons," said the great thinker, "to cling to the soil, to live simply, purely and lovingly. Tell them not to forsake the country because they are lonely; there is no loneliness like the loneliness of the city, and there is no sweeter companionship than that which they may have with God in the field. Tell them that labor alone ennobles, and that obedience to Christ's law alone brings salvation. There is no greater curse than money, and there is no greater blessing than to live the Christ-life."

I could gather no points on "how to farm" on Count Tolstoy's estate; we far surpass him in that, but he might teach us, as he has taught me, "how to live."



PEASANT HOUSE IN YASNAYA POLYANA

## FARM AND FIRESIDE

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IN THE "North American Review" for January is an interesting article entitled "The New Power in the South Pacific," by Hugh H. Lusk. The following extracts concisely describe the development of that new power:

"The establishment of the United States of Australia, under the novel title of 'The Australian Commonwealth,' is one of those events of history the importance of which is apt to be overlooked by most persons at the time they occur. It is natural that many should fancy that a political change occurring among a people occupying a distant country, directly connected with no other country, and not themselves what is known as an independent people, can be of little moment to the rest of the world. In the case of Australia such an idea is a mistaken one. The past history of the colonies, now federated as one people; the relation which they occupy, and must continue to occupy, to the rest of the British Empire; the nature, position and wealth of the great island continent which they have all to themselves, all tend to show that in the advent of a United Australia both England and the rest of the world have to do with a new power in the Pacific, whose influence must be increasingly felt within a few years.

"The nation of four million inhabitants just established in the continent of the South Pacific is, with the single exception of New Zealand, the youngest of the nations. Eighty years ago it did not exist at all. Seventy years ago it existed only as a handful of adventurers, set down beside a penal settlement, where something like twenty thousand banished criminals were expiating their offenses against society. Fifty years ago it was a pastoral community, whose flocks were scattered widely over the fringe of an unexplored country, supposed by most people to be a vast desert, and looked upon, even by its own little band of pioneers, as only fit for growing sheep and cattle, free to roam over its wide plains. To-day it is a people, small in numbers even now when compared with the size of its territory, but energetic, enterprising, ambitious, and already wealthy beyond the experience of other countries or the dreams of most other nations. They have occupied the belt of

land which encircles their continental island over a coast-line of eight thousand miles; they have penetrated and explored the great interior plains of the country, till they have everywhere ascertained its general character; they have established agriculture suited to its varied climates; they have discovered and developed mineral treasures hardly surpassed in richness elsewhere in the world; they have opened harbors large enough to contain the navies of the world; they have built cities that rival most of those found in the oldest countries. It is no exaggeration to say that the achievements of the people of Australia in the past seventy years are unsurpassed by those of almost any nation.

"At the moment of their consolidation into a united commonwealth the people of Australia find themselves, man for man, the wealthiest of all nations in the world. They are in the unquestioned possession of a continental island, rich in land fit for settlement and industry of every kind practised in almost any part of the world by men of the race from which nearly all of them have sprung. They have already laid the foundations of a national prosperity dependent on no single product or industry, but embracing pastoral, agricultural and mining industries in almost equal degree; to which are rapidly being added manufactures of the kind most suited to the circumstances of the country. Last year the total value of the products of the colonies now forming the commonwealth amounted to fully \$550,000,000, of which their pastoral industries represented fully \$150,000,000, their agriculture \$140,000,000, their mineral products fully \$100,000,000, and their manufacturing and other industries the remainder. This production was the fruit of the industry of a people numbering less than four million souls, and it therefore represents a sum of one hundred and thirty-seven dollars for every inhabitant of the country—a sum probably twice as great as that representing the average earnings in any European nation, and at least half as great again as that in even this country."

IN A recent number of the New York "Sun" is a notable paper entitled "Archaeology," by Prof. W. M. Flindries Petrie, the well-known Egyptologist. The paper deals with the opening and development of archaeology during the past century, and reviews the advance made in each of the principal countries. The discoveries made within the past quarter of a century have completely transformed our knowledge of early civilizations. For illustration take what Prof. Petrie gives of ancient Egypt, which is, he says, "before all other lands the country of archaeology. A continuous history of seven thousand years, with abundant remains of every period to illustrate it, and a rich prehistoric age before that, give completeness to the study and the fullest value to archaeological research."

Reviewing the earliest historical ages of Egypt Prof. Petrie says:

"In the early undated age before the monarchy which began about 4800 B. C. a flourishing civilization was spread over upper Egypt. Towns were built of brick, as in later times; clothing was made of woven linen and leather; pottery was most skilfully formed, without the potter's wheel, handmade, yet of exquisite regularity and beauty of outline, while the variety of form is perhaps greater than in any other land; stone vases were made entirely by hand, without a lathe, as perfect in form as the pottery, and of the hardest rocks, as diorite and granite; wood was carved for furniture; the art of colored glazing was common, and it was even applied to glazing over large carvings in rock-crystal; ornaments and beads were wrought of various stones and precious metals; ivory combs with carved figures adorned the hair; ivory spoons were used at the table; finely formed weapons and tools of copper served where strength was needful, while more useful were flint knives and lances, which were wrought with that miraculous finish that has never been reached by any other people; and games were played with dainty pieces of ivory. But all this tasteful skill of 5000-6000 B. C. had its negative side; in the artistic copying of nature the mechanical skill of these people carried them a very little way; their figures and heads of animals are strangely crude. And they had no system of writing, although marks were commonly used. They always buried the body doubled up, and often preserved the head and hands separately. Commerce was already active, and large rowing-galleys carried the wares of different countries around the Mediterranean. These people were the same as the

modern Kabyle of Algeria, and akin to South European races, but with some negro admixture. Our whole knowledge of this age has only been gained within the past five years.

"At about 5000 B. C. there poured into Egypt a very different people, probably from the Red Sea. Having far more artistic taste, a commoner use of metals, a system of writing already begun, and a more organized government, these fresh people started a new civilization in Egypt; adopting readily the art and skill of the earlier race, they formed by their union the peculiar culture known as Egyptian, a type which lasted for four thousand years. The same foundation of a type is seen in the bodily structure; the early historical people had wider heads and more slender noses than the prehistoric, but from 4000 B. C. down to Roman times the form shows no change.

"From this union of two able races came one of the finest peoples ever seen, the Egyptians of the old kingdom, 4500-3500 B. C. Full of grand conceptions, active, able, highly mechanical, and yet splendid artists, they have left behind them the greatest masses of building, the most accurate workmanship and exquisite sculptures in the grand pyramids and tombs of their cemeteries. They perfected the art of organizing combined labor on the immense public works. In all these respects no later age or country has advanced beyond this early ability. The moral character and ideas are preserved to us in the writings of these people, and we there read of the ability, reserve, steadfastness and kindness which we see reflected in the lifelike portraiture of that age.

"After a partial decay about 3000 B. C. this civilization blossomed out again nobly in the twelfth dynasty about 2600 B. C.; though the works of this age hardly reach the high level of the earlier times, yet they are finer than anything that followed them. To this succeeded another decadence, sealed by the disaster of the foreign invasion of the Hyksos. But this was thrown off by the rise of the third age of brilliance—the eighteenth dynasty, 1500 B. C.—which, though inferior to early times in highest work, yet shines by the wide-spread of art and luxury throughout the upper classes."

IN "The World's Work" for January Mr. J. P. Mowbray writes interestingly on "Going Back to the Soil" and "Can a Man Make a Small Farm Pay?" After defining the essential requirements for success Mr. Mowbray sums up some chapters of practical experience as follows:

"There are thousands of small farms within a radius of one hundred miles from New York whose owners have abandoned other pursuits and taken to tilling the land, and who could not be induced to go back to their former occupations. Their possessions range all the way from ten acres to fifty; their methods vary from the market-gardener to the stock-breeder, and their incomes differ accordingly. On Long Island and along the valleys of New Jersey they are mainly market-gardeners, and get two or three crops a year from soil that is kept at the highest point of productiveness. By availing themselves of all modern facilities, and by incessant toil through eight months of the year, they insure incomes of eight hundred to two thousand dollars a year.

"The absolute gain cannot be quite accurately measured, but the result is not represented in the often sparse pecuniary footing alone. Personal independence, a new sense of proprietorship, the stimulus of working for one's self, the freedom from conventional restrictions of dress, society and neighborhood demands; the companionship, new and sweet, of Nature, both animated and inorganic; the security from vicissitudes attending great changes in the economic world, such as a strike, a panic or a decline in demand for certain products, and a constant shifting of skilled labor by introduction of machinery and electricity—these are elements that form comfortable sum totals.

"Most of these small farmers manage to have an abundance of wholesome food of their own production, and a little account in the savings-bank. What they formerly spent in 'appearance' and amusement they put into the establishment; here a coat of paint and there a few dollars' worth of lumber; now a trellis and now a bay, a rustic seat

or a graveled walk; a little conservatory, a hotbed, a new row of flowers, or a ponyphaeton for the depot and Sunday. And every purchase thus applied furnishes an additional sense of insurance.

"Most of these small holdings have been acquired by a concentration and continuity of energy that few men will give to the interest of an employer; but the labor has been freed from a great deal of the deprivation that was felt by the tiller of the soil in another generation, and the results have borrowed some of the conveniences and adornments of modern life. The farms for the most part were bought by part payment, the balance remaining on bond and mortgage at six per cent in order to leave the operator capital enough to work with. Twenty per cent of these farms have been redeemed in five years, in some cases by the owner holding on to his city income, and living only part of the season on his place; but as a rule the debt was paid by the thrift, self-sacrifice and co-operative determination of the man and his wife. We can well imagine that the struggle was at times tough enough, and that there were moments when the strugglers were hard pressed. But they came through it with their teeth set and quite unconscious that they were heroic."

THE fourteenth annual report of the Interstate Commerce Commission, recently transmitted to Congress, deals very plainly with the subject of railway combinations. The report, in part, says:

"The Commission has no official knowledge of the extent of recent railway combinations, but it has informed itself as well as possible from unofficial sources. Disregarding mere rumors, but taking account of well-authenticated statements, there were absorbed in various ways between July 1, 1899, and November 1, 1900, 25,311 miles of railroad. There are in the whole United States something less than 200,000 miles of railroad; and more than one eighth of this entire mileage was, within the above period, brought, in one way and another, under the control of other lines. The scope and effect of these operations is illustrated by some examples given in the report. The Commission goes on to say that when we consider what has actually been done, what is undoubtedly in contemplation, the entire feasibility of these schemes, the very great advantage which would result to the owners of the properties involved, and the fact that a step once taken in that direction is seldom retraced, it becomes evident that in the immediate future the main transportation lines of this country will be thrown into great groups, controlling their own territory, and not subject, with respect to most of their traffic, to serious competition.

"Such a condition is not without its benefits. The evils which competition begets will largely disappear with that competition, and many of the worst forms of discrimination will cease. Owing to wasteful competition transportation by rail actually costs more than it ought. To eliminate that competition will be to work an actual saving in the cost of the service, and this should redound to the benefit of both the carrier and the shipper.

"The danger lies in the fact that the only check upon the rate is thereby removed. Hitherto the competition between carriers has kept down the price of carriage. If that is taken away nothing remains except the force of popular opinion and the feeble restraints of the present law, which are of little effect when directed against slight and gradual advances. It will lie within the power of two or three men, or at most a small group of men, to say what tax shall be imposed upon the vast traffic moving between the East and West. The nature of the service and the conditions under which this species of property is operated may be such that it cannot be, and perhaps ought not to be, brought under the controlling force of competition; but those very conditions make it necessary that some other control should be substituted for competition.

"It is idle to say that freight rates cannot be advanced. During the past year they have been, by concerted action upon a vast column of traffic, advanced in every part of this country. It is equally idle to say that they will not be advanced. It is both human nature and the lesson of history that unlimited power induces misuse of that power. Railways are not combining for the purpose of 'extortion and abuse,' but none the less should the people provide some protection against that possible result of the combination."

## ABOUT RURAL AFFAIRS

### Comfort in Home Gardens

I was born and brought up in the city, but my folks had quite a large garden just outside the city walls, and a little bit of a garden back of the dwelling-house, and our neighbors had gardens and yards of their own, too, and in every one of these gardens, large and small, there was at least one summer-house, vine-clad and shrub-surrounded. These summer-houses were in most cases constructed of latticework, in a simple and cheap manner, with an open roof, the grape-vines or other running plants climbing up on the sides and over the roof. In an uncle's garden the summer-house was placed against the wall on the north, or further, end of the lot, and choicest grape-vines were trained along the walls on both sides, and others covered the summer-house so completely, that here was a real cozy retreat for any member of the family looking for a chance to rest, read or enjoy the luscious fruit of the vines. Many happy hours of my early boyhood have I spent in these summer-

of sweet-peas will be made, probably in July, on the Exposition grounds. I am going to keep on the lookout for this, and shall watch especially for the dwarf sweet-pea with some sort of curiosity concerning the outcome. A big bed of Cupids would surely make a very fine exhibit.

### Home Baking-powders

The favorite argument of fertilizer-men and their followers against the use of home-mixed fertilizers or of plain standard chemicals by the ordinary farmer has been the alleged lack of facilities for properly mixing the ingredients on the farm. A similar argument is used by many in opposition to the preparation of baking-powders at home. Manufacturers who take ingredients worth not over twelve or fifteen cents a pound, mix them, and put them in cans or packages, to be sold at fifty cents, always come with the plea that farmers and housewives are not prepared to mix the

makers" are made with an eye to profit rather than to effectiveness. The matter of mixing itself is readily solved in the case of the fertilizers. I believe it is a problem of easy solution in the case of baking-powders. And we can trust the inventive ingenuity of the American people to give us a device for mixing such things in as thorough manner as commercial manufacturers of baking-powders can do it with their machinery just as soon as there is call for it. It is folly to say that mechanical difficulties make home-mixing impossible or impracticable. And yet I would not advise any one to undertake mixing such baking-powders at home unless they are ready and willing to do the job in a thorough manner. If you fail in this, home-made baking-powders will surely disappoint you.

T. GREINER.

### SALIENT FARM NOTES

**A Run-down Farm Problem** Sometimes I am very much puzzled by apparently simple problems that arise in every-day life, and at such times I wonder how farmers who have received no scientific training whatever along agricultural lines, and who read next to nothing about their vocation, manage to hold their own as long as they do. Evidently in many cases it has been the naturally great fertility of the soil that has kept them up; but it is plain that we have reached the time when the farmer must understand at least the rudiments of scientific agriculture to hold his own in the struggle for existence. Only a few days ago a gray-haired old man stated some of his troubles to me and asked what he had best do. Thirty-one years ago he bought eighty acres of good prairie land. From this land he has raised sufficient grain to pay for it, build a fairly comfortable house, a good little barn, sheds for hogs, etc., and to live. Now he finds himself old and failing, his boys gone to make their way in the world, the once rich soil impoverished and incapable of producing half the yield of grain it formerly did, and that only with three times the amount of tillage formerly required.

"You see," said the old man, pathetically, "if I were to put the land in grass a few years, as many advise, I would have no means of making a living. The hay I would get from it would not keep us, and the stock I must have. We must have corn for feed, and something to sell to buy necessaries. I cannot work like I used to, and my boys are gone. Last year I rented part of the land for corn, but got next to nothing from it. The tenant made a fizzle of raising a crop. I am in debt about \$150, and have no money to buy anything with, so whatever you advise you must not call for money."

The fact is, the poor old man has, like many another, farmed himself almost into the poorhouse. What a splendid soil he had at the outset! Cropped thirty-one years continuously without rest or fertilizer shows plainly what a bank of wealth he had to draw upon. I couldn't resist asking him if he supposed that it would be possible to restore in one or two years a soil that he had spent thirty-one years in impoverishing. But the poor old man didn't know any better. He does not understand the use of fertilizers, and nitrogen, potash and phosphoric acid would be Greek to him. He is not able to acquire and assimilate knowledge like a young man, but he is willing to accept advice and follow it as he understands it. He has followed the rut that many others are following, but he has lived long enough to learn that his methods have been wrong, and he seeks to be helped out.

I explained to him that his soil is deficient in humus, which is simply decayed vegetable matter, and, consequently, is run together, and in a manner resembles cement. It is hard to break up, and bakes quickly after a rain. There still is considerable fertility in it, but it is locked up. Owing to the fineness of its texture, due wholly to a lack of humus, the roots of the plants cannot force themselves through it to gather up this fertility. What it needs most of all is humus. And in getting humus into it nitrogen can be gotten into it at the same time. This is what we need. I advised him to seed ten acres to clover, sowing quite twice as much seed as is usually done. I would plow very shallow as early in spring as possible, harrow immediately, and sow the clover-seed with about three pecks of oats to the acre. As soon as the oats headed, cut them, weeds and all, with a mower set rather high, and cure for hay. This will give the clover a chance to

make sufficient growth to resist drought in late summer. The following year the entire crop may be turned under when in bloom and an early-maturing variety of corn planted at once. All the cultivation this crop will need will be light surface work.

Twenty acres I would seed to cow-peas, preparing the ground for them in May, before it gets baked. I would harvest ten acres of these for hay when the first pods begin to ripen, plow the ground and seed with winter wheat. The remaining ten acres I would turn under for fertilizer when about half the pods were ripe, and plant the field to corn the following spring. It takes nerve to turn under a crop of cow-peas at this stage of growth, but we must do it to get humus into the soil. It will do no harm to herd a few cows or pigs on it a few days before turning under; but we must remember that the more vegetable matter we turn under the better off we are eventually. A few words about seeding with cow-peas. I bought seed from a seed-house, and sowed at the rate of two bushels an acre, and obtained only a fair stand. The following year I sowed seed of my own saving at the same rate and got them too thick by half. After one gets started it pays to save seed of his own growing, and I think he will find that one bushel an acre is enough. Let me add, I have none for sale. The second year I would seed another ten acres to clover, same as the first, and twenty more to cow-peas, managing same as before. If from any cause the clover should fail, I would grow cow-peas exclusively. By alternating cow-peas and corn he will not only obtain good paying crops of the latter, but will find that the texture and fertility of his soil will be improved from year to year.

The man who finds himself the owner of a run-down farm, from which he must make a living while building it up, will find in cow-peas a bonanza. It takes many years of cropping to deprive a soil of its available potash and phosphoric acid; but its available nitrogen is soon out, and the cheapest method of restoring it is by growing the legumes. The first thing to be done to a run-together soil is to lighten it with humus—separate its particles and admit both air and water. When a soil is so lightened nitrogen is added to it by rain, sun and air, while it is almost totally excluded from a soil devoid of humus by its compact, run-together condition. And herein the scriptural saying "To him that hath shall be given, but to him that hath not shall be taken away, even that which he hath!" is exemplified. There was a time when we were compelled to rely almost wholly on barn-yard manure for humus, but that time, happily, is past. Barn-yard manure is one of the best sources of humus, but on most farms its supply is too limited. It is right to make all one can; but in keeping the soil filled with humus, porous, friable and fertile we must rely largely upon clover and cow-peas, and he who does so will, if he uses them largely and skilfully, be successful in growing full crops and keeping up the fertility of his soil.

FRED GRUNDY.

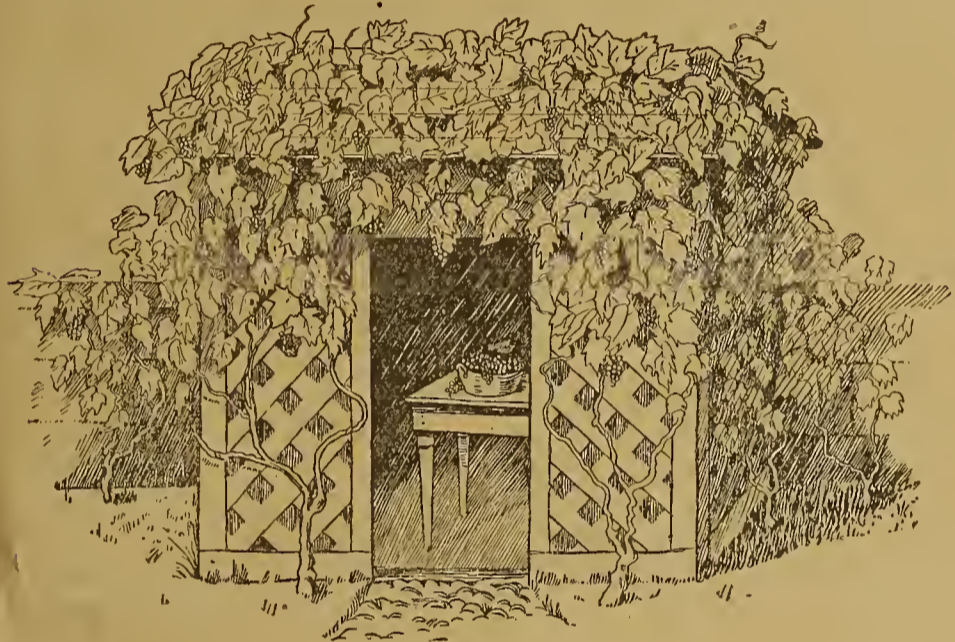
### THE KING-BIRD

An article in the November 15, 1900, issue of the FARM AND FIRESIDE calculated to do harm among those not well acquainted with our common birds is the one under the heading "Birds." Surely the article cannot refer to the king-bird (*Tyrannus tyrannus*), so familiar to all dwellers east of the Great Divide. If so, I must protest against the writer maligning one of our most useful insectivorous birds.

To say that the king-bird "lives on other birds' eggs and young birds" is to make a statement that is false. And the idea of a king-bird bothering any kind of a swallow in any way is too ludicrous to call for a second thought if it were not that those unacquainted with the king-bird might become prejudiced against one of our best friends.

Robins, chipping-sparrows, cedar-birds, goldfinches, least fly-catchers and king-birds habitually nest in orchards, or even in the same tree, in perfect harmony with each other, and under but one provocation does the king-bird attack any of them, and that is when they approach too near his nest. Should the king-bird approach too near the robin's nest he in turn will be driven away. This common resident of every orchard is entirely insectivorous, and, like all other members of the fly-catcher family, catches insects on the wing. Besides this he is the veritable guardian of the chicken-coop, attacking all hawks and crows that come within sight.

R. H. CARR.



A SUMMER-HOUSE

houses. In all of them we had a table in the center, with chairs or benches around it, and here we would play, or enjoy the fruits of the season, usually standing in a big fruit-dish in the middle of the table, or read a paper or book, or write letters, or take our coffee and lunch. Old country people, in short, take time for comfort and for the enjoyment of the good things of life. On this side of the big water, in our anxiety to acquire the means to live, we forget to live and to enjoy life. I know that the summer-house has added much to my pleasures in early life and to my love for home and family; and I believe that it is worth while to make use of so inexpensive means of adding to our children's pleasures and comforts and to their appreciation of home. This was the chief object I had in view in making my plea for summer-houses.

**Sweet-peas** The sweet-pea has become a very popular flower. It must be confessed that it is as pretty a thing as our flora affords, and a worthy object of our admiration, which, like that for the chrysanthemum in its time, has grown almost to a fad or craze. The dwarf varieties are of recent origin. W. Atlee Burpee a few years ago introduced the White Cupid, then the Pink Cupid, and finally last year Cupids of all sorts of pretty colors. I had some of the darker (maroon) sorts that were gems of velvety beauty. These dwarf sorts have greatly increased the general public's interest in, and appreciation for, the sweet-pea. Unfortunately, however, this dwarf form is not so easily grown as the common tall form. It has to be coddled and petted and nursed along. But when one gets the Cupid, no matter of what color or shade, in perfection it is worth having. The most satisfaction this new dwarf flower has given me was in greenhouse culture. Planted in very rich soil, in any out-of-the-way corner, and even if not exposed to the full sun, it will make a good growth and produce a wealth of bloom for a long time. But I have not been able to make it always do that in open ground. From Wm. Scott, Assistant Superintendent of Floriculture of the Pan-American Exposition, and an expert florist of Buffalo, I learn that an extensive show

tartaric acid, cream of tartar, bicarbonate of soda, etc., as thoroughly and intimately as will be necessary to insure best results in the bake-oven. I cannot believe that it should be impossible for any one except a regular manufacturer to mix such ingredients very thoroughly. Misled by interested parties some agricultural papers have for awhile discouraged the idea of farmers mixing their own fertilizers; and when one of the best in a recent issue spoke slightly of the proposition that farmers might make their own baking-powders, I think the editor was simply misled by that favorite yet transparent argument of the manufacturers. A reader of that paper, however, thinks differently, and says: "It (the home-mixing) does not seem to me to be as difficult a job as you think. I speak from personal experience. The materials to be used and the quantity of each are cream of tartar, nine parts; tartaric acid, six parts; bicarbonate of soda, ten parts. Care must be taken to see that all are finely powdered and perfectly dry. Throw all together on a large sheet of paper. Then by raising first one side and then another in regular succession the mass may be rolled over on itself this way and that until the ingredients are fairly well mixed. But to make sure that the mixture is perfect and quite free from lumps let it run a time or two through a flour-sifter. Keep in a well-corked bottle or air-tight jar. Made in this way, of pure materials purchased at wholesale, baking-powder would cost a few cents less than twenty cents a pound. The chief advantage to be gained by home-mixing is the increased assurance it affords that the article obtained will prove purer and better—that is to say, free from harmful adulterants—and more effective for the purpose intended." I use baking-powders very sparingly in my family. I object to them chiefly because I am afraid of all mixtures of unknown and suspicious composition like the ordinary baking-powders of our groceries. They are put up for the purpose of making large profits for the maker, not for the purpose of supplying people with pure food materials. In the same way I prefer home-mixed fertilizers, because with them I know exactly the nature of the material I use, while the ready mixtures of our fertilizer "manufac-



## FARM THEORY AND PRACTICE

**MISLEADING ESTIMATES.**—A friend wanted to know the value of his stable manures for a year, and the results he arrived at by figuring closely upon the matter were rather astonishing. He first calculated the amounts of fertility in all the crops he fed and in the bedding he used. He had learned from our experimenters that the animals on the average took out about one fourth of this plant-food; or, more accurately, that the body waste and the undigested material in the manure equaled about three fourths of the food, so far as fertility was concerned. So he deducted one fourth from the total amount of the elements of fertility in his feed, and calculated the value of the remainder at the price a pound of nitrogen, phosphoric acid and potash in commercial fertilizers.

The figures ran up into many hundreds of dollars. That was not all. In this big body of manure was material that improves the physical condition of soils—that helps to furnish humus—and to that he would give a money value. Such calculations are often made to emphasize the folly of letting stable manures waste; and certainly the loss is immense, but they do not tend to inspire confidence in the safety of agricultural teaching. In general farming the practical man knows that he could not afford to buy the manure of another's farm at the valuation given, the value of the manure even exceeding the commercial value of the crops in some instances. There is a lame place in the calculation, and the extension of good farm practice by means of farm papers depends upon close adherence to exact truth.

**THE ERROR IN THE ESTIMATE.**—The valuation of stable manure on the same basis as that of commercial fertilizers is misleading in several respects. The nitrogen, phosphoric acid and potash usually have less value in manure than in commercial fertilizers because they are less available, cannot be applied by most farmers so evenly and surely just where needed by a tiny plant, and cannot be applied as cheaply an acre. More than this, it would be a great error to assume that a farmer could afford to buy in a fertilizer all the nitrogen or any other element contained in the manure, even if availability and means of distribution were the same. If they cost him the money our friends would value them at he would play a losing game. Therefore, they do not have that value.

**WHAT IS A TRUE VALUATION?**—Certainly I do not seek to underestimate stable manure nor to magnify commercial fertilizers. The man who lets the former go to waste while buying the latter deserves to lose money, and probably will do so in the long run. We know the manure is rich in plant-food, and it is folly to let it go to waste. Especially is it wasteful management to let the soluble liquid fertility be lost. But the cash value of the manure depends upon the soil, crops, management and markets of the farm. A correct general valuation is out of the question. The figures used in valuing commercial fertilizers do not apply to it with any certainty. The value of the manure for any farm depends upon what can be made out of it. Recognition of this truth and conservatism in all statements are needed to inspire confidence in agricultural teaching.

**THE OATS CROP.**—Extreme heat when oats come into head is ruinous to the crop. With the possible exception of the extreme northern portion of the oats-producing section early seeding is a prime consideration. The idea is to get the crop advanced as far as possible toward maturity before a heated spell of weather strikes it. If there is any justification for leaving ground bare during winter it is in the gain from early winter plowing of corn-stubble for this crop. This puts most soils in such shape that a disk or spring-tooth harrow will prepare it for seeding quickly in the spring. In loose soils some farmers do no plowing for oats, using only the harrow in the corn-stubble. The late winter plowing is preferable; then the harrow can make a good seed-bed.

**METHOD OF SEEDING.**—There has been much experimenting to learn the best way

of seeding oats. The results are confusing. Some of the best yields have been gotten from broadcasting and covering with a disk-harrow. The grain-drill is more generally used. A few farmers of my acquaintance who make this crop a specialty believe the best results on the average are gotten by broadcasting half the seed ahead of the drill and then drilling in the other half. The drill covers the broadcasted seed, and the distribution of the plants is better than where all the seed goes into the drills. For wheat this would not do; all the plants need the protection of the drill-marks during winter. With oats it is different; but the chief consideration is early seeding in a fine seed-bed made after the soil is dry enough. Work on a wet soil is worse than wasted.

**NITRATE OF SODA.**—It is nitrogen that makes growth of plants. It must be in the form of a nitrate before plants can use it. Nitrogen gets into this form in the soil in hot weather. That is the reason corn and oats cannot make rapid growth at first. They do not get the food they need. But if the oats wait much they get too much heat later, when they do not need it. In a cold, dry spring a little nitrogen in the form of a nitrate does a lot of good—it provides the needed element in a form immediately available. In such a spring it would pay many farmers to use a light dressing of nitrate of soda on oats and on meadows. It should be applied at the time needed—not at the time of seeding, because it is too soluble and may be leached away before there are roots to take it up. This is a suggestion for experiments on a small scale, when cold, dry weather is stopping all growth. DAVID.

### CRIMSON CLOVER FOR GREEN MANURING

The great value of green manuring is shown by some tobacco-raising experiments made by the Maryland station. Tobacco-cropping, as is well-known, is a very severe drain on the fertility of land, but the experiments show that by a proper system of green manuring land can be continuously cropped to tobacco and yet improve rather than deteriorate. The depletion of the organic matter in the soil in many tobacco sections is the cause of the great decrease in the quality and yield of the crop. Year in and year out soil is planted and cultivated for tobacco crops, with the result that all the organic matter is finally burnt out, and with an extreme of wet or dry periods the crops suffer.

The lands in question of the experiment station were in such a condition in 1894, when a test was made in order to ascertain a means of supplying the needful organic substances. The crop resulting from planting to this soil in 1894, with only the addition of a good quantity of commercial fertilizer, was of a poor quality and fared badly. Since then the crops were set early, so that by the last of August or the first week in September they were ready for harvest. Then as soon as the tobacco was cleared off the land the soil was worked over with a spring-toothed harrow and at once seeded to crimson clover, which was covered with a smoothing-harrow. These crops came up well, stood the severe winters well, and gave a large amount of green manure to turn under for the crop to follow. This green matter was supplemented with commercial fertilizers in 1895, 1896 and 1897, but in 1898 and 1899 no fertilizer was applied.

As a result of this treatment the crop increased each year in quantity and quality, and in 1897 it was over three times as heavy as in the year 1894. The land becoming filled with humus as a result of this, there was created a means of preventing the crop from firing and losing ground-leaves. As the planting by the station of the tobacco crop occurs from May 10th to June 1st, the tobacco arrives at maturity in time to have the land clear for the sowing of crimson-clover seed by the first of September, or the tenth at the latest. This allows the clover to arrive at such a stage of growth as to withstand the winter and produce a great mass of green manure to be turned down the following spring for the succeeding tobacco crop.

This experiment of the Maryland station is one of the clearest examples of how, by the use of legumes for green manuring, land can be exhaustively cropped without rest, and yet continually improve, even to the extent of not requiring commercial fertilizer. GUY E. MITCHELL.

THE BOY who is brought up thinking farmers are a poor lot is likely to become a shining example of his belief.—Home Journal.

### THE OLD BARN IN A NEW DRESS

I found the old barn in very bad condition when I came on Clover-Leaf Farm. That was twelve years ago. The barn stood away out in the field far from the house. There was no fence around it, and I have fairly had the backache as I thought of the hours and days which must have been spent in corralling the cows as they were brought down from the meadow and finally headed toward the barn.

The building must have been put up more than half a century ago; at any rate, the siding was worn thin by the weather of the years which had gone by. It never had been battened. The wind whistled through the cracks dismally. What a quantity of feed must have gone through those cracks in the long years it had been used! Across one end of the barn stretched a "lean-to," used as a horse-stable, and beyond that was a shed, where the chickens held sway. The floor of that horse-stable was a wonder to me when I came to take it up preparatory to rebuilding. There were three or four thicknesses of plank on the floor. It seemed that the old man who had so long owned the place had been in the habit of repairing holes in the floor by putting down another layer of plank over the floor which was worn out. No doubt that was the easiest way to do, but it makes one dizzy to think what would have been the result if that plan had been carried out indefinitely. The floor and the roof must have met somewhere, and the old horse's head might have been bumped then.

The year after I moved on the place I set out to "do something" with the old barn. My first decision was that life was too short to be spent in traveling so far so many, many times a day to get to the barn. It must be nearer. The house stood on the corner where two ways met—a nice, slightly location on dry ground. Just south of the house was a slight descent away into the field. The ground there was hard and dry. The drainage would be good. Why not resurrect the barn on that site? This idea prevailed, and there the barn is.

I tore the siding all off the old barn, saving every board, plank and piece of timber which could possibly be used in the construction of the barn that was to be. The frame proved to be in the main sound, and such of the bents as could be utilized were carried bodily to the new site. Some of the braces were of oak. Think of it! Timber now worth thirty or forty dollars a thousand used for braces in a barn! And the siding, too, was a wonder. The boards were clear pine, some of them two feet wide. If we only had that lumber now! But we wouldn't put it into a barn, not by a good deal.

When I had laid by all the good lumber I could from the old barn I went into the woods for the remainder. I planned a basement eight feet in the clear, with posts eight by nine. An additional bent was framed to the west end, making the length fifty feet. A thirty-foot shed extended southward, with an eastward exposure for the sheep and cattle on cold and stormy days. And how the cows and sheep do enjoy that shed! It seems to me I never knew a herd of cattle that seemed to take as much solid comfort as ours do in and around that barn.

We enter the new barn from the north side, having built the bridge-wall eight feet back from the building, so that the frost never would disturb the frame. I had to fill in back of that wall a good deal, to make an easy approach; but there happened to be a little bank of earth between the barn and the highway which could just as well be moved as not. This was scraped to the barn bank. Then, too, I drew scores of loads of stone from the farm and covered them with the earth. It formed a good place to dispose of the stone and gave a good, solid bank. There are two doors by which I enter to the second floor. The old swing-doors have given way to the modern roller-doors. Those leading to the "big floor" are each six feet wide. Those in the west end are a little narrower. Under the bridge, which extends almost the entire length of the barn, are two small doors to reach the stables. The stables are so arranged that all the manure is kept under cover. The horse manure is mixed with the cow manure, thus adding to the value of both. The droppings from the horses are used in the drop of the cow-stable, for I do not think it is economy to let that go to waste. I want to say that I entered into a solemn compact with myself that never should anything be stored under the barn-bridge. I have often been glad of this when looking under some of the bridges I have passed and noticing the plows, harrows, mowing-machines and almost everything else that had accumulated there.

Every board on the barn is surfaced, the cracks are tightly battened and the whole kept painted. On the top is a cupola surmounted by a shaft bearing a compass and arrow. The interior of the barn is very convenient. Am I proud of this barn? Well, why should I not be? It is neat, handy and, more than all else, comfortable. And this is the story of the resurrected old barn. E. L. VINCENT.

### THE DELAINE MERINO SHEEP

Years ago we used to hear of the "big Merino Delaine sheep" of Ohio and Pennsylvania, with long, fine wool, and hoofs like a yearling calf. It is worthy of remark that mutton was scarcely an incident at that time. Sheep-raising was all wool or nothing. Their size was not in their favor measured by the standard prevailing then among Merino-sheep breeders. For a long time it was taught that the most economical sheep for wool-growing had the smallest per cent of carcass to the greatest per cent of fleece. A ewe weighing seventy to eighty pounds, and shearing twelve to fourteen pounds of wool, was the most profitable. This may account for the unfortunate fact that a ewe weighing one hundred and twenty-five pounds, and shearing fourteen to eighteen pounds, should be in disfavor among farmers. They were then over-size, too big, as the Merino authorities said, and they kept that ban before the people until the popular demand for large sheep for mutton forced the idea of little sheep as too absurd for contention.

Still the breeders of these big Merinos were way behind the times, and did not see their opportunities and push them. As a class these men are of the highest of gentlemen. It will be observed that most of them spell their names with "Mc," indicating a Scotch origin. It is safe to conclude they are Calvinistic in faith, and are opposed to change of faith and practice, provided they think and can prove that they are right. Some of them never change, anyhow. It is to be regretted that these good men are so very human and stand for their own sheep with so much persistence.

To be understood it is necessary to say these sheep are in several varieties and have books of register. There are National and Standard Delaines, Black Tops and Improved Black Tops, Dickinson Delaines. It is claimed these are each very different; they are very distinct, but there is very little difference as they are found to-day. There is less difference than exists between the Atwoods and Spanish Americans now found in Vermont, New York, Ohio and Illinois. They are pure Spanish Merino blood. These Delaine sheep have suffered greatly by this contention. They have every desirable quality both in carcass and fleece, varying some owing more to keeping than to blood and book. They mature at two years old, and weigh, rams one hundred and seventy-five to two hundred pounds, ewes one hundred and fifty to one hundred and eighty; and shear, ewes fourteen to twenty pounds, rams eighteen to as much as thirty pounds. The wool is fine, glossy and four to six inches long. In build they are so symmetrical that an expert will think only of South-downs of the best size covered with Merino wool of the very best and highest grade. They come to maturity at so early an age and breed so generously as to place them with the Shropshires for early breeding. These desirable qualities for front place are scarcely mentioned by their breeders at all.

These Delaines compare fairly well with the Rambouillet, or French Merinos, with shorter legs and better symmetry of form; they mature earlier and are not behind them in fleece and fleece qualities.

Sometimes a man with less faith in the past will come to the work and unite them under one name, perhaps American Delaines, and put them where they belong, as the best sheep in the world for American agriculture. R. M. BELL.

### KAFIR-CORN

There is much truth in the saying, especially in the Western states, that "corn is king." Yet for the farmer of these sections Kafir-corn is too valuable a crop to be neglected. In dry seasons it is much more certain than Indian corn. In any season it produces as much grain as Indian corn, and in dry seasons much more. It is a better feed for growing animals than other corn, and it has no superior as a feed in the poultry-yards. Its grain makes excellent bread, mush and batter-cakes. Kafir-corn has been the salvation of the semi-arid regions, and has been raised with profit by the farmers of more favored sections. It is a crop that bids fair to grow in popularity as its value is better understood. J. L. I.

# NOTES FROM GARDEN AND FIELD

**BURBANK'S NEW CREATIONS.**—One of the pleasant tasks of the early winter months is the examination of the new catalogues as they come in. I always want to know what new things are going to be offered. Up to this time I have had only two catalogues. One of these comes from Mr. Luther Burbank, California's horticultural wizard. As usual, he announces some wonderful things, all of his own origination. There is a new cross-bred peach, the "Opulent," a cross of the Muir-Wager class of peaches and the White Nectarine. A good many points of superiority are claimed for it. Then comes a new apple, the "Winterstein," a seedling of the famous Gravenstein, six weeks later than its parent, ripening exactly with the Baldwin and Rhode Island Greening; flesh yellowish, exceedingly tender, spicy, rich subacid, with a flavor all its own. Next he offers a new plum, called "First," a combination cross of American and Japan sorts, and claimed to be the earliest of all plums, ripening fully three weeks earlier than Red June. Mr. Burbank offers one new vegetable, the new asparagus "Quality." This is said to produce shoots of a light yellowish-green color and of a rich flavor, unlike (and very much superior to) any other asparagus. I will not speak in detail of his floral novelties, the Shasta daisies, new *Tigridia grandiflora* hybrids, new rose "Coquito," etc., but must mention the "Plumcot," a mixture of Japanese plum and common apricot, which will not yet be sent out, as Mr. Burbank wishes to perfect the tree in some respects before giving it to the public. It is claimed to be a decidedly distinct and novel fruit, having the general form of an apricot and the same general outside appearance, but is often more highly colored than either a plum or an apricot. Seed more often resembles a plum-pit, but is sometimes like an apricot-pit. The rich flavors of these fruits, says Mr. Burbank, are a revelation of new fruit possibilities, and are not duplicated by any fruit growing on this planet. The catalogue also tells of an improved Beach plum, which is larger than the Wayland, the fruit covering the limbs all around in big ropes. The tree is dwarf, compact, bush-like. Finally I have to mention the new stoneless plums and prunes, some of which bear stoneless seeds and some neither stone nor seed. I believe that I have spoken in an earlier issue of Burbank's new Australian Winter rhubarb. I have a plant of this now in the greenhouse, but I confess I hardly know how best to handle it. Perhaps it will be safest to plant it in a large box or keg, and then when it has made some new roots to take it out of the greenhouse and gradually expose it to outdoor conditions. I do not wish to force it and perhaps spoil it for propagation in open ground. I shall also get a dozen plants of the new asparagus for trial.

**WAX-BEANS.**—The other catalogue has come from Cole's Seed Store, Iowa. Among the novelties described in it I find first "Jones' Stringless White" wax-bean. Great strides have been made in the improvement of string-beans during the past ten years, and we now have plenty of varieties that give pods of the thickness of a lady's finger, and of all the brittleness and tenderness that may be wished for. Beans show great variations, anyway. They readily cross when planted together, and change in form and texture. I once had a great number of varieties and sports sent me by Mr. E. P. Powell (with whose writing our readers are well acquainted). Nothing in bean-kind could exceed the pods in size and tenderness; but the vines were mostly of the running sort, and I wanted bush varieties. At present I would hardly know which kind to name if asked which is the best bush wax-bean. Last year I planted largely of the Davis' Kidney Wax for market purposes. Usually my customers demand a yellow-podded bean rather than a green one, and I expected to have a good supply. The seed, obtained from a near seedsman, however, must have been very carelessly grown. Probably it was a chance lot picked up from some market-gardener who grows green-podded and yellow-podded sorts close together, for the large majority of the pods were green, and I could find but slow sale for my string-beans. A couple of rows, two or three hundred feet long, were left almost entirely untouched until the pods had become ripe. The plants were pulled, and, to my astonishment, gave me nearly a bushel of nice white beans, which I am now using for the table. I

think I shall plant a lot of them again for the same purpose. Cole's catalogue also offers the "new Pencil-Pod" wax-bean, originated in LeRoy, New York, said to give pods as round as a pencil, of rich yellow color, absolutely stringless and very tender.

**EARLY CABBAGES.**—Another novelty of the season is the "Extra Early Eureka" cabbage. This I have grown for three years, and repeatedly reported on it in these columns. It is a very satisfactory first-early cabbage, as early as Wakefield, but has a round, or rather flat, head of stony hardness. My customers always gave it the preference over the pointed head of the Wakefields. Charleston, or large Wakefield, cabbage, found among Cole's novelties, resembles the Early Jersey Wakefield very closely, but is decidedly later and larger. Where earliness, as in most cases with early cabbage, is a point of first consideration I always select the Early Jersey Wakefield or Eureka, and start the plants in the greenhouse in February, then prick out in a cold-frame in March, and transplant to open ground as soon as the weather will permit, usually early in April. But for use in mid-season the task of growing a full supply of cabbages is made much easier for me if I sow seed right in hills in open ground, and for this purpose I prefer the large (or Charleston) Wakefield. The latter is said to be less liable to crack when a little over-ripe than many other sorts. I have no particular evidence to offer in support of that.

**STRAWBERRY MUSKMELON.**—Cole's catalogue also gives the "Strawberry" muskmelon. I consider this a valuable sort, and advise my friends who like a large and good melon to give it a trial. I have had it for one year only, and then not more than a few test hills. The common experience with melons, as with many other garden and orchard products, is that high quality and large size are not often found combined. I believe we have as much of this combination in the "Strawberry" melon as has yet been secured in melon varieties. The specimens are large, approaching in size the very largest varieties that are now grown for market, and which to my taste are too insipid to give one real enjoyment in eating them. In form this "Strawberry" melon is oblong, with smooth surface. But I would like to know what its real color is. Some specimens were green and a trifle ribbed; others were very light-colored, almost white, and perfectly smooth. In quality it does not come quite up to the Emerald Gem, but it is quite good, rich and sweet, so that one can enjoy it without changing its flavor by the addition of sugar or spices. The plant seems vigorous, and very much in contrast to the growth of the Emerald Gem, and in productiveness it seems to be all that can be desired by any one. In short, for another season my selection in melon varieties will pretty near be confined to Emerald Gem and Strawberry.

**PRESERVING FRUITS, ETC., IN LIME.**—A party in North Fairfield, Ohio, asks me for particulars in regard to the preservation of tomatoes, grapes, etc., in lime; especially whether the lime should be fresh-slaked, and where the box or keg containing the fruit should be stored. I believe that any dry, powdered lime will answer. This matter of keeping some of these perishable products in the very best condition for a long time beyond the natural period of their preservation seems to me of some importance, and worthy of greater attention than has been bestowed upon it. Trials can be made so easily, too, and with so little expense. All the materials needed are a bushel or so of lime and a large box, or, better, several smaller ones. Let the lime slake and fall to pieces, then put a layer of the lime-powder into the box, a layer of sound fruit on this, so that the specimens will not touch, then another layer of lime, another of fruit, etc., until the box is full. Then place the box in a cool place, like an ordinary house cellar, where it is safe from the action of frost. I have every reason to believe that such things as tomatoes, melons, grapes, prunes, plums and other vegetables and fruits may be kept in a fine state of preservation by these means for a long time. T. GREINER.

### PEACH CULTURE

In an article entitled "The Essentials of Peach Culture," in a recent number of the "Rural New-Yorker," Mr. J. H. Hale says: "A warm, light, loamy soil is best, yet about any except a stiff clay will answer if other things are right. . . . When ready to plant trees, get big ones. I have planted nearly

400,000 peach-trees in orchards the past twenty years, nearly all June-budded, or else light to medium-sized trees, with occasional lots of heavy No. 1, or extra-sized, trees. I have fooled myself with good medium three-foot to four-foot trees long enough; from now on give me the big ones; five to six feet high and three-quarter-inch caliper will lay the foundation of a better orchard than any smaller size. I really care nothing about the top, so long as you can get a heavy root and strong cane fifteen or eighteen inches up; you will cut away the rest, anyhow, and so be in shape to build any sort of top you may. . . . Don't plant any 'catch crops' in a young orchard; you'll catch it if you do. Plant horse and mule legs in plenty, up and down and across, between the peach-trees; their hoof-prints will do no harm if harrows and cultivators follow close behind at least once a week; for the three best growing months of May, June and July in this latitude allow twelve or fifteen good cultures, and if you throw in a few more for good luck the trees will smile on you for it.

"The first two years, after a month or six weeks of thorough culture, seed to cow-peas over two thirds the space between the rows of trees, leaving space enough for good single-horse culture up and down each side of the trees for two months more. Leaving the pea-vines on the ground as a winter mulch will be less loss than to plow them under, and so have bare ground all winter. After two years of peas in an orchard the tree-roots should reach out through the whole orchard, and should have the whole run of it to feed and drink upon during the rapid-growing months, when the liveliest culture is being given. If culture has been what it ought from opening of spring down to the last of July or early August trees will be growing so rapidly that they can't well stop before fall, and the whole ground should be seeded to clover at the last cultivation. I consider fifteen to twenty pounds of seed an acre as little enough for a thick clover carpet over the ground through the fall and winter, and is a great protection to peach-tree roots. Plow this clover under early the next spring; don't fool yourself into letting it grow a few weeks in spring, so as 'to have a lot of stuff to plow under;' six weeks of the best peach season's growth can easily be checked by allowing the clover to grow two or three weeks after it is time to spring-plow the orchard. The time to begin spring culture in a peach orchard is just as soon as the soil can be easily worked after frost is out.

"As to pruning, a light, open head is what is wanted; don't shorten in too much of first year's growth. The second year shorten pretty liberally all the strongest branches, and let the side branches spread so as to make a broad, low head. After the second year cut away most of the strong leaders entirely every season; if in any instance it seems best not to cut one entirely away, never cut it back to a dormant bud, but always to some side branches; these will slowly take on growth and great fruiting strength and check the upward tendency of growth that is sure to follow the cutting back of a strong peach limb to a dormant bud. Don't bother much with the little side branches, high or low, that will never make leaders. Most pruners like to slick up the trunk and main branches of a peach-tree by cutting these all away. It is a fruiting mistake to do this; pruning a peach-tree as here suggested should give three fourths of the fruit near enough to the ground so that it can be gathered without the use of step-ladders. Learn to know yellows in a tree at sight a year or two before it hangs out its sign with 'pennyroyal sprouts' or prematurely high-colored fruit. Promptly pull and burn all yellows-infested trees, no matter what other job you may have on hand; attend to the yellows first. Feeding, as growth or lack of it seems to demand, fruit-thinning, picking, packing and marketing, and perhaps at times spraying when the trees are dormant, all require close attention; yet the points I have touched are the foundation to build a successful peach orchard upon."

## ORCHARD AND SMALL FRUITS

CONDUCTED BY SAMUEL B. GREEN

### INQUIRIES ANSWERED

**Orange-bloom.**—G. W. S., Isanti Co., Minn. Orange-trees from seed will seldom bloom satisfactorily, and even then not until they are fifteen or twenty years old. The only way for you to get them to flower would be to have them budded or grafted with some of the early-flowering varieties. If you wish to have orange-bloom, the best way for you to do would probably be to

buy a plant of the Otaheite orange, which is generally offered for sale by florists. This is a small plant that blooms profusely and bears fruit very successfully in dwelling-houses.

**Pruning Strawberry-plants.**—C. H. W., Conneautville, Pa., writes: "I wish to produce more and better late strawberries. Can I do this by cutting out all the early fruit-stalks of such varieties as Parker Earle and Clyde, that set more fruit than they can ripen?"

REPLY:—I do not know how it would work to cut off the early fruit-stalks on such varieties as the Parker Earle and Clyde strawberries, that are inclined to set more fruit than they can ripen. It is certainly an interesting line on which to experiment, and I am inclined to think that it would be successful.

**How to Layer Grape-vines.**—H. C. D., North Baltimore, Ohio. The answer to your inquiry in regard to the time to make grape cuttings was given in the last issue of this paper. The best time to layer grape-vines for propagation purposes is in the spring after the growth has started a little, and if the work is done properly you should be able to get one good plant for every hnd on the cane that is layered. To do this successfully a good, strong, well-ripened shoot of last season's growth should be selected, and in the spring of the year should be tied on the trellis with the center a little higher than either end. This will cause the huds along the center of the cane to start fully as soon as at the end. When the huds have started about six inches, which will be some time about the tenth of June, dig a little

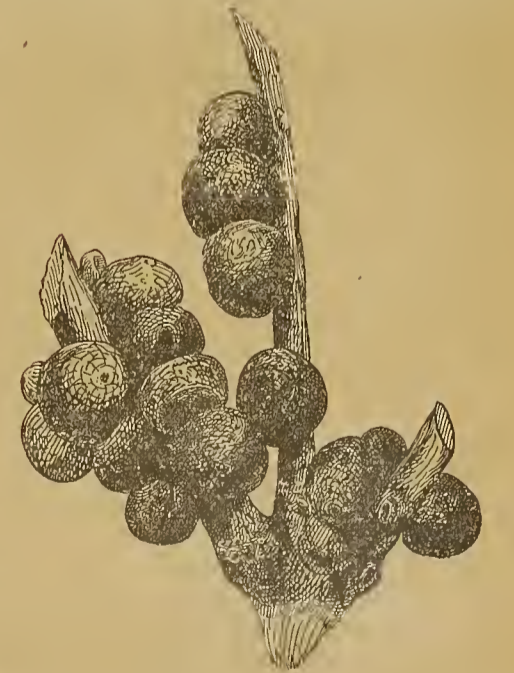


GRAPE-VINE LAYER

trench perhaps four inches deep and into it carefully place the cane in such a way as will not injure the growing shoots, and then cover in rich soil to the depth of about two inches, just enough, in fact, to hold the canes in place. In about a week's time the shoots will have made six inches or more of growth, when the trench may be filled full. Treated in this way it will be found that each joint will have produced a bunch of roots by autumn; then the canes should be separated from the old plant and the cane divided into as many plants as there are shoots growing from it. By this treatment one is very certain to get the plants well started the first year, and it is perhaps the most practicable and simple way for the beginner or the amateur to grow grape-vines. Of course, any cane of the grape that is laid down and covered six inches deep in the spring of the year will produce roots by autumn; but where it is laid down before the huds start it is seldom that one will succeed in getting more than two plants from the cane, no matter how long it may be.

**Galls on Oaks.**—E. H. D., Viola, Minn., writes: "I send a twig of an oak-tree that is infested with some kind of insect. As several of my oak shade-trees are bothered with the same thing I would like to know the name of it and also the remedy. The trees lose part of their leaves, and the small limbs die, then new leaves start out all along the trunk and large limbs."

REPLY BY DR. OTTO LUGGER:—The peculiar round swellings on the larger twigs, or limbs, of every young bur-oaks are galls made by a minute shining black insect, the *Cynips quercus pilula* P. T. This is a very long name for a small insect. Yet small as it is, it possesses most extraordinary powers, since it can force the tree, by simply



GALLS ON OAK

injecting a very minute quantity of poison into the bark, to produce galls of a definite shape—of the hundreds of different gall-insects each one can produce a differently shaped gall, thus showing that the poison injected is different in each species. The insects themselves resemble each other so closely that only a very trained eye, with the assistance of strong lenses, can detect a slight difference in their structure. Usually such galls cause no damage to the plants upon which they are found, but in some cases they are of some importance, as they contain a large amount of tannic acid. The best ink is made from such galls imported from Asia Minor.

## CORN CULTURE

AT THE Twenty-ninth Annual Meeting of the Kansas Board of Agriculture Mr. J. C. Norton, of Allen County, in that state, presented a comprehensive and instructive paper on the "Treatment and Use of the Corn-plant." As an abundance of corn is annually one of the paramount requisites to a prosperous agricultural and live-stock region its treatment and use are naturally matters of importance. As Mr. Norton handles the subject it can scarcely fail of convincing readers of the efficacy of his methods. Condensed by Secretary F. D. Coburn, the article is as follows:

"I usually list two years, and plow the third year. Two years' listing and the gradual filling up of the trenches with fine, dry earth make the soil thoroughly well pulverized and easily put in good condition by the plow. Listing gives uniformity to the crop, but the way ground is usually plowed does not, and I have adopted another method.

"I first double-disk the field, having the center of the disk straddle each stalk row, pulverizing the top four inches, incorporating the vegetable matter into the surface of the soil; then I float or plank this with what is commonly known as a clod-crusher—which is a wooden implement made of eight four-by-four-inch timbers set edgewise and one inch apart. I then plow with a plow that sifts this fine soil into the bottom of the furrow and screens out all the particles of soil larger than one inch in diameter.

"It is a right-hand steel-beam plow with rolling cutter. The share is rather straight across and cuts sixteen inches. The first mold-board is of rods set four inches apart, and carries all clods over four inches thick rather straight up, then to one side, finally dropping or tossing them bottom side up twenty-four inches away from the cutter. The second set of rods throws out to one side all clods over two inches thick in a neat row twenty inches from the cutter, while a third set of rods drags along in the bottom of the furrow, and their upturned ends claw out and leave on top of the fine earth in the furrow all clods thicker than one inch that may have dropped through the two mold-boards.

"A little subsoiler under the plow breaks up the bottom of the furrow, and the trash lies on top of the fine soil in the furrow, where the clods from the next furrow are thrown on top of it. The field is then sub-packed with the Imperial pulverizer, and all surplus air is forced out of the soil, the trash pressed into the soil and all clods reduced to the size of a walnut. Thus the whole field is a pulverized mass of compressed fine soil. This pulverizer cuts eight feet in width and weighs twelve hundred pounds, having two rows of shells—twenty-six on one roll and twenty-seven on the other. It rolls, packs, pulverizes, harrows, smoothes and levels all at one motion.

"This plow throws out millions of hoof-prints made by the large horses in floating and plowing, and the sight of these rows of clods has caused me to discard my modern two-horse corn-planter, as the horses always travel ahead of the knives and directly on the corn rows.

"I have now put a tongue into a one-horse planter, so that two horses can draw it and straddle the row. I have also put on an axle and two planter-wheels, so that I can ride, and the axle makes a perfect gage for the planter-knife, which is set to enter the soil just two inches below the two gage-wheels, which are put wide apart, and each one in turn acts as a marker for the next row, and also as a follower for the last row planted.

"Bolted on the planter-knife and set to cut one half inch deep is a little lister that throws out a trench six inches wide and one half inch deep, or just the width of the corn-planter wheel, thus throwing all small weeds and seeds three inches away from the corn row, and where the harrow or weeder annihilates them. This lister can be applied to the knives of any planter. This preparation of the field causes the corn crop to mature alike all over the field.

"The proper time to cut up the corn is as soon as the kernels glaze or dent and while the stalks and leaves are still green and full of sap. Corn should never be cut up only on a bright, clear day, or on such a day as it is good to cure hay.

"Two men should work together, and the shocks should be started on a jack, which is made by putting two legs, well braced together, near one end of a ten-foot scantling, and having an auger-hole near the upper end for a broom-handle. As soon as four armfuls are set up against the jack the shock should be loosely tied with a stalk and the jack removed. In commencing, each cutter should take two rows, and all the

shocks should be started that the cutters expect to cut during the day, so that when they again start in the shock has wilted and cured out all that is possible. They should now take only one row each, and cut from shock to shock, making each armful go half way around the shock, in order to allow it to wilt and cure out. After they have cut clear through they should again go back to the beginning and cut another row each, continuing this until the shock row is completed, always having in mind the perfect curing of the corn.

"The shocks should not be violently compressed, as is the usual practice, but loosely tied with a corn-stalk, to prevent the outside stalks blowing down. An average shock that weighs three hundred pounds when cured will weigh one thousand pounds to twelve hundred pounds when green; and who is there who would put in a shock twelve hundred pounds of green grass and expect it to cure out perfectly, especially if heavily weighted? Any one knows better than to do this, so why treat a corn-shock that way? Just as sure as a green corn-shock is tied up tight, without any chance to cure out, just so sure will a chemical change take place that unfits it for feed, even if it does not turn black or moldy. A pile of green grass treated this way would heat and "mow-burn" and come out black and musty, and would be only fit for bedding, as all digestible matter would have been destroyed by the heating. I have seen lots of corn-fodder come out dark and spotted from this cause; and if it looks bright a close scrutiny with a powerful glass will show that it has passed through this chemical change that causes cattle to smell it all over before they taste of it, while properly cured corn-fodder will have a sugary odor that the cattle smell long before they reach and eagerly devour it."

## OLEOMARGARINE

The oleomargarine color was invented to make oleomargarine look like real butter, and is used to make all sorts and conditions of butter look like Jersey butter—to make two-per-cent milk look like Jersey milk. All of these and other frauds on Jersey milk and its products we are familiar with, but a daily newspaper from the East springs a new one on us. It declares that by the skilful use of "butter-color" Mississippi catfish are now converted into Columbia-River salmon, and cut up, canned and sold as such.—*Jersey Bulletin.*

## IMPROVED RICE CULTURE

The experiment of raising rice on the prairies of southwestern Louisiana has proved a great success. The improvements in rice culture by the use of harvesters, binders and irrigation canals have not only added millions to the wealth of the state, but have brought lands suitable for cultivation into demand at handsome prices. Meanwhile the boom has spread into Texas. Several big companies have been organized for irrigating purposes in the southwestern part of that state.—*Cincinnati Price Current.*

## CORRESPONDENCE

FROM SOUTH DAKOTA.—We have some severe winter weather, when the mercury drops from twenty to forty degrees below zero for a few days; but the atmosphere is so dry we do not feel the cold as much as in the East, where the thermometer registers only half that. Wheat has been the staple crop, but diversified farming is now the order of the day with the energetic and intelligent farmers. Many keep stock to utilize the abundant prairie pasture. In years gone by it was consumed only by the annual prairie-fire. Now it is turned into prime beef, and it is surprising to see how fat cattle get on this succulent feed. Stock has been very high the past few years, and when anything is high, why, all want to go into it. There has been a wonderful transformation in this country since my pioneer days; driving oxen and the sod shanty, too, are relics of the past. Now one can see the fruits of industry—large barns and substantial farm residences erected in the past few years. Land has increased in value the past few years about fifty per cent. Good improved farms five to eight miles from town sell for from \$10 to \$15 an acre. All this surely betokens prosperity and encouragement to those that persevered to the end.

Bristol, S. D.

W. J. C.

FROM MICHIGAN.—Last year was an exceptionally favorable year for all crops except wheat. Great quantities of rye are raised here, and was a very good crop. Corn, oats, potatoes, buckwheat, roots, fruits of all kinds and the grasses were unusually good. The oldest inhabitant does not remember a time when rains were so timely and the weather so favorable. Land can be bought very cheaply. Good farms can be bought for the cost of clearing and building.

Big Rapids, Mich.

H. C. P.

## NEW ENGLAND AS SHE IS

I am a Yankee, and I came away from New England nearly thirty years ago because I thought the West offered a better opportunity for a young man. This winter I went back to New England and made something of a study of local conditions. It is true that the southern part of New England is largely given up to factory towns and their employees. At the same time the farmers, let us say of the Connecticut Valley, will be found just about as prosperous as any class of farmers in the country. They do not produce the old crops which their fathers thought necessary to existence, but with fruit of high class, tobacco, fine dairy products, vegetables and hay they are really making money every year and living under delightful circumstances so far as social advantages go. In northern New England, let us say the state of Maine and the upper two thirds of Vermont and New Hampshire, you will find the old New England Yankee at his best. He has retained all of his good qualities, while the years have squeezed out of him many of the mean and hateful qualities which even we who come from the northeast corner of this country are forced to admit were found in our ancestors. You may not be aware of the fact that the states of Maine, New Hampshire and Vermont have nearly the same population that is to be found in the two Western states of Kansas and Nebraska. During the last ten years the three New England states have made a greater gain in population than the two Western states I have named. It is a hard fact to understand, yet true, that Vermont gained faster in population during the last ten years than did Nebraska. My first idea was that this gain was almost entirely due to the growth of the large towns and manufacturing cities, but this does not appear on investigation to be true. It is an unquestioned fact that there is just now a revival of interest in New England agriculture. This is due to various causes. A large number of wealthy men have gone to the country and bought the old homesteads on which they were born and reared, have beautified them, and are now farming them in a very profitable manner. A great many professional men and clerks have been crowded out of their places in the towns and cities by the fierce competition of modern days, and have gone back to the soil, where they at least make a good living for themselves and their families, and still enjoy most of the social advantages that were found in the town. The mountain streams and brooks of New England furnish abundant opportunity for power. This power is used to develop electricity, and by means of this little trolley and electric lines are spinning out all over the country, promising in time to give the farm-house all the benefits of the telephone, the electric-light and the electric power at a very cheap rate. The thing that hurt the New England farmer thirty years ago was the fact that country people felt in duty bound to send their money to the West and South for the development of Western towns and farms. I remember as a boy hearing those who brought me up, and others, discussing the question of building this or that town in the West, because they were offered a better interest on their money than they could obtain at home. Thus the farms were skimmed and skimmed, the farmer's family went without many of the necessities, in order that this money might be sent West and South for investment, and young men and women followed this money as soon as they grew up. A good deal of it was lost, but the New England people to-day are not sending their money away. One reason for this is that the South and the West no longer need this capital as they once did. Another reason is that the Yankee, with age, has come to regard things closer to him as of more importance. Thus it is that he is now building up his farm or investing his money in such towns as Portland, Manchester, Burlington or Rutland, and the result is, as I have stated, that New England is actually gaining both in population and in farm spirit, and also in the actual returns from agriculture. . . . Personal investigation, however, has convinced me that New England farming is actually gaining to-day, and that for the production of such crops as fine apples, hay, dairy products, and similar things, the old hillsides of New England afford to those who like the climate at least equal opportunities with those of any other section of the country.—H. W. Collingwood, in *Farm and Ranch.*

GIVE to a pig when it grunts and a child when it cries, and you will have a fine pig and a bad child.—Danish Proverb.



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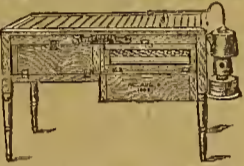


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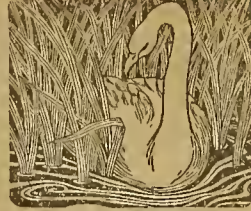
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INCUBATORS and brooders have become a necessity with all who expect to make early chicks pay. Hens will not sit when desired, but the incubator will hatch hundreds at one operation. Rightly managed an incubator will pay for itself with one hatch. Now is the time to begin. Incubators are marvelously cheap considering the service they perform. Care will raise all the chicks, and brooders are easily managed. If every poultryman would endeavor to arrive at a knowledge of the cost of each chick during the year the result would be much care and caution in raising them. Every chick hatched costs something. The eggs from which the chicks come are worth a certain sum in the market, and the loss of the services of the hen while sitting—that is, in not producing eggs—is another item in the cost; but the brooder saves the time of the hen. It may be considered, also, that every egg does not produce a chick; hence, at certain seasons, when eggs are less fertile as a whole, it may require two eggs to hatch a chick, the price of which in winter ranges from twenty to thirty cents a dozen. Whether with hens or with incubators the poultryman has no control over the fertility of the eggs, nor can he induce the sitters to give greater attention to their duties; but he can raise more than the average number of chicks if he will give attention to the shelter and food. What such duties may be depends upon the farm and the circumstances; but the point is to have each and all to realize the advantage of lessening the cost at the beginning. With hens the destruction by hawks, rats, cats, dogs, lice, etc., is enormous; but this fact will not be fully realized until a strict account of the losses of chicks is kept for a year. With incubators and brooders the loss is less than with hens.

DISINFECTION AND DISEASE

When roup has become established on a farm the germs remain in the soil for months, depending on the kind of roup, however, as the term is used to apply to consumption, diphtheria, scrofula, etc. The entire premises should be disinfected two or three times, drenching the houses, floors and roosts, grounds, etc., with a mixture made of one pound of copperas and blue-stone (sulphate of copper), each dissolved in ten gallons of hot water, then adding one pint of sulphuric acid. Kill all the birds and get others that are known to be healthy. The labor of handling sick birds is too costly when the whole flock is attacked. Prevention is better than cure. Diseases are not always contagious. When some member of the flock seems to have an ailment, and no others are affected, it may be safely ascribed to some cause peculiar to the individual. For instance, when one of the fowls twists its neck around, seems to shake its head, cannot eat or is helpless, it is difficult to arrive at a correct knowledge of the cause. But it may be rheumatism from dampness, pressure of blood on the brain from high feeding, or an injury. The only remedy then is to keep the fowl quiet on straw, and feed only once a day on lean meat. If it does not soon recover it will be of no value except for the pot. Do not waste time with birds that are always sick.

FATTENING THE BROILERS

Choice broilers bring high prices, but it is not an easy matter to fatten broilers, as the food rather makes them grow instead of fattening. Then, again, to force them may result in leg-weakness, bowel disease, etc. Do not begin to fatten until they are six or seven weeks old, and then allow them time to fatten. Feed three times a day, and scatter one gill of millet-seed in litter between meals. Here is an excellent fattening food: Melt one pound of crude tallow in one half gallon of boiling water. While boiling thicken with a sufficient quantity of the following to form a stiff dough: One quart of corn-meal, one quart of ground oats, one quart of middlings, one pint of ground meat, one half pint of linseed-meal and one tablespoonful of salt, well mixed and fed all that will be eaten clean, allowing no food to remain over.

QUALITY IN THE FLOCK

Most farmers would be surprised at the difference if they could be prevailed upon to kill off their present dung-hill stock, keeping only a few sitters for next season, and start next spring by ordering eggs at five dollars a dozen from reliable breeders, thus renewing their flock. One year's experiment would satisfy them that the outlay for eggs or the two or three dollars for a choice male bird to breed from would return them the first season one hundred per cent on the investment. The increased consumption of poultry and eggs as articles of diet demonstrates the importance of this branch of the productive industries of the country, now fully equaling the mutton consumption of the people; and it is believed by many that the health and well-being of our people would, from a sanitary point of view, be vastly improved by the substitution of more eggs and poultry to the exclusion of pork as a general article of diet, while poultry can be produced at less cost.

CUT BONE AS A CHANGE

Cut bone twice a week is ample where the birds have a variety. If corn and wheat are used it should be given at least three times a week. When fowls reject grain it indicates that they have been fed too highly. It is not necessary to feed cut bone more than once or twice a week where the birds are on a range. Chopped clover scalded may be given every other day, alternating with cut bone. Chopped vegetables will not serve as a substitute for clover, but will answer well as a partial substitute if sprinkled with bran. Second-crop timothy is not so good as clover, but hay of any kind that is fine (cut when young) and scalded will be relished by the poultry in the winter season.

POULTRY-KEEPING FOR WOMEN

- A woman cannot bait a hook, Or kill a mouse or rat; Without a glass in which to look She can't put on a hat. A woman cannot throw a stone And hit a thing kerliaks; But, bless her, she, and she alone, Knows how to bring up ebix.

She hatches ninety-nine per cent. If man should try it, why, He'd only get out one per cent, And that one chick would die! —Fanciers' Monthly.

INQUIRIES ANSWERED

Geese.—V. P. F., Vineland, Fla., writes: "Are the African and Toulouse geese superior in any respects to our common geese?" REPLY:—The Toulouse geese are much larger, and the African geese better layers. The common goose is probably harder than the Toulouse or the African. Overfeeding.—F. F. E., Halifax, N. S., writes: "I have a flock that has been heavily fed, the fowls being exceedingly fat. Will that condition interfere with laying?" REPLY:—An overfat condition is detrimental to reproduction on the part of birds or large animals. Make your hens exercise by scratching, allowing but one scant meal a day until reduced in flesh. Feeding Too Much.—M. M., Axtell, Kan., writes: "My fowls have diarrhea. They droop, are sleepy and inactive. They are fed table scraps, red pepper, get all the corn they can eat, and have a range, as well as access to millet-straw, eating a great deal of seed." REPLY:—They probably receive too much food, the difficulty being indigestion. It would also be well to look on their bodies for the large lice. Blindness in Fowls.—L. H., Mariette, Mich., writes: "My fowls have a disease which causes them to become blind; otherwise they are apparently well. They have a range, good clean house and varied food." REPLY:—The difficulty may be due to over-bead drafts when they are on the roost, the remedy being to bathe the eyes in a mild solution of boric acid once a day and anointing with vaseline. Turkeys.—B. L. R., Brown, Mo., writes: "My turkeys are droopy, eat but little, feathers are loose, droppings black and sometimes yellowish and green. They live a few weeks and then die." REPLY:—You should have given details of your management, as it is difficult to understand the cause otherwise. They may be annoyed by lice, may have been exposed, or something may be wrong in feeding. It would be well to examine carefully for lice on the body.

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## QUERIES

READ THIS NOTICE

Questions from regular subscribers of FARM AND FIRESIDE relating to matters of general interest will be answered in these columns free of charge. Querists desiring immediate replies, or asking information upon matters of personal interest only, should inclose stamps for return postage. The full name and post-office address of the inquirer should accompany each query, in order that we may answer by mail if necessary. Queries must be received at least TWO WEEKS before the date of the issue in which the answer is expected. Queries should not be written on paper containing matters of business, and should be written on one side of the paper only.

**Stove-blackening.**—J. B. C., Southington, Conn. An excellent stove-polish is made by mixing two parts of black-lead, four parts of coppers and two parts of bone-black with sufficient water to form a creamy paste.

**Corned Beef.**—W. A. C., Geysers, Mont., writes: "I noticed in your January 1st issue a receipt for preparing corned beef stating, 'Put six pounds of saltpeter into six gallons of water,' etc. Is not that an error in regard to the quantity of saltpeter? I never use over six ounces to six gallons of water, and have always found that to be sufficient."

REPLY:—The original receipt, which is a very old one, calls for six pounds, but it may be an error. Six ounces is the quantity given in other receipts for cold pickle. However, the sealing of the beef by the boiling water prevents it from absorbing an excess of the solution.

**Old Clover-seed.**—B. F. S., Ashton, Mo., writes: "I want to sow some ground in large red clover. I have seed that is five or six years old that has been kept in a good dry place. Is such seed reliable? I want to be sure of a good stand."

REPLY:—Old clover-seed will grow if it has been kept under proper conditions. The only safe way, however, is to test it before sowing. You can easily do this. Place say one hundred seeds between the folds of a doubled cloth laid in a saucer, and supply enough water to keep the cloth moist until the seeds sprout. Then you can find out what proportion of the seed will grow, and whether it will be safe to plant it or not. It will not pay to take risks. If the seed is found to be good, it should be cleaned before sowing.

## VETERINARY

CONDUCTED BY DR. H. J. DETMERS

To regular subscribers of the FARM AND FIRESIDE answers will be given through these columns free of charge. Where an immediate reply by mail is desired the applicant should inclose a fee of one dollar, otherwise no attention will be paid to such a request. Inquiries should always contain the writer's full address. Queries must be received at least TWO WEEKS before the date of the issue in which the answer is expected. Veterinary queries should be sent directly to DR. H. J. DETMERS, 1315 Neil Avenue, Columbus, Ohio.

NOTE.—Parties who desire an answer to their inquiries in this column must give their name and address, not necessarily for publication, but for other good reasons. Anonymous inquiries are not answered.

**Probably a Case of Ring-bone.**—G. T. D., Suisun, Cal. Please consult article on "Spavin, Ring-bone and Navicular Disease" in the FARM AND FIRESIDE of December 1, 1900.

**Foundered (?) on Corn.**—R. S., Uble P. O., Mich. I do not know what you mean by "foundered on corn." Describe the disease of your pigs and I may be able to answer you.

**Fistula of the Spermatic Cord.**—L. J. B., Higbee, Mich. The only advice I can give you is to employ a veterinarian to perform the necessary surgical operation, for if that is well performed nothing more will be required to effect a permanent healing.

**Of No Consequence.**—D. E. L., Mineral, Ohio. The slight discharge of blood by your cow when in heat is of no consequence, and is not so very rare, especially in young cows. It appears to be a physiological process. A further explanation will probably not be necessary.

**Probably Mange.**—G. T. M., Rutland, Ohio. According to your description it appears probable that your horse suffers from mange (Dermatodectes mange). Have your horse examined by a veterinarian, or consult answers recently given in this paper to inquiries about mange and other skin diseases.

**A Hard Milker.**—C. C. A., Pontiac, Ill. There are some cows which, without being in any way diseased, are naturally hard to milk. The only remedy I can recommend is to have such a cow milked by a very vigorous milker. If this is done such a cow will soon become easier, though never very easy, to milk.

**Lame in Fore Foot.**—J. E. P., Macbride, Ohio. According to your description it looks as if a fracture of either the navicular bone or of one of the lateral branches of the hoof-bone (third phalanx), but more likely the latter, has taken place. All you can do is to give the animal strict rest. It may be, though, that exercise has already too much interfered with the process of healing.

**Broken Hip.**—J. H. B., Rocky Ford, Col. If the severed part of the external angle of the ilium, or hip, is not too large such a fracture will only damage the appearance or looks of the cows, but not otherwise interfere with anything. If the piece broken off is large it will cause the gait of the affected leg to be more or less dragging, but will not even then interfere with the process of giving birth to a calf.

**Swelled Upper Jaw.**—J. F., Ord, Neb. If the hard, bony swelling in the upper jaw of your five-year-old horse was caused by a molar tooth your question can best be answered by the veterinarian who extracted the tooth, because he knows why and how he did it, and in what condition the jaw was left, etc.

**So-called Ringworm.**—M. J. R., Tohoso, Ohio. Paint the patches once a day by means of a camel's-hair brush with tincture of iodine until the same begin to disappear, but at the same time thoroughly clean and disinfect the premises to prevent a reinfection. This is necessary, because so-called ringworm is a contagious disease.

**Diseased Eye.**—L. B., Hartford, Iowa. If the disease of the eye of your horse presents the appearance (symptoms) of "moon-blindness" (periodical ophthalmia), but you are satisfied the disease is not periodical ophthalmia, I cannot possibly give you any advice, and can only say that there is not likely any causal connection between the fistula on the withers and the eye disease.

**Apparently Starved to Death.**—W. M. N., Flushing, Mich. You say your bog when you first noticed it to be sick was poor, that the same had good appetite, but could not keep down any food, no matter what kind, and that it died in about two weeks thereafter apparently starved to death. Further, you ask for my opinion, but do not state about what. The only opinion I can offer is this: If you had made a post-mortem examination, and had carefully examined the cavity of the mouth, the pharynx, the gullet and the stomach of the dead animal, you would most likely have found the cause of the inability of the animal to swallow or to retain food in one of the organs named.

**Probably Overworked.**—F. M. S., South Milwaukee, Wis. It appears from your statement that your horse very likely has been overworked, and that especially the ligaments of that one hock-joint have been severely strained, perhaps by backing a load of coal. Three to four tons, at any rate, is too heavy a load for any horse, except, perhaps, on a perfectly level and smooth street, but to back such a load is asking too much of one horse under any circumstances. Give your horse perfect rest for a sufficient length of time, and if this does not restore or sufficiently improve the animal please consult the article on "Spavin, Ring-bone and Navicular Disease" in the FARM AND FIRESIDE of December 1, 1900.

**Pericarditis and Dropsy.**—W. M. C., Pennington, Kan. One of your calves died of pericarditis. What you call "spongy fat around the heart" was plastic exudates. The other calf, in which you found the "golden-colored water around the intestines and heart," probably died of dropsy in the abdominal cavity and chest. But there is not a word in your communication that gives as much as a hint concerning the probable cause of the pericarditis and the dropsical effusions. If another calf should die make a more thorough post-mortem examination, examine every internal organ, note every abnormal condition or morbid change, and look for worms, particularly in the intestines, liver and lungs.

**Curb.**—W. F., Wexford, Pa. In a case of curb, blistering, etc., can do no good whatever unless strict rest is given the animal until the damaged hock-joint has regained its former strength, and then for at least a year the horse—usually a young and undeveloped animal—must not be allowed to gallop, especially not under saddle, and not be compelled to draw heavy loads up hill or to back a loaded wagon. Blistering with an iodide-of-mercury ointment, composed of one part of biniodide of mercury and twelve parts of lard, provided the animal at the same time has strict rest, is all right. Whether the curb can be caused to entirely disappear or not also depends upon the formation (crookedness) and the natural strength, or lack of strength, in the hock-joint.

**A So-called Milk-knot, or Tumor.**—J. S. K., Brookville, Ind. If the milk-knot, or tumor, in the udder of your cow, just above one teat, made its appearance without any inflammatory symptoms being present, and grew in three weeks from the size of a small kernel to that of a walnut, and perhaps continues to grow, the thing may be far more serious than it appears to be. The most frequent causes of such tumors may be considered: (1) So-called milk-stones; but they hardly ever grow as rapidly. (2) Various morbid growths of a more or less malignant character; but they are not of frequent occurrence in the udders of cows, especially if the latter are yet young animals. (3) Actinomycosis; observed only in a few cases. (4) Tuberculosis; of quite frequent occurrence. I would therefore consider it advisable to have the animal examined by a competent veterinarian, or to subject her to the tuberculin test; if without that a reliable diagnosis cannot be made.

**Probably a Fracture of the Tuberosity of the Ischium.**—C. P., Nehalem, Ore. There is but one joint between the pelvic bones and the femur, commonly known as the hip-joint, consequently there is no joint behind, or between, the hip-joint and the buttock, and what you describe is either a fracture of the tuberosity of the ischium (buttock-bone) or a fracture of the large, or superior, trochanter of the femur. This trochanter is a large and strong process of the upper end of the femur (thigh-bone), to which powerful muscles are inserted, consequently such a fracture will never heal in such a way as to restore the bone to its former condition, and therefore will leave the cow a cripple for life. If the tuberosity of the ischium (buttock) is broken off, it also will never heal on to its proper place; but unless the piece broken off is very large, this fracture will not cripple the animal quite as much as a fracture severing the large trochanter from the femur. To apply liniments is worse than useless in either case.

**Prolapsus of the Vagina.**—J. B. G., Clairon, Mich. What you describe is prolapsus of the vagina. Keep your cow on an even floor that is fully as high, or a little higher, where she stands with her hind feet as it is in front, and do not feed her too much bulky food, but more concentrated food (grain) than you do now. At calving-time you may have to watch her, and after calving it will be advisable to keep her for a few days on a floor that is several inches higher behind than in front.

**"Grubs" in the Head.**—O. D. H., Kendall, W. Va. If your sheep suffer from so-called grubs (the larvae of Oestrus ovis, a fly belonging to the genus of gadflies) in the head, those of them that harbor quite a large number will die. If the larvae were only in the nasal cavities they might be reached and he induced to depart if calomel is squirted clear up into the nasal cavities of the sheep; but as a rule they are in greater numbers in the frontal and maxillary sinuses, and even in the ethmoid bones, where it is next to impossible to reach and to dislodge them. Even trepanation of the frontal sinuses will make but comparatively few accessible, and has been often tried and seldom done any good. Besides this, the larvae possess an extraordinary vitality, so that only the most poisonous gases and concentrated acids will kill them, and an immersion for hours in strong caustics will not seriously hurt them. As to prevention, the only safe way to protect the sheep, lambs and yearlings particularly, is to keep them away, from the middle of July to the last of September, from all such places in which the flies are swarming, consequently from pastures fringed by brush or timber. Experienced shepherds, if compelled to herd their flock in such places in which the flies are swarming, very often, as a means of precaution, smear a little tar on the borders of the nostrils of their sheep. This, of course, will prevent the young larvae, just hatched, from crawling up into the nasal cavities; but experience has shown that the tar, which considerably incommodates the animals, affords only a partial protection. Another means of prevention would be if all owners of flocks in such districts in which the fly is at home would see to it that every larvae that leaves the head of a live sheep and every one that is found in the head of a dead sheep is promptly destroyed. Since you have only three sheep affected, which can be easily controlled, I would most decidedly advise you to apply this last-named measure of prevention, for if you do not you may be sure that next year you will have many more cases. Still, notwithstanding that you say that your sheep have "grubs" in the head, I regard it, unless you have seen the "grubs," as not impossible that the symptoms you describe may be due to something entirely different; namely, lung-worms, Strongylus filaria, in the ramifications of the bronchial tubes. A careful examination of the first sheep that dies—opening the nasal cavities, the frontal and maxillary sinuses, and laying bare the ethmoid bone, and exenterating the lungs and clipping open with a pointed pair of scissors the bronchi clear to their ultimate ramifications—will reveal the truth.

**Milk Production.**—J. M. B., Imperial, Pa. The milk is a product of the mammary glands, and the essential parts of the same are looked upon as a product of a fatty metamorphosis taking place in the gland-cells themselves. The casein as such cannot be found in the blood, consequently cannot be extracted from the blood by the gland-cells, but appears to be produced within the latter by a change in the atomic arrangement, or a transposition of atoms from the albumen furnished by the blood. Casein and albumen are composed of the same elements and present the same percentage in their composition, therefore the slight difference in the reactions must be due to a transposition of atoms. The fat (butter-fat) in the milk, according to the observations and the results of experiments made by Professor Fuers-tenberg, is essentially a product of a further metamorphosis of protein bodies, but especially of casein. To give all the particulars of these interesting processes would lead too far and demand much more space than allotted to me. Concerning the production of the sugar of milk opinion seems yet to differ; but no difference exists in regard to the source of the albumen, the salts and the water contained in the milk as drawn from the cow, because these three constituents are unquestionably transudations from the blood. The arteries of the mammary glands come from the external public arteries; the veins, the subcutaneous abdominal veins, or so-called milk-veins, included, are branches of, and empty into, the external public vein, and the latter into the posterior vena cava. The so-called milk-vein anastomoses forward with the interior pectoral vein, a branch of the anterior vena cava. It carries some of the venous blood from the mammary glands back to the heart, and is in some cows quite a large and conspicuous vessel. As it is supposed that a large vessel carries more blood than a small or narrow one, as the amount of blood carried away from an organ is supposed to be in due proportion to the quantity of blood received, and as it is further supposed that the products of an organ are large if the supply with blood is large, and vice versa, large milk-veins are looked upon as indicating a large yield of milk, and vice versa. Although these veins cannot be considered as an infallible sign—they only carry away a portion of the blood from the mammary glands, and, as already stated, anastomose with other veins—it cannot be denied that on the whole it is tolerably reliable, though not to such an extent that the amount of milk can, with any degree of accuracy, be determined by the size of the so-called milk-veins. Still a cow with large-sized milk-veins is never a poor milker, unless it be that the production of milk is otherwise interfered with; and a cow with small, or inconspicuous, milk-veins will never be found to be a first-class milk-producer.

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**THE GRANGE**

Conducted by MRS. MARY E. LEE, NEW  
Plymouth, Ohio

**A** BARBARIAN like myself gets a deal of satisfaction out of the pugilistic tendencies of the twentieth-century farmer. It does me good to see him lay off his coat, roll up his sleeves, double his fists and strike straight from the shoulder. And he hits hard—mighty hard. He hasn't lost a whit of the proverbial energy and directness history tells his forebears had. He is as ready to attack an injustice as was his grandfather to hunt down the wolf that troubled his flocks. The only difference is the wolf of to-day comes in so insinuating a garb as to well nigh deceive even the "very elect." It takes a shrewd brain to see through the wily devices of fraud and special privilege. The latter have the advantage of the former, who must batter down the walls of conservatism and partizan prejudice that surround him before he can attack the enemy without the gates. But let him once make a breach, and none are so stubborn in battle, so fertile in resources, so invincible as he. Let him once learn that "eternal vigilance is the price of safety" and you may ever after depend on his vigilance.

Grange-workers all over the country speak of the increased interest farmers are taking in organization. Organizers are kept busy, and new granges are rapidly being organized. As is to be expected, the greatest increase is found in the more intelligent communities. The more intelligent the farmer, the quicker he is to see the advantage of organization. Fortunately, aside from the power he wields as a unit in organization, he gets quick financial returns by making use of the trade arrangements and the insurance feature. The social and intellectual advantages cannot be estimated.

In this grange revival we must carefully guard our gates, permitting only those to enter who are worthy of being admitted into our powerful order. If a man is not willing to exercise his best faculties in living a good life he will be a detriment to us. If he is capable of being helped, if he shows a willingness to help himself, and you have confidence in his integrity, admit him and extend the hand of brotherly love and charity. If not, do not multiply his evil influence by admitting him into the grange. Let us always remember it is not the number of members we have, but the sterling qualities of manhood and womanhood they display that tells.

Postmaster-General Smith in his last annual report says that \$15,000,000 annually would give us free rural mail delivery. Do we not owe it to ourselves that we work earnestly for such a measure, especially when it will not injure any legitimate business, but rather would be a help?

One of the blessings rural mail delivery will bring will be the improvement of our country roads. All are agreed that they should be improved, but how to do it is the vexing problem. Each locality must solve the problem for itself. One great objection that is urged is that about one half what is paid for the construction of roads will be clear profit in the hands of skilful contractors. If the farmers are alert and well informed this need not be. It is only another instance where we pay dearly for the bliss that is said to accompany ignorance.

The sample-copy nuisance is the one agency, more than any other, which brings to our homes the trashy stuff against which all our best minds inveigh. The senseless stories, highly illustrated (if such low pictures may be called illustrations), are read by our boys and girls. That they create in them silly and disgusting fancies five minutes' conversation with the readers of such papers as "Happy Hours" and others of like persuasion will testify. Yet while we deplore this senseless trash we have been voluntarily depriving ourselves of the advantages of rural delivery.

We have been paying at the rate of ninety-three cents a pound on our letters and postal-cards. "The rate," says Honorable E. T. Loud, "is two cents an ounce; but since the average weight of letters and postal-cards is very much less than the maximum allowed on first-class matter, the amount stated (ninety-three cents) has been found to be the actual return. Second-class mail matter pays one cent a pound. A great deal is carried as second-class matter which should not be so rated."

The "Rural New-Yorker" tells the following: "The Scranton Dairy Company sent agents to Hopbottom to contract milk. They made contracts with eighty-three farmers, seventeen of whom insisted on written contracts. The farmers were paid more for their milk than they had been receiving. The milk was to be shipped over the D. L. & W. railroad to La Plume, Pennsylvania. Early in December the farmers were notified that the railroad would not carry milk for the Scranton Dairy Company. The farmers holding written contracts insisted that this was not their business, but a matter of concern between the railroad company and the dairy company. They continued taking their milk to the railroad, but it would not carry it. Finally the dairy company sent an agent to remonstrate with the farmers. They insisted that they were living up to their contract in delivering the milk. The farmers employed a shrewd lawyer to look after their interests. When the dairy company found they could not get away from their contracts they agreed to take the milk from the seventeen farmers holding written contracts, but not from those having a verbal promise."

"The strangest part of the curious conditions was that the farmers decided to stand together and compel the dairy company to live up to both its written and verbal contracts. Suits were brought, resulting in judgments against the dairy company for the parties who did not have written contracts." It is claimed that the milk combine in New York City is responsible for this trouble. They are said to have told the D. L. & W. railroad company that they must not carry milk to the Scranton Dairy Company, and that if they did the milk-shipping business would be taken away from them. The idea is that the milk trust desires to keep control of all milk, and so manipulate matters as to have it shipped to New York, thus creating a surplus and reducing the price of milk. If it were sent to Scranton or other places it would relieve the New York market, and that is just what the trust does not want done."

The following are suggestive topics for discussion in the granges:

What is the cost of maintaining the penitentiary, the various reformatories and the jails of your state?

How much for the institutions for the unfortunate and feeble-minded?

How much, by public taxation, for public schools and the higher institutions of learning?

Compare the expenses of all of the first-named with that of the expense for higher education; which are you paying the most for—to educate your sons and daughters to live honest, upright lives, armed with a good education, or to support the vicious, unfortunate and criminal element?

Further, ascertain what is the cost of apprehending, prosecuting and convicting the criminal class. It will furnish you food for many hours of self-questioning.

The February topic for discussion sent out by National Lecturer Bachelder is, "Why do we favor the election of United States senators by direct vote of the people?"

Supplementary topic, "Why are we opposed to the irrigation of arid lands at government expense, and what can we do to prevent it?"

The above topics are discussed in the address of National Master Jones and in the "National Quarterly Bulletin." The current magazines and those of several years past have had frequent discussions on these matters, in which the trend of opinion for and against may be found.

Multitudinous are the plans for reform, and for every plan there is a sponsor. We seem to forget that the evils we would reform are of slow growth; they have become a part of our national and social growth. To make radical changes is but to bring in the wake of change evils as great as those we labored under before. Real reform consists not so much in tearing down institutions as in building up character. We must look to the individual as the source of all real progress. It is to the correct moral and intellectual development that we pin our faith for future generations. We know that we have stumbled in the darkness. We build schools, we study philosophy and religion, that we may be enabled to so train the child that he may avoid the pitfalls we have dug. Let us not forget, in our fervid desire to educate the brain, the development of the moral nature. Moral purity and

probity is the bed-rock of all true reform. Without it the educated brain and trained hand are as naught. With it we are strong to meet any foe.

What book on ethics shall you read? Where can you find a system of morals? I know of no better exposition of that which may bring peace and contentment to humanity than the "Sermon on the Mount." Study it; make its precepts a part of your life. Where you find it hard, there struggle to perfect yourself. Teach it by example and precept. And then wheresoever your children may go, no matter what their surroundings, they will be grounded in a faith that will enable them to overcome all obstacles. The real reform must lie in bringing ourselves to the acceptance of the truths enunciated in the "Sermon on the Mount."

We are in receipt of the volume of "Proceedings of the National Educational Association." It is a pleasure to bring to the notice of our readers so meritorious a work. Its possession is essential to those who would keep abreast of what is best in modern educational thought. Among the many valuable papers the following are of especial value:

"The Small College—Its Work in the Past," by W. O. Thompson, President Ohio State University; "Its Future," by Wm. R. Harper, President Chicago Union.

"The Problem of the South," by Booker T. Washington.

"The Status of Education at the Close of the Century," by Dr. Nicholas Murray Butler, with discussion by Dr. Eliot and Dr. Wm. T. Harris.

"Obligations and Opportunities of Scholarship in the South," by Dr. Edwin A. Alderman.

"Educational Progress During the Year," which was the last public address of the late Dr. B. A. Hinsdale.

Papers of unusual value will be found in the various department proceedings.

We are especially interested in the school-administration department—the two papers on "School-house Architecture," by C. H. Parsons, and "The Relations of the School-Board and the Teachers."

"The Free Traveling Library," by Mrs. Eugene B. Heard, is another paper of value to library-workers.

This excellent volume may be procured, carriage prepaid, for \$2.00. Address Professor Irwin Shepard, Winona, Minnesota.

"Mark Twain as an Educator," in January "Education," is well worth the attention of every parent and teacher.

Do not think that the grange sessions and labor problem make us forgetful of the library movement. We are not going to let you rest until we know that each community has at least one good, free library. We will be glad to publish the names of the granges or clubs that procure either a traveling library or a permanent local one.

It is remarkable the character of the pleasure we derive from the best books. They impress us with the conviction that one nature wrote and the same reads. We read the verses of one of the great English poets, of Chaucer, of Marvell, of Dryden, with the most modern joy—with a pleasure, I mean—which is in great part caused by the abstraction of all time from their verses. There is some awe mixed with the joy of our surprise, when this poet, who lived in some past world, two or three hundred years ago, says that which lies close to my own soul, that which I also had well nigh thought and said.—Emerson, in the American Scholar.

Our age is retrospective. It builds the sepulchers of the fathers. It writes biographies, histories and criticism. The foregoing generations beheld God and Nature face to face; we through their eyes. Why should not we also enjoy an original relation to the universe? Why should not we have a poetry and philosophy of insight and not of tradition, and a religion by revelation to us, and not the history of theirs? Embosomed for a season in nature, whose floods of life stream around and through us, and invite us by the powers they supply to action proportioned to nature, why should we grope among the dry bones of the past or put the living generation into masquerade out of its faded wardrobe? The sun shines to-day, also. There is more wool and flax in the fields. There are new lands, new men, new thoughts. Let us demand our own works and laws and worship.—Emerson.

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# CUPID'S FESTIVAL

By Adele K. Johnson

"When fate is kind and love is young  
The harp of joy is fully strung,  
And through a world Elysian rings  
The music of the magic strings."



IN THIS holiday named for Saint Valentine, the famed bishop of Rome, a congenial company observed the sweet, simple customs of the olden days. The queen of hearts ruled delightfully, and dainty bits of sentiment flourished.

Gay, red, heart-shaped invitations were cleverly decorated in gilt, with a Cupid carrying his active bow and quiver of arrows.

Gay bunting, singing birds, blue ribbon love-knots, doves, Cupids, red and gold hearts and red paper roses formed exceedingly attractive decorations. Large red hearts pierced with silver arrows were prominently displayed.

In the wide hall this appropriate, truthful sentence, "Love is sunshine," was wrought in large red letters. Many keys formed another unique decoration.

An artistic idea was the lavish use of that cheery little spring blossom, the crocus, the flower dedicated to Saint Valentine.

Several girls wore gowns in the festive red; others wore cherry-colored ribbons or red velvet bows in their hair, while the men chose red neckties and carnations.

A small lad picturesquely arrayed as Cupid, with bow, quiver, snowy wings and cherubic smile, merrily opened the hospitable door of Hazelhurst on the evening of that fete-day.

Partners were chosen (an exciting event) by means of penny valentines lettered in couples, and again by different-sized and colored hearts, which were cut through the center in ragged lines. Some of the valentines read as follows:

Thou art my life, my love, my heart,  
The very eyes of me,  
And hast command of every part,  
To live and die for thee.  
—R. Herrick.

"Sad was my heart, like winter fields frozen,  
Thou wert its sunshine from heaven, my chosen;  
After thy kisses came blossoms upspringing,  
Thy words are like birds in the glad May-time  
singing;  
Ever I choose thee, pray never to lose thee,  
Little Valentine."

A quotation from dear "Bobby Burns" appears on one, as follows:

O my Love's like a red, red rose  
That's newly sprung in June;  
O my Love's like the melody  
That sweetly played in tune;  
And fare thee weel, my only Love,  
And fare thee weel awhile,  
And I will come again, my Love,  
Tho' it were ten thousand mile.

A maiden of to-day merrily throwing kisses to her lover tells this message:

"Kisses kept are wasted,  
Love is to be tasted."

Decidedly unique was one which bore a legal air like this:

LOVE ONE ANOTHER

"You are hereby summoned to appear,  
Without delay, reproach or fear,  
At the Court of Cupid, as above,  
Before his honor, Justice Love;  
To show cause why you pay no heed  
To my appeal, the suit I plead;  
And, furthermore, that we may both  
Take affidavit and true oath  
That we admit in all Love's sport  
The jurisdiction of the court.  
But bind ourselves to now obey  
The heart's injunction and love's sway,  
Given under Love's seal this fourteenth day  
of February."

Each girl brought an original valentine, and addressed it to one of the men guests; these had two chances to guess which girl made it.

Keys were brought by the men and advantageously arranged on a table, the keys being previously numbered; the girls then made a selection, when the names of the men were revealed.

In a quaint book was found this record of a novel custom: "Fair maidens and bachelors write their names on separate billets, which they roll up and place in baskets, the men's in one, the girls' in another. The gentleman draws the maiden whose billet he has drawn."

A heart-hunt proved exciting. Several tableaux, descriptive of famous love scenes, "Hero and Leander," "Romeo and Juliet," etc., proved interesting—to the actors.

The program of the music was as follows:

Solo—"Thou Art so Like a Flower".... Chadwick  
"The Kiss That Bound My Heart to Thee".... Keil  
"Persian Love Song"..... DeKoven  
"I Cannot Help Lovin' Thee"..... Johns  
"My Heart At Thy Sweet Voice"..... Saint Saens  
"Love's Trinity"..... DeKoven

The favors were decidedly novel; on a dainty gold heart were the words "Charms, graven" and the initial "V." Signification—"Your charms are graven on my heart, my Valentine."

A heart basket was filled with tiny red rosebuds. A large heart-shaped portfolio case covered with bright red leather had a fancy Dresden picture decoration.

Books included "When Love Laughs," "Cupid and the Footlights" and "Tattle Tales of Cupid."

The menu consisted of

Raw Oysters.	Graham Bread.
Sandwiches.	
Love-apple Salad.	
Cheese-straws.	Olives.
Strawberry Ice-cream.	
Angel's-food.	Love's-wells.
	Fancy Cakes.
	Motto Candies.
	Coffee.

The oysters were served in horseshoe paper cases. The love-apples held a delicious combination of celery, almonds and cucumbers. The angel's-food was of large heart-shaped design iced in pink. The "love's-wells" were round cakes, cut nearly to the bottom, and filled with whipped cream sweetened and mixed with chopped almonds. The fancy cakes, heart style, had pink icing and were pierced by a ribbon-adorned arrow.

### A MAPLE FESTIVAL

In localities where festivals are held in order to raise money for worthy objects the searchers after novelty will find that a maple festival will prove to be a unique affair.

The booth for fancy articles should be decorated with maple-leaves showing autumn's most brilliant colors. Any one having on hand a quantity of pressed leaves may utilize them, and if desired to enliven the colors brush the leaves lightly with melted bees-wax and iron them with a moderately hot iron. If, however, sufficient maple-leaves cannot be found, cut some out of yellow blotting-paper and paint the veins and tips with water-colors. With very little practice a most natural appearance may be obtained.

The outline of the sugar-maple leaf is easily rendered in a number of articles, such as needle-books, bonbon-boxes in pasteboard or covered with tissue-paper, crape-paper photograph-frames, celluloid jewel or ribbon boxes or catch-alls, work-boxes made of tea-matting, blotters painted to represent a bundle of leaves, pen-wipers made of three or four chamois-skin leaves tied together and the upper one painted with oil-colors, pincushions, emery-bags so made as to have a place for putting the thimble when not in use; each cushion and bag should be attached to ribbons and so arranged with the ribbon for the scissors as to be fastened to the belt. Booklets giving all the receipts used in preparing the refreshments for the festival would doubtless sell well, because very few cook-books give more than two or three ways of using maple sugar or syrup. Stand-covers made of chamois-skin edged with painted maple-leaves are very effective, as are linen doilies and centerpieces when embroidered either in white or colors.

The section having in charge the serving of ice-cream and cake should be given a frosty or icy appearance by being decorated with twigs of branches which have been suspended in a saturated solution of alum and water until the alum crystallizes upon them.

In another portion of the room a veritable sugar-camp might be arranged by carefully concealing a charcoal-brazier in some wood, and have swinging over it a small kettle of boiling sap or syrup suspended from a substantial tripod; and in the booth near, arranged as a shed or sugar-house, should be small, thin blocks of ice or ice-cold plates, upon one of which each purchaser can have the wax, fresh from the kettle, poured to cool, so he can enjoy eating it. The outside of the shed or sugar-house can be covered lightly with cotton batting or sprinkled with flour, to indicate a light fall of snow.

The candy-table should be provided with an abundance of different varieties of maple candy, so that each person may find the kind preferred. The following receipts will doubtless be of value in preparing the eatables for the occasion.

MAPLE WAX.—Place maple-syrup in a granite kettle over a brisk fire, and let it boil until a teaspoonful of the syrup will "hair" when poured while hot into cold water; it will then form wax when chilled by the cold water. Pour at once into saucers or in small quantities upon ice or hard, packed snow, and it is ready to be eaten. A quart of syrup requires almost one hour to boil to the proper degree, but it must not be stirred while boiling or it will grain.

BUTTERNUT CANDY.—Boil maple-syrup as for wax, and after removing it from the fire stir it until it grains; then pour it into pans that have been well oiled with butter and then covered with the meats from butternuts. It will harden in a few minutes.

MAPLE BONBONS.—After maple-syrup has been boiled and removed from the fire when it became wax, stir it, and when it has grained and become cool enough form it into small balls or rolls and press between walnut-meats, or place in dates instead of the date-seed.

MAPLE CANDY.—Boil four cupfuls of maple-syrup until it cracks in cold water, and add two ounces of butter just before taking it from the fire. Pour on buttered plates to harden.

PANACHE.—Put two cupfuls of light-brown coffee C sugar, one cupful of rich cream and one cupful of maple-syrup in a granite pan, and let them boil until they form a soft ball when tested. Remove from the fire and beat until creamy, then add two pounds of walnut-meats and stir until thick. Turn into oiled pans and let stand until almost cold, then mark in squares.

IMPERIAL MAPLE CANDY.—Put one cupful of granulated sugar and one and one half cupfuls of maple-syrup on to boil; boil ten minutes, add one ounce of butter, and continue boiling until brittle when dropped into cold water. Turn into greased pans, and when cold break into irregular pieces.

HOOD'S MAPLE CANDY.—Boil the maple-syrup fast until it begins to get thick, then add one half small teacupful of vinegar to each quart of syrup. When the candy reaches the "crack" pour it out. If you wish you can add grated cocoanut or clopped walnuts, almonds, etc., and make into balls or pour into cakes. VIRGINIA REED.

### THE PATH

Sobbing a little, holding tight my hand,  
She slipped away into the lamplight land,  
Half fearing, half content to see the smile  
My poor lips tried to comfort her awhile.  
So out into the ever dark. Ah, me!  
It was so dark for such dear eyes to see!

Not mine to know the touch of her God's love,  
Or the kind face she sometimes babbled of!  
Mine but to sit and wait the opened door  
And the long path she trod along before.  
(I said she would not weary then)—but oh,  
It was so far for such small feet to go!  
—Post Wheeler, in New York Press.

### A LOVER'S LUNCHEON

This event could, of course, occur only upon the good old Saint Valentine's birthday.

The invitations are written on cream cartridge-paper with gold ink, and are sealed with two hearts made of red paper, one half overlapping the other, and all fastened together with a small gilded metal arrow. These arrows may be made of a knitting-needle broken in half and gilded, one end thrust into a small, stiff feather, the other fitted into a small wooden barb painted red.

The guests are requested to appear as some certain one of a pair of famous lovers, of course, the hostess using tact to request congenial couples to take companion parts.

Following is a list of famous lovers who may be easily represented by the aid of attractive costumes: Romeo and Juliet, Faust and Marguerite, Hamlet and Ophelia, Paul and Virginia, Pickwick and Mrs. Bardell, Petrarch and Laura, Antony and Cleopatra, Paris and Helen, Othello and Desdemona, Cophetua and Beggar Maid, Darby and Joan, John Alden and Priscilla, Hiawatha and Minnehaha, Orlando and Rosalind, and Lohengrin and Elsa.

If you are not quite sure about the costume of the lover you are to personate, consult history or some of the modern magazines, which give pictures in costume of the actors or actresses who play the parts of these historic lovers.

The guests do not mask, but become for "one night only" a person of history. A

complete list of the intended lovers is sent each guest, so they may read up, if necessary, and be able to converse upon affairs of the times (ancient) with each other.

There is a wide range for novelty in the decorations. Opposite the entrance to the reception-room place a large red paper heart pierced with a gilt arrow, and around it this inscription, "He jests at scars who never felt a wound." On the wall over the door have a huge lock painted on white cloth, and the words "Love laughs at locksmiths." The room should be festooned with strings of hearts of all sizes and colors. Quivers of arrows, with the bow hung by them, may hang against the walls. The mantel should contain a Cupid or two nestling in a bed of red roses, and all may be made of paper.

The table should be covered with a white cloth, then in the center place a large crimson heart, and resting upon this a huge wooden arrow gilded. The menu-cards are heart-shaped and each two fastened together with a tiny gilded arrow. By each plate is a "papier-mache" Cupid containing heart-shaped bonbons. One long-stemmed red rose is placed for each guest.

The following is a unique menu for the occasion:

	Cupid Salad.	
Valentine Sandwiches.		Lemon Hearts.
Love Wafers.		Joy Macaroons.
	Heart-to-heart Cakelets.	
		Kisses.

CUPID SALAD.—Make tomato jelly in the usual way, but pour it into a large flat dish to harden; when perfectly hard cut out heart-shaped pieces and place on crisp lettuce-leaves. Prepare a cupful of stoned olives and the same amount of sliced cucumber pickle, mix with mayonnaise, and place a little heap on each red heart.

LOVE WAFERS.—Cream one half cupful of butter, one half cupful of sugar, three fourths of a cupful of milk and two cupfuls of flour. Butter well the inverted bottom of a new cake-pan, and spread the dough on very thinly and evenly; when a light brown remove from the oven and cut quickly into heart-shaped pieces with a sharp cake-cutter, and remove at once from the bottom of the pan; after all are done frost with white icing, tracing the word "Love" in fancy lettering.

LEMON HEARTS.—Cream one half cupful of butter and mix with it gradually one cupful of sugar; add two well-beaten eggs, one tablespoonful of milk and a running-over tablespoonful of lemon extract. Mix one heaping teaspoonful of baking-powder with one cupful of flour, and stir this in, adding as much more as will enable you to roll them out. It will take about two cupfuls. Roll very thin, handling as little as possible; just before cutting them out sprinkle lightly with white and colored sugar, gently pressing it in with the rolling-pin; cut out with a heart-shaped cutter and then bake in a hot oven.

VALENTINE SANDWICHES.—On a thinly buttered slice of bread lay a crisp lettuce-leaf, spread with mayonnaise dressing, and sprinkle lightly with grated cheese and finely minced English walnuts; lay another thin slice over this and cut into heart-shape. The mayonnaise should be rather highly seasoned for these sandwiches.

JOY MACAROONS.—Mix one half pound of ground blanched almonds with one half pound of powdered sugar, and stir into this gradually the stiffly beaten whites of two eggs. Press through a pastry-bag onto well-buttered tins, making a heart about one and one half inches in diameter, sprinkle the top with small, colored sugar candy, and bake in a slow oven.

HEART-TO-HEART CAKELETS.—From several kinds of batter make small heart-shaped cakes. They should be about half an inch thick when done; use only one kind of batter in each cake. When all are done frost with different colored frosting, and then place a layer of thick jelly between each two and frost them all over by dropping several times into thin frosting.

These dignified, ancient lovers are not supposed to indulge in any frivolous love-charms, to learn of the future, so after the guests leave the table play a few games of progressive hearts. This is played the same as any progressive game, and tiny gummed hearts are used for counters in the game. The game of "hearts" is a card game and is too old to need any description.

Next Cupid enters (a child dressed as Cupid) with a quiver of arrows. Each guest is requested to select an arrow, and upon withdrawing it a valentine is found impaled upon the barb. These are read for the enjoyment of all, and, of course, must be of the most sentimental kind.

If possible, have a flash-light picture taken during the evening. GENEVA MARCH.

**THE LITTLE GIRL THAT GREW UP**

She was sitting up straight in a straight-backed chair,  
 There wasn't a snarl in her shining hair,  
 There wasn't a speck on her dainty dress,  
 And her rosy face was full of distress.

When I drew near to this maiden fair  
 She suddenly ruffled her shining hair,  
 And, dropping down "in a heap" on the floor,  
 Uplifted her voice in a wail most sore.

"Now, what is the matter, my pretty maid?"  
 "I'm all grown up!" she dolefully said.  
 "And I'm lonesome, as lonesome, as lonesome  
 can be,  
 For Humpty Dumpty and Riddle-Me-Rec."  
 "There's Little Boy Blue, who used to creep  
 Under our hay-stack and fall asleep.  
 He isn't my friend since mother dear  
 'Did up' my hair in this twist so queer.

"And the Dog and the Fiddle, they left me, too,  
 When the baby into a woman grew,  
 The Dish has hidden away with the Spoon,  
 And the Cow has stayed at the back of the Moon!

"The Little-Old-Woman-Who-Swept-the-Sky  
 Is caught in her cobwebs high and dry,  
 And Jack and his Beanstalk I cannot find  
 Since I began to improve my mind.

"I wouldn't be scared, not a single mite,  
 If the Bugaboo I should meet to-night.  
 The Bogy Man I'd be glad to see,  
 But they'll never—no, never—come back to me!

"I watched in the garden last night at dark  
 A fairy favor to find; but hark!  
 My mother is calling—don't you hear?—  
 'Young ladies don't sit on the floor, my dear.'  
 —Zion's Herald.

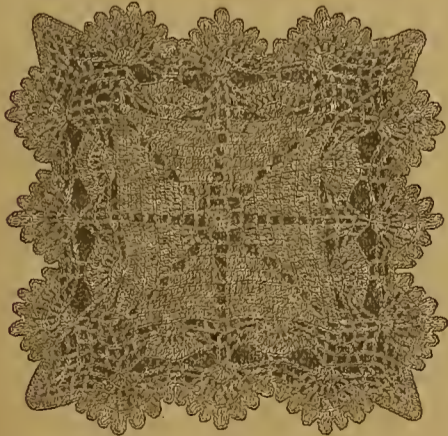
**OUR POETS**

It has been said that only as one possesses something of the poet's soul can he understandingly read a poem. If this is true, it goes to prove the universality of the poet to impulse. I am not claiming that all are poets, only that there are few hearts in which God has not planted a love for the beautiful.

Of our American poets Longfellow stands first. He has been called "the children's poet." His "Village Blacksmith" and "The Children's Hour" would have endeared him to our boys and girls had there been nothing else in his writings that appealed to them. His work is full of beauties so simply expressed that children can readily grasp their meaning, and at the same time so true and noble that the aged and the world-weary delight in them. "Hiawatha" is often used in schools for fifth-grade pupils, while the lovely stories of "Evangeline" and "The Courtship of Miles Standish" form a part of the reading course of nearly all our schools. Longfellow's poems have found their way to homes and hearts the world over. It is a pleasure to his admirers to remember that the man lived what the poet sang, and that his courteous kindness and gentle dignity were the habits of a lifetime. The magnetism of his works lies in far-reaching humanity, while his artistic touch is so exquisite that each one of his poems is a valuable literary study.

Next to Longfellow stands Whittier. He is a characteristic production of New England influence, and is a faithful chronicler of his age and race. His nearness to nature is shown in the fidelity and spirit with which he describes her varying moods. His work is also marked by purity and lyrical grace. Would that "Snowbound" might be thoughtfully studied in every home in our land.

Oliver Wendell Holmes was a sparkling and pleasing poet. Some of his works are



compounds of humor and pathos, both smiles and tears lying near the surface as we read.

Of lesser poets the number is unlimited. They may not have reached the eminence attained by the greater few, yet their works are dear to us. The Carey sisters, Thomas Bailey Aldrich, James Russell Lowell, Joaquin Miller, Walt Whitman, Richard Stoddard—these are but a few of the names that come to us.

Then there are the singers of a latter generation. James Whitcomb Riley is one, and another is the man whose sweet songs

touched so tender a chord that his recent passing to the Great Beyond seemed like a personal bereavement to each of us—Eugene Field. Paul Dunbar's poems have a note of sincerity and truth. We must not forget the man whose single poem, "The Man with the Hoe," has brought him so prominently before the public.

The field is a wide one. Do not neglect it, but gather as taste prompts you. Gradually you will see more and more of the real beauty of the poems you read. Ah, it is a rare gift—that of the true poet! God gives it—in the abundance that finds expression in language—to comparatively few.

HOPE DARING.

**THE HEART OF THE HOME**

"Home is not merely four square walls,  
 Though with pictures hung and gilded;  
 Home is where affection calls,  
 Filled with shrines the heart has builded."

The cynic may scoff, and the pessimist may demoralize to his heart's (dis)content, but after all the real essence of life—love—must go on forever. It is not to be wondered at in these days of buying and selling, the exchanging of millions for a title, the giving of our daughters to the highest bidder, that divorces are becoming more and more common, and that the love that made life in times gone by seems to be a thing of the past, an old-fashioned thing. What a blessing it would be if in reviving old customs and furniture we might also revive the old fashion of marrying for love instead of for convenience or convention!

Wealth is a very convenient thing sometimes, and money seems to be a wholly desirable thing. Men spend their lives in a struggle for it, and women do the same; and yet there are some who prefer the real and substantial things of existence to those fleeting and purely material.

Our good friends the Christian Scientists tell us that the substantial things of life are those that last, those that are eternal; and so we may class love in among the substantial things—and she who wins it and holds it may make herself the center of a home so happy that she need not envy our good mother Eve her Garden of Paradise.

The wife and mother should in truth and verity be the heart—the center of the home—around which all things else revolve. She need not aim to be the head of the house, though oftentimes head and heart may go together in sublime union.

We may scoff at the idea of love, but there is such a thing even in this world of conventions. Now and then men and women learn to know this for a fact; and could it be really known oftener the world and all humanity would be the better for it. We would never deprecate the value of wealth and the convenience of having money to buy the needful things in life—and what we consider needful might by some be esteemed luxuries; but if human beings must choose between actual affection and cold cash, there can seldom be any doubt which would be the most desirable thing to have.

The old saying "When want comes in at the door love flies out of the window" is not always true; but it is true very often of the thing that some have mistaken for love, and it is these mistaken ones who become cynical, and who hold because they did not find the real heart of life, the essence of it, the love that never dies, that there is no such thing. If we all could be educated more simply, in a more kindly spirit, in the fact and belief that there are some disinterested ones who really do things because they are right, and therefore best to do, instead of because they will prove politic, we should be the better for it.

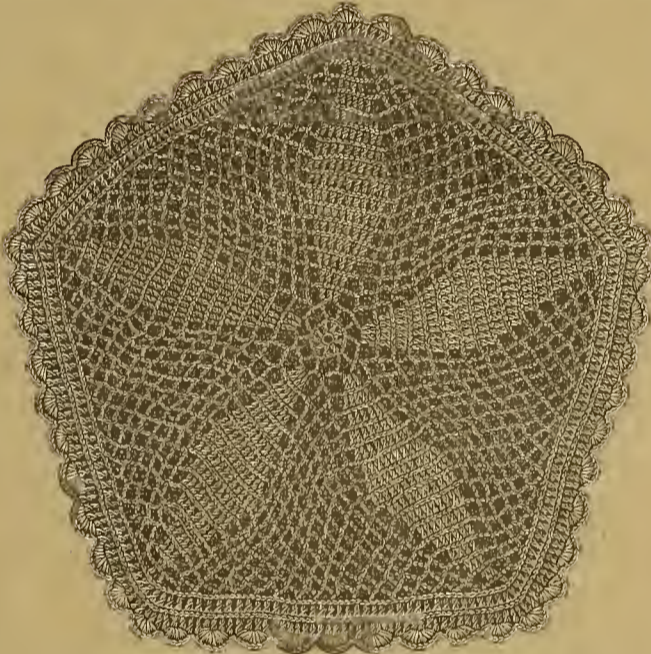
The value of one real home where love reigns supreme and all other things are made subservient to it cannot be estimated. I doubt if women of wealth and fashion take the real comfort in life that those do who are born to less affluence. It is very difficult to sift the real gold from the dross in the offerings made to those who are high in the world of wealth and power; but when we come to the friends of the poor, we may, as a rule, depend upon them, knowing that they have nothing to hope for of emolument of power from the friends they loyally love and willingly serve because of this love.

I do not say, or even hold, that there are no true hearts under broadcloth and satin.

Indeed, I am one of the optimistic kind who believe there are more good people in the world than are dreamed of in the world's philosophy. I believe that everybody is inherently good, that within every person there is a desire to do right and to live truly. This desire may be overcrusted with conventions; it may be buried under strata of selfishness, and in some cases of sin; but after all there it is, and the time will come when it will be awakened to a new life and higher aims, when the unreal life it has been living will be swept away and only the verities of existence will be left; then the true living will begin, and the substantial things will seem what they are, of infinitely more worth than all else.

If we could live out these heart lives in reality; if we could but make ourselves the central point of some home, and so exert our influence therein, and so out upon the world, we need not feel that we have lived in vain, but we may be assured that we shall hear some time a calm, sweet voice saying, "She hath done what she could."

Oh, wives and mothers! cast aside the lethargy that binds you, and awake to the real issues of life; know full well that the well-being of your own family is worth more than all wealth or worldly emoluments could ever be. Don't strive for the impossible things, accept the place God has given you, and it may be, if you live truly and perform faithfully the small duties of life, larger ones will open to you. I hold that our sphere in life is always as large as we are. If it seems cramped, then we ourselves must look to it that we live truly and up to its full limit, resting assured that when we are fit for a larger place, a broader sphere, the larger



place will be ready for us, from which the vistas of life may stretch out into the very infinities.

ROSE SEELYE-MILLER.

**DOILIES**

The two illustrations given of crocheted doilies are so plain as to make directions unnecessary. Use No. 30 thread and a fine steel hook. They are useful for many things about the table or toilet.

B. K.

**CHEESE DISHES**

**SCALLOP OF CHEESE AND EGGS.**—One cupful of grated cheese and six cold boiled eggs sliced. Arrange in a baking-dish in alternate layers, using the following sauce: One and one half tablespoonfuls of flour, two tablespoonfuls of melted butter, pepper and salt. When the flour and butter are perfectly smooth add gradually one and one half cupfuls of rich milk, stirring constantly. Finish with fine bread-crumbs and plenty of bits of butter. Bake fifteen to twenty minutes.

**CHEESE BALLS.**—Mix one tablespoonful of flour, one fourth of a teaspoonful of salt, cayenne pepper, and one and one half cupfuls of rich dairy-cheese grated. Beat three egg-whites until very stiff, and fold into the cheese. Form into small balls, roll in bread-crumbs, and fry in very hot fat.

**DEVILED CHEESE.**—Cream thoroughly one half pound of rich dairy-cheese with one tablespoonful of butter; add one teaspoonful of mustard, one half teaspoonful of onion-juice, a dash of cayenne pepper, two tablespoonfuls of vinegar and one tablespoonful of catchup. Beat again. Serve on hot toasted bread or crackers.

**CHEESE TARTS.**—Melt one tablespoonful of butter and one cupful of chopped dairy-cheese. Add four tablespoonfuls of cream, two egg-yolks thoroughly beaten, pepper and salt. Make rich pastry-tarts, fill with this prepared cheese, place a tablespoonful of whipped cream on the top of each tart, and serve.

ADELE K. JOHNSON.

**A CHILD'S COAT**

Use for this a fine cashmere, and line with thin silk. The ruffles can be trimmed with satin ribbon the same color and lace upon



the edge. Do not line the main coat too heavily, so it can be used for more moderate weather.

**A HINT FOR WASH-DAY**

During a practical laundry course the instructor spoke of the efficiency of kerosene in whitening clothes.

The proportions given were one tablespoonful of kerosene to each pailful of water in the boiler. The clothes should first be placed in the boiler, after which the kerosene should be added. The scum which arises in boiling should be removed. After boiling ten minutes or so remove the clothes from the boiler into very hot water, and rinse well. They should then be rinsed through two more waters.

The kerosene will whiten the clothes beautifully, but their sweetness will depend upon the thoroughness of the rinsing and the proper airing.

Extremely dirty clothes can be washed in this manner without any rubbing whatsoever, for the dirt will, so to speak, "drop" out of the clothes during the rinsing process.

This is a very simple and effective way of washing clothes if plenty of hot water is available. **EMMA LOUISE HAUK ROWE.**

**A CONTRAST IN CUSTOMS**

Objections are often raised regarding the custom of allowing the children of to-day a much freer use of the drawing-room than was formerly given, yet a young mother who has had an opportunity to make comparisons warns us to avoid the other extreme.

I was visiting not long ago in an old Southern town where people are very straight-laced as to all social forms. I was advised by my hostess that in case visitors called the children should not appear. She said, "I have been living here for five years, and when making social visits have never once encountered a child."

From such a mandate there is no appeal; and quite a contretemps I had once when the nurse had gone up the street with the larger children, and, visitors coming in, there was no one with whom the baby could be left. I would perhaps have enjoyed exhibiting his many perfections, but the idea was not to be entertained an instant; so Dinah, the cook, was called out of the kitchen to take him in charge while I repaired to the drawing-room.

In arriving in another town, where I also had a number of formal acquaintances, I was met with an entirely different order of things. At one place the housemaid received my card and invited me in. Almost immediately a little girl made her appearance and said, "Mama will be in presently." She sat down then, and talked away, much to my amusement, until her mother entered, when she ran out to play.

At another place a little girl came in, evidently having first brushed her hair and put on a clean apron. I asked after her younger sister. She laughed and said, "Oh, she is brushing her hair now, getting ready to come in." In a few moments the cunningest little picture presented itself. The dear little innocent had tried to brush her hair, but had succeeded only in plastering a very wet lock across her forehead. She came bravely in, however, and gave me her hand. She then sat down demurely to help entertain the guest. I was charmed at the sweet sincerity of the act, and could not help thinking that it was excellent training for them to feel a responsibility in helping mother do the honors. Would there not be less forwardness in children if they were from the first disciplined in drawing-room etiquette?

P. W. HUMPHREYS.

[HOUSEHOLD CONCLUDED ON PAGE 19]

## NIP AND TUCK—A FARM STORY

By Dora Reed Goodale

## CHAPTER I.—THE START



PETER CLAPP owned a farm which in its palmy days had been called the best in town, and yielded a handsome income. It comprised some hundreds of acres, wild and tame—mostly wild, for brush and scrub grow up fast, and Peter of late had not guided the plow and wielded the mattock to such effect as he did in his youth. Odd, decidedly odd, was Peter; but every one liked him, and "queer fish" was probably the worst term that had ever been fastened to him. He was a little man, considerably bent, with very blue eyes, and fresh cheeks fringed with a tangled brown beard that could not hide his humorous smile. He talked little and epigrammatically, and was fond of using proverbs, which he twisted about to suit himself. Farm-life was his passion, quaint old customs his hobby, and the decline of agriculture his worst charge against a country that he adored.

Peter had never married. His house had been kept for many years by a despotic spinster named Phebe Ann Griffing. It was a comfortable, long-roofed house, having a quaint little wing in the shape of a log cabin, with small-paned windows, and stone chimney complete. This wing was the original home of the Clapp family. Peter's only near relatives were two nephews, Hobart and Hugh Willis, aged respectively nineteen and eighteen when he was sixty. It was at this time that he sent for the brothers, and, seating them before him on the horsehair sofa, addressed them to this effect:

"Boys, I have a proposition to make to you which, it's my belief, will work first-rate for you as well as for me. It's two years now since your father died, and, though I haven't said much, I've kept my eye on you, as I promised your mother I would. I'm alone; you're alone. I'm called a rich man, and it's as plain as a pike-staff that you'd naturally look to me to give you a start. You've never asked me for sixpence, but you've wondered, perhaps, how much I was worth, and whether I'd made a will, and if I was going to live to be a hundred. Isn't that so?"

The two boys had sat with flushed faces, drinking in their uncle's words. At this appeal Hugh, the younger, seemed about to protest, but Hobart answered, with sparkling eyes, "That's it, sir; go on."

"Now, I'd rather make you well off than leave you so when I'm gone, and the plan I have to propose is this" (here Uncle Peter paused, raised his forefinger, and began to speak slowly and solemnly): "You boys shall agree to come and live with me for five years, and divide the farm to suit yourselves, each taking half. You know just what the place is, for you've been over every foot of it. I'll give you a good home, and a hundred dollars apiece to start in; after that you must hoe your own rows, and all that I require of you is that you shall keep your accounts straight and keep out of debt. At the end of five years the one that has netted the most off his piece of ground is to receive a check for ten thousand dollars down."

Hobart and Hugh drew a simultaneous gasping breath.

"And the other one can take the farm for a booby prize."

It was three minutes at least before the boys found their tongues; and, judging by the twinkle in Uncle Peter's eyes, he was by no means displeased that his magnificent offer should create a sensation. He took out his old wallet and pretended to search for a particular paper; then he put it up, rubbed his hands energetically, tapped on his chair, and finally leaned forward and said, in his quick way, "Well, boys, how does it strike you?"

"Uncle, you're a brick!" exclaimed Hugh. His eyes grew watery, to his great surprise, and jumping up he began a spasmodic hand-shaking.

"Yes, it's a grand chance!" chimed in Hobart, his voice implying a lurking, but in the background, however.

"Take all the time you want to think it over," said Uncle Peter.

"You mean we should manage everything ourselves?" asked Hugh, sobering down a little.

"Manage? Yes, sir; I mean to wash my hands of the business, and not give either one of you so much as a shilling's worth of advice unless you ask me for it. I've 'held or driven' for forty years, and I'm ready to let some one else take a turn at the plow-handles. You can change work betwixt ye, and hire help as you see fit as soon as you get a litle ahead; and if you take a notion to plant rye in the spring or broadcast potatoes in the fall I sha'n't hinder ye."

"It would put us back just so long in getting a start in a business if we decide to take up something else afterward," broke out Hobart, who had been thinking intently.

"You'll be plenty young enough at twenty-three or twenty-four to go into any business you want to; and what you've learned meanwhile about 'stiddy work' [Hobart made a grimace] will stand you in hand anywhere if you choose to take it that way. There's leisure on a farm winters, if either of you have a liking for study, and it's a good deal healthier life than bending over a desk or a counter, you'll find."

"Aha! what have I often told you?" said Hobart, triumphantly, looking at Hugh; but that young gentleman turned his back on him, and going up to his uncle laid his hand on his shoulder,

der, exclaiming, affectionately, "Meanwhile, how about yourself, Uncle Peter?"

"Oh, if it comes to that," said Uncle Peter, and then he stopped and looked his nephews over from head to foot, first one and then the other, thinking secretly what remarkably fine fellows they were. Hobart, the elder, was the handsome one, with black hair that lay in little locks over his forehead; brown eyes, bright and piercing as a hawk's, and a self-confident, dashing air that attracted friends wherever he went. Hugh, already as tall as his brother, was more squarely built, with sandy hair, steady gray eyes, and a resolute mouth and chin. In repose his features were somewhat heavy, but just now they were lighted by a bright look of open good-will that gave them their best expression. You would have known, to look at the boys, that at least one had quick wits, and one certainly a thoroughly good heart. Neither bore much resemblance to Peter, but he could see a little of their mother's looks in Hugh's forehead and Hobart's mouth, and it warmed his heart to them wonderfully. She had been his favorite sister, pretty and spirited, had

fall, when the crops are all in?" suggested Hobart, the last point having been fully discussed.

"To be sure, to be sure. Call it five years from next Thanksgiving day, and you can come as soon as you please. It's the second of February now, and you'll have a chance to read up, look the land over, and decide what you'll raise this year, before you begin work," observed Uncle Peter, with a beaming face.

"How about the animals and the tools—shall we divide them, too?" inquired Hugh, beginning to feel the weight of coming responsibility.

"Well, I've been thinking about that, boys, and it's just like this: There are three cows on the place, a couple of yearlings, two hogs, a cosset sheep, and a lot of hens—I don't know how many. I'll keep out one cow for our own milk and butter, and the rest you can share and share alike. Ned and Dolly make a good team—I should advise you to hold them in common; and I'll get a little horse for my own driving that can do light extra work besides. The machines, of course—plows, harrows, and so on—will answer for both, and the same with the farm-wagons; and the barns are big enough to hold all the stuff you're likely to raise. I shall take care of the garden myself, to make sure we don't starve. About wood we'll have to make some regulation. I haven't taken anything off except fire-wood for a good spell now, and I reckon you could cut a hundred cords apiece inside of five years without hurting anything—"

"But that would help one of us just as much as the other," interposed Hugh.

"Tra—la! Don't be in such a hurry, old man!"



"Boys, I have a proposition to make to you!"

married badly, and worked herself to death without letting him know. All this passed through his mind in the moment or two before he repeated, "If it comes to that, as Phebe Ann says, 'I'd rather be the head of a mouse than the tail of a rat,' and my idea is to put the couple of thousands that I shall have left into an annuity that'll give me a snug little income for my last days. With the place in good hands I may take it into my head to travel about and see a bit of the world—"

"Can we 'skin' the farm, uncle?" interrupted Hobart, using the Yankee phrase that means to strip everything off a place, leaving the land as nearly as possible in the condition of a sucked orange. The corners of Uncle Peter's mouth went down at the hare suggestion, for the farm was the apple of his eye, and his dearest wish was to see it restored to its old-time glory.

"I won't say you nay, boys," he replied, grimly, after a pause; "but hear in mind that it goes to one of you in the end, and the more you put on the table the less there is left in the larder."

"That's true," said Hugh, thoughtfully, "and any improvements, like fences or planting, will be for the benefit of the eventual owner, I suppose?"

"Just so, my boys," answered Uncle Peter, approvingly. "Live stock and produce you can sell, but there is to be no dickering between you in regard to permanent improvements, after we've balanced accounts."

"Wouldn't it be better to wind things up in the

cut in Hobart. "You might sell off your wood on the stump for a dollar a cord, while I sold mine for railroad ties or worked it up somehow to bring ten times as much. Smartness counts in farming as much as in any business, doesn't it, uncle?"

"Pooh, I guess I see you getting ahead of me like that!" sniffed Hugh.

"There's another way it might make a difference," continued Hobart, who dearly loved an argument, especially if he had the best of it. "You might put your money in the bank, while I laid mine out somehow, on the place I mean, so as to double it before the end of the time. See?"

"I see," answered Hugh, dryly. "By the way, uncle, does what we spend on ourselves count, if it's once fairly earned?"

"Yes, you can spend what you like, only, as Hobart says, you run a chance of making more if you use it as capital."

"And it's got to be really made off the place?" asked Hugh, musingly.

"Yes; that is, school-teaching wouldn't count, or book-agent business, or anything like that, but whatever raw material you find on the farm you're free to work up to suit yourselves, and put as much brains as you like with it."

"Iron is worth more than gold, I believe, when it's made into watch-springs," said Hobart, shrewdly; and after a moment's reflection he added, "But isn't it a dreadfully poor time to go into farming? You hear so much about agricultural dep—"

"Keep still!" muttered Hugh, nudging his

brother. "You know how uncle hates that expression."

"It's a poor time to go into anything without pluck and brains, young man; but if you've got those two commodities, and some muscle besides, I guess the land will feed you as long as other people have stouachs. I had this farm from my father," Uncle Peter continued, "but I didn't have my living free for five years, nor any ten thousand dollars, and yet I made a good thing out of it."

"Hurrah! That you did, sir. We're a couple of donkeys, Hugh, and I move we accept with thanks," exclaimed Hobart, with sudden enthusiasm.

"All right, I say the same; and we'll do our best, and hope for good luck, though it's precious little we know about farming."

"Pooh! We've spent two summers here, and we can soon pick it up," returned Hobart, briskly, with an air of not being vanquished by trifling obstacles. All through his school course he had "picked up" information so easily that to really sit down and study seemed a waste of good time; and yet by "cramming" at the last he had stood third in his class, while Hugh only came in fifth after unlimited digging. Perhaps, indeed, Hugh remembered what he learned. But now Uncle Peter was speaking.

"There's one thing more that I want to say to you, boys, and then I'll leave you to talk matters over and decide quietly: If you go into this thing you'll be rivals—friendly rivals. I hope, and right-meaning ones, I'm sure, but still rivals, and at an age when the combative instinct is strong. You'll be striving for the same object, and it will come hard to see the other get an advantage. You understand me?"

"Of course," said Hobart, rather blankly.

"If disagreements arise—and they will—I want you to promise me to settle them—well, by arbitration, and not by force."

"We never fight," "We'll appoint you umpire in all disputes," chorused the boys.

"I want you to give me your word to treat each other honorably and generously, like men and brothers, and never make this arrangement the ground for any family quarrelling, or I shall wish from the bottom of my heart that I had thrown my money into the sea before I offered it to either one of you."

The boys promised, a trifle awed by Uncle Peter's unusual solemnity, and little dreaming of a crisis in which his words would return to one of them with all the force of a vow.

Half an hour later they were stretched on the mow in the peak of the big barn (it was a wet afternoon) discussing pros and cons with true boyish extravagance.

"It won't be all fun, you know," remarked Hobart, breaking a pause—"hoeing and weeding and making hay under a blazing sun, and wearing your worst old clothes"—Hobart was a bit of a dandy.

"I'd rather do it than keep on at Gunn's, though," answered Hugh; Gunn being the store in which he was acting as clerk.

"Well, I meant to get a chance with a surveying party, and learn engineering and all those things," observed Hobart; "but there'll be time enough to go into that later. I say, old fellow, Uncle Peter didn't make it a what-d'y-call-'em that the one that got the farm should stick to it ever after."

"No, he didn't," assented Hugh, "but I guess he'd like to have it that way. He's mighty fond of the old place."

"Well, I wouldn't promise to farm it all my days to please anybody; but I don't mind having a try at the business, especially with such a big plum in sight. The place won't be a bad consolation prize, either, particularly after we've spent five years getting it into shape."

"It's a good deal for uncle to give up everything to us," remarked Hugh.

"Yes, 'tis; but he always was queer, you know, and I dare say he'll be glad to be rid of the responsibility and worry."

"I hope the 'responsibility and worry' won't turn our hair gray," said Hugh, chuckling a little at this view of the matter.

"Oh, well, we're young, and can stand it better, of course. Look here: Point of fact, I wonder how much we can make in a year? Five hundred dollars apiece I shouldn't think would be any great sum," said Hobart, magnificently, for his sanguine spirit was still uncooled by any practical knowledge of husbandry.

"H'm! Time will show. We're not required to raise any particular amount, that's one mercy," replied Hugh, privately thinking that fifty was likely to be nearer the figure.

"No; but of course we're in honor bound to make all we can. Uncle expects that of us, and it would be too disgraceful to do anything less, after all his kindness," returned Hobart, decidedly; and with this opinion his brother fully agreed.

The following month was spent by the Willis boys, as every one called them, amid a rush of excitement, changes and new ideas that delighted their souls and threatened to turn their heads. First they must go back to Weatherby, the bustling manufacturing town where they had lived for ten years, resign their positions (Hobart had work in a big leather concern), pack up their belongings, and say good-by to a large circle of friends and former schoolmates. Choosing their rooms and getting settled occupied several succeeding days; and this was a season of anguish to Phebe Ann, who saw her ancient solitary reign rudely menaced, if not destroyed—shelves knocked up and knocked down, nails driven into immaculate walls, and cherished furniture huddled off to the garret without so much as a "by your leave." The next step was to divide the land, which involved a great deal of anxious thought on the part of the "joint tenants," to use their favorite phrase. There was much tramping

about in the deep spring slush, and wordy discussions as to the value of plowed land versus grass, and the like; but on the whole their preferences dovetailed remarkably well, and early in March a businesslike paper was drawn up and filed for future reference, defining the bounds of their respective territory. Hobart's portion consisted of two large meadows swampy at the foot, a run-down orchard, with a strip of corn-field adjoining it, half the woodland, and a wild stretch of country known as the "den lots," poorly fenced and apparently good for nothing but raising goats. Hugh's share, though smaller, was better cultivated. It embraced the south knoll, a fine mellow slope, which he intended for fruit, two fields, one of them sown to winter-rye, and a fair piece of mowing, besides his share of the woods. The pasture they held in common, and there was grass enough there for twenty "head"—for Hobart already spoke of "head" or "neat stock" when he meant cattle, and at the end of a month had enough rural phrases at his tongue's end to set him up, in his own opinion, as a solid agricultural character. The boundaries once settled they promptly fell to at the only employment open to them, and "lead-pencil farming" was the order of the day until the time for plowing arrived. Mysterious calculations were chalked up on doors and beams, old farm journals and Department reports strewed the floors, and queer questions provoked shouts of laughter as often as the family assembled at meals. It was a pleasant season for all concerned, and Uncle Peter fairly basked in the spirit of grateful enthusiasm that pervaded the household which had been dull and silent so long. The different bent of the two brothers came out from the first, and it was quickly apparent that Hugh, though younger than Hobart, was more judicious and also more conservative. He thought the beaten paths safest, and generally pleasantest, and put up good-naturedly with the nickname "Old Boss," which had been bestowed upon him as a tribute to this peculiarity. His choice of land had been made with a view to establishing an orchard which would, he believed, in five years yield a good return. The region had been famous long before for its peach crops, until a disease called the "yellows" spread destructively over that part of the state; since that fruit-growing had fallen into complete neglect. The favorable soil and exposure suggested to Hugh that the hillside should be devoted to peaches and plums, extending to rows of berry-canies in the field beyond. To this end he studied works on fungi and fertilizers, consulted with nurserymen, and investigated the local markets, determined to lay out his capital to the best advantage and sustained by a pleasing vision of long lines of trees loaded with purple and crimson fruit, for Hugh had much of his uncle's taste for rural affairs. As to Hobart, what he meant to do with the "den" was a puzzle to everybody, and it was shrewdly surmised that he had chosen it more because it appealed to his romantic fancy than for any immediate practical use. Meanwhile he talked of raising colts, burning charcoal, planting a cranberry-swamp; changed his mind from day to day, and was alternately elated and depressed over the possibilities of the venture in which he had embarked. "Hobart has the go-ahead and Hugh the stick-to-it-iveness," said Uncle Peter to himself, with his dry, meaning smile. "Farming is good for 'em both; it'll ballast them like, give Hobart a stiddy and Hugh a little more enterprise; and I wisss my guess if it don't turn out a grand good thing all around."

## CHAPTER II.

## BRAG AND HOLDFAST

That first summer was what is sometimes known as an eye-opener to the two well-meaning but inexperienced youths who had assumed the reins on Uncle Peter's estate. Farming, they learned, is not only a business, but a fighting business; it requires not merely will and skill, but unsleeping vigilance. Weeds and weasels and hawks and hail and squash-bugs and garget and breakdowns seemed unnaturally prevalent. The strange fact transpired that good men are always hired out in advance, while those you pick up in a hurry either drink or take French leave or persistently lean on their hoe-handles. Of course, our boys undertook too much; of course, they made mistakes, on which they chaffed and twitted each other unmercifully; and there was an occasional passage of arms when both wanted the team or the harrow at the same time. But these differences were never serious, and in any emergency (such as often arose) they fell to and helped each other out with the best will in the world.

When hay-making time came they joined forces, and worked so hard that Uncle Peter worried about their backs, and Phebe outdid herself in providing drinks for the thirsty heroes. Having got the last load in without even a wetting they felt that a little relaxation was no more than their due, and proceeded to take it characteristically—Hugh lying in the orchard all day reading Don Quixote, and after supper dropping in on the neighbors, while Hobart nearly drowned himself on a boating trip, with two other wild lads, up Fort River. On the whole, however, they took their responsibilities seriously, and learned some valuable lessons by way of sunburned faces, blistered hands and stiff joints. Every one liked the energetic young fellows, and when the secret of the competition leaked out it made quite a buzz in town, and more than one hat was wagered on the result. So the season passed, and by the time the corn was all in, the flocks of ducks and chickens thinned out for market, pigs butchered, apples sold, and surplus of every kind converted into cash, the first driving November storms produced a lull and made a nook by the fireside the most attractive place on the farm.

The day before Thanksgiving the brothers overhauled their accounts, and came down to dinner inky, flushed and disheveled, with eczema written on their faces. Each carried a slip of paper with a gingerly air, as if it contained some explosive which he was bound to deliver, and Uncle Peter waited with a twinkle in his eye while they marched doggedly up and laid those torpedoes before him. The debit and credit were neatly carried out, and the sum total of eight months' gain was represented by three small figures in Hobart's case, and two large ones in Hugh's.

"It's a pretty poor showing, with all the help we've had, isn't it, uncle?" he said, frankly.

"Well, toler'ble, toler'ble," answered Uncle Peter.

Hugh felt that the good man was secretly disappointed, and went on, quickly, "I've got a first-rate orchard started, you know—two hundred peach-trees, one hundred Japanese plums and twenty-five grape-vines, besides a lot of small fruit. It's been all expense and no profit so far, of course; but I'm mistaken if I don't get a big return later on."

"I have more faith in my stock than I have in your orchard," spoke up Hobart, who had "swapped critters" (generally throwing in a trifle to boot) until he was in possession of a varied menagerie, besides being acquainted with every cattle-dealer in three townships. "And I'm ahead of you so far, anyhow," he added, complacently.

"Don't brag too soon," was all the reply Hugh vouchsafed; and he thought to himself that Hobart's ideas never did come to much, he had made one or two bad slips already, and, after all, good, plain sense, with determination to back it, of course—in short, Hugh preferred his own prospects.

Uncle Peter broke in on this agreeable train of reflection. "Well, boys," he said, "I've no fault to find with either of ye; you've held by our agreement, and kept stiddy in harness, barring kicking over the traces a bit now and then. I never see two chaps take hold of farm-work much handier, and it's my belief that not only the place is picking up, but you're picking up something yourselves. Yes, yes, I've had real comfort in ye; and you've done well, I say, if you haven't earned quite what I did off'n the same land when I was your age."

The brothers felt their faces grow warm at these generous words, and they listened respectfully while Uncle Peter added a little homily on the value of character. "I'd be sorry to have you think the money was all you was working for," he ended by saying.

"I don't think so. But what are we going to try next? That's the question. Here it is the beginning of winter, and we can't be doing anything for four or five months," observed Hugh, in a rueful tone.

"Speak for yourself," interrupted Hobart, mysteriously wagging his head.

"You boys must calculate to eat raw victuals next summer, heh?" spoke up Phebe Ann, who had come in and now stood with her arms akimbo, expecting as usual to have her say about family matters.

"Sure enough, we might saw wood, I suppose," began Hugh; while Hobart uttered, "Oh, my buttons, the Griffin again!" and turned his back on her, for he took no pains to conceal his dislike of the spinster, whose sharp eyes and unsparing tongue made her a formidable adversary. Phebe heard, and her black eyes snapped; but before she had time to frame a fitting retort Uncle Peter hastily broke in:

"I was going to say," he remarked, "that if either of you would like to get up a wood-pile you shall have six dollars a cord, cut and piled—"

"Whew! And how big a one do you want?" demanded Hugh.

"Oh, a shedful—twenty cords or more, to last through the year."

"Twenty cords! It's a go, uncle! We'll draw lots for the job!" cried Hugh, looking eagerly at his brother.

"You can take it, thanks. I have other and more important business on hand," was the provokingly cool reply.

Hugh was immediately conscious of an uncomfortable feeling under his jacket. "The dickens you have!" he exclaimed. "Experiments flourish even in winter-time, do they? Let us hear what it is you mean to do now."

"Another new-fangled way to cook eggs, I'll be bound," declared Phebe, with grim sarcasm. Hobart's "experiments" had included an incubator, in which he gently roasted forty young ducks in their shells.

"When I take to raising geese I'll come to you for advice," flashed out that young man, in dudgeon.

"Well, you won't need to come to anybody for the sauce for 'em, that's one sure thing," observed Phebe, firing this shot over her shoulder on her way to the kitchen; for in spite of appearances she was woman enough to enjoy the last word.

"Don't be hard on her, boys. She's as honest a soul as ever breathed, and a first-rate hand at nursing if you happen to get sick," said Uncle Peter, as the door banged.

"Oh, preserve us! I'd rather have a regiment of grenadiers to take care of me than that old girl!" exclaimed Hobart.

"Come, tell us what your plan is," urged Hugh, who found this discussion a great waste of time. "Perhaps I'd rather keep my plans to myself," answered Hobart, unconvincingly, being nettled by a suspicion that he had come off second best.

"Oh! Just as you like, of course," replied Hugh, after staring a moment; and turning to his uncle he began to talk about the last town meeting, as if a choice of selectmen was his dearest interest in life. But all the time that sense of disquiet remained like a cold lump at the pit of his stomach, and he knew it instinctively for the

ugly thing called envy. Hobart had always possessed an originality and daring that threw his brother's more sober gifts in the shade—gifts which he consequently ridiculed, though he admired them in his heart, and would have considered them a useful addition to his own. It was evident now that he had some new scheme in his head which caused the family wood-pile to be regarded with scorn, and Hugh's suspicions pointed to an old hunter in the neighborhood, a man named Dave Lamson, with whom he had often been seen talking of late. Lamson, he fancied, might have given his brother points as to game, and incidentally offered him his old gun for a song. That this surmise was correct events soon proved.

[TO BE CONTINUED]

## THE GOLD-OAK

A SUGAR-CAMP TALE

By Alexander P. Huston



THE WHO, in the audible hush of the wood's night, has never reclined in the comfortable glow of a sugar-camp furnace, nor breathed that delightful aroma wafted from its seething kettles, has never experienced quite the same relish for story-telling and story-hearing as his more fortunate brother. Stories are as common to the sugar-camp as bread is to the dinner-table.

There were four of us seated around the furnace door—Uncle Billy, Griswold the professor, Benton the scribbler—we three the regular camp crew—and our guest, old John Bevis. Uncle Billy, as it happened to be his turn as fireman, sat upon a stool in front of the furnace, holding a long elm poker in his hands. Griswold sat upon his right on a bench along the east wall of camp. His offices were fuel-carrier and general utility man—this was a pioneer camp. Benton sat upon a chair by the side of the furnace. His offices were kettle-replenisher and skimmer. Our guest, old John Bevis, sat on the left of Uncle Billy on a bench along the west wall of camp. This was our party for the night.

The night was a beautiful one, mild and pleasant. The full moon stood well above the eastern horizon in a clear sky. A breeze from the southeast fanned to a constant radiating heat the front of the fire. A red glow, augmented by fitful tongues of flame, shot upward from the chimney-top. Occasionally a shower of sparks added to the weird illumination.

"She's a-boomin' now!" enthusiastically remarked Uncle Billy, pushing with the long poker a hickory knot back under the rear-kettle. "There may be nothin' in it, but it seems to me a fire hums better at night than in the day; it boils faster."

The surface of the kettles foamed like an angry sea. The professor, about to inquire into the philosophy of Uncle Billy's statement, was shut off abruptly, and hurriedly loosened the pork-string to calm the threatened fury, while the scribbler seized the ladle and industriously skimmed the center kettle, which was just about to boil.

"Keep 'em on the run, boys, and by daylight you'll have it all in syrup," said our guest, as he measured with his eye the contents of the sugar-water cask.

"That is all well enough, but sometimes the story boils and the kettles rest; then your predictions go wild," remarked the scribbler, trying to discover through the steam the ship-wrecked scum.

"Especially if there are many visitors in camp," added the professor, smiling.

"Yes, you must watch your business, boys," said our guest, rather seriously.

Uncle Billy, who was faithfully attending his work, had just given the fire another poke and put in a couple of fresh sticks. The sugar-camp always placed him in a reminiscent mood. Taking a fresh quid of tobacco he turned to our guest. "John, how'd you come out with your sawmill?"

"First-rate," replied our guest, suddenly interested.

"What'd you do with all the big poplars and oaks?"

"Sold some for ship-timber and put the rest in my yards; fire destroyed that, you know."

"Yes," drawled Uncle Billy, regretfully.

This seemed to set our guest to thinking. Let us look at him for a moment. His voice, carriage and general appearance were very striking. His eccentricity found expression in the long curls which clustered about his shoulders. His form was tall, slightly bent and spare. He wore a broad-rimmed felt hat, which he always pushed back off his forehead. Glancing around the little circle he began:

"In the fall of 1875 we discovered quite a curiosity. My mill was running full time. One day a hank-clerk sort of a fellow came to my logging-camp and asked for work. The neighbors had told him he might find employment there for the winter.

"In answer to my questions he said that his name was Riverton, and that his home was in New York state. The recent panic had lost him his position, and being broken down in health from worry he had determined to travel and do outdoor work to build up his strength. He had never had any experience in a logging-camp, but if I would give him work for a few months it would be very acceptable, and I might pay him whatever he was worth. We needed help at the time and I employed him.

"We were cutting through a strip of fine timber, and had about reached the old trail which traversed the bottom-land at the foot of Turkey Ridge.

There we found some fine specimens—old veterans four and five feet across the stump. Riverton had been working a few days, and was proving his grit, under the training of Stevens, the best lumberman in camp. They struck a tree which was a curiosity in itself. It was an oak, tall and straight, measuring about sixty feet to the lowest fork. Its top was symmetrical, having a large circumference and a dense growth of limbs. Stevens and Riverton made preparations to cut it down. Their plan was to saw straight through, leaving a level surface on the stump and a smooth end across the log. This they proceeded to do; but when about one third through the saw pulled very hard, something unusual, as it did not bind. They withdrew the saw and began on the other side. The tree fell upon the chosen ground. Upon examination the cause of the difficulty was found to be a nest of bullets. Some the saw had cut; several doubtless remained embedded in the wood and hidden from view. They had been in the tree, by accurate count, of the rings which grew around them, just one hundred and nineteen years. Indisputable as this evidence was, the fact seemed very strange, hardly credible to either Stevens or Riverton. But there were the rings registering the years, and the fact could not be denied. They had found 'quite a curiosity,' as Riverton remarked.

"How came the bullets here? What was the mission of their ancient flight? Were they shot at a mark during some prize tournament of the early pioneer or red man? No; the pioneer did not waste his ammunition; neither did the Indian. Was their mission to kill? Very likely. So Riverton reasoned to himself.

"A section containing the bullets was cut off the end of the log, and at noon Stevens and Riverton carried it into camp. It created considerable interest and drew forth many comments. After dinner Riverton returned to the tree to continue his examination. A few bullets remained in the stump, and these he began to cut out with his knife. In doing so he noticed a few inches from the bullets a slight break in the wood, which, upon investigation, proved to be the entrance to a cavity. It was filled with what appeared to be a whitish, pulpy matter—the lodge of some worm,' he thought. But a little further probing exposed a small plug in the end of the cavity, and revealed the work of human hands. Riverton's curiosity was now thoroughly aroused. He cut out the plug and made a closer examination. Evidently the hole had been made with an auger. A slight film of white mold incrustated it, and a small, brownish roll, resembling a curled autumn leaf, could just be seen. Riverton carefully cut away the wood and drew out a small scrap of brown paper, on which he found, in legible but slightly faded writing, these words: 'At the roots of the knotted oak.' He sat down upon the stump and read and re-read the words many times. Suddenly his hand pointed across the trail, and in a hoarse whisper he said, 'There!' In the little hollow, about forty paces from the trail, stood the knotted oak.

"A call from the camp gave notice that the men were coming out to work, and Riverton, hastily placing the paper in his pocket, seized his ax and cut away all trace of the cavity. Stevens, arriving a few moments later, found his partner busy cutting away the brush.

"After supper that evening a party of coon-hunters, composed of lumbermen and camp visitors, started out over the ridge and entered the uncut timber. The rest of the lumbermen sat around the fire and played cards. Riverton, apparently uninterested, excused himself from taking any part in the game, quietly found spade and pick, and started for the knotted oak. He took with him a small lantern, which he was careful not to light.

"Upon reaching the hullet-oak he hesitated, as though in doubt what course to pursue. The oft-asked questions of the afternoon repeated themselves again: 'Can this paper, this message, have anything to do with those bullets? Possibly—very likely! It was imprisoned there at the same time, evidently. To what do these words refer—the decayed bones of some hurried victim? Some hidden treasure? What? Wait and see.' Thus he reasoned while he halted.

"Then he again started for the knotted oak, which he found with little difficulty. Making sure that no one was near, he lighted his lantern and again began to reason about the mystery of the message.

"This tree is an oak; it is knotted and twisted, therefore unlikely to be cut for timber. There is no other tree in this locality like it; it has the age; it must be the tree!"

"He walked around it, examining its roots. On one side was a howl-shaped space.

"If anything is buried here it must be under the bowl of these two large roots," he reasoned.

"Placing the lantern in the bowl, so that its light might be hidden from view, he scraped away the leaf-mold with his spade. The spade cut easily through the fibrous roots of the surface, and in a few moments he had reached the depth of eighteen inches; there he struck harder ground. He continued to dig, using both pick and spade. When down about two feet a stone barred the way. A few strokes with the pick showed that only a corner of the stone extended into the hole, the body resting under the tree. He then began to dig out the stone, but found that another stone was resting on top of it, and still another on top of that, none of which seemed very large. By digging a little around the sides of the hole he was able to pry out the top stone. It proved to be quite small, and its inner edge dry, indicating a cavity. Placing the lantern down in the hole, he stretched himself flat on the leaves and peered into the opening. A cavity eight or ten inches in diameter was there, and appeared to be walled up on the other side. A strong pressure upward loosened

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the other stones and revealed a solid circular object, which, upon close examination, he found to be an earthen vessel of some sort. It was inverted and rested upon a stone. Riverton quickly dug away the hindering earth and took out an old sealed jar. It was quite heavy and contained soft and hard substances, which rattled and rolled about.

"He sat down against the tree to examine the contents of the jar, when suddenly the hay of a hound sounded up the trail and something scrambled up a leaning tree near where he sat. 'It's a coon, and old Tige is hot on his track,' he whispered, excitedly. A moment of intense listening passed. Then he seized the lantern, blew it out, threw a few spadefuls of earth into the hole, covered it over with leaves, pushed the spade and pick into a hollow log near by, and taking the jar under his arm and the lantern in hand, retreated down the trail. Old Tige was coming down the ravine, filling the woods with his musical bays. Riverton halted and watched the home tree. Soon old Tige barked treed.

"The boys might be expected now at any moment, and Riverton retreated a little farther down the trail. It was about ten o'clock. He leaned against a dead sugar and waited. In two or three minutes a light appeared over the ridge and the noise of mingled voices assured him the hunters were coming. He could hear old Tige, inspired by his master's voice, scratching the tree and barking more frantically than ever.

"After a short consultation rapid chopping was heard. 'Down she goes; no danger now,' said Riverton. Kneeling beside the dead sugar he lighted his lantern and emptied the contents of the jar into his hat—a small piece of paper, a long, round package securely tied, and several handfuls of gold coins. The package contained English and French bank-notes. On the paper was written the following message:

#### TO THE FINDER

This money was the property of James D. Riverton, trapper and guide of Virginia Colony; killed by the Indians, allies of the French, near this spot, July 16, 1756. See bullet-scarred oak due west, near trail. In case I cannot return to recover and carry the same to his relatives, too dangerous to undertake now on account of the war, I leave, stranger, the obligation to you, and trust to your honor and integrity.

His friend and comrade, JASPER LANE ALLEN, Virginia Colony.

"James D. Riverton!" repeated Riverton, in breathless wonder. It was the name of an ancestor given in the genealogical record of his own family. Riverton was almost dazed by this good fortune. He sat for an hour wrapped in thought, oblivious to everything around him. He must return to his home at once; his mother, his sister and himself, so far as he knew, were the only heirs.

"He now began to count the money. As nearly as he could estimate by the obscure light there was about twenty-three thousand dollars in all. Riverton felt quite rich. What to do with it for the present was the next question. He did not want to reveal his secret—at least not yet. Not far away was an abandoned spring. He would hide it there and it would be safe. A half hour later he arrived at camp and found his companions asleep. In a few moments he was stretched upon his bunk, and fell into a restless sleep.

"The next morning after breakfast Riverton came directly to the house to speak to me before I departed for the timber. We met at the barnyard gate, and he informed me that he had something of importance to tell me. He then related the discovery of the message in the bullet-oak, the finding of the hidden treasure, and the paper in the jar which gave the name of the original owner and revealed the present heirs to that treasure, one of whom he was himself.

"From my mystified look he thought I discredited his story.

"You do not believe me?" he said. "Come with me."

"Yes, I believe you," I replied; "but the whole thing seems like a dream, so strange, so unlike—"

"Come with me!" he interrupted, earnestly.

"We walked to the knotted oak, and he pointed out the cavity from which the jar had been taken.

"Now let us look at the treasure," said he.

"Then we went to the old spring and he uncovered the antiquated jar. Removing the lid, he took out the paper and handed it to me to read. The evidence seemed conclusive; his story was undoubtedly true. We then returned to the house.

"I wish to leave this money in your possession a little while," he said. "I shall send for proof to establish my right to it as heir."

"He then hurried one of my horses, rode to the telegraph-station, and sent this message:

TAYLORSVILLE, IND., Nov. 15, 1875. To Mrs. Fulton E. Riverton, Rochester, N. Y. Express family genealogical book at once. ELLSWORTH.

"Three days later the book was in his hands, and from it Riverton's rights were fully confirmed. I congratulated him on his good fortune.

"Do not, Mr. Bevis, do not destroy the tree," he earnestly requested.

"The next day he departed for home. The tree was named by the men the gold-oak."

Here, at the close of his story, John Bevis took from his pocket a handsome gold watch. "This watch," said he, "Riverton sent to me as a remembrance. You will notice it has engraved upon it an oak-tree."

"Did you ever hear from him again?" I asked.

"As I was about to say," he exclaimed, brushing his curls aside, "some five years afterward, one day in the spring of the year, there came to my sugar-camp a very handsome gentleman and a beautiful lady. It was Riverton and his wife. They had come to visit me and see the gold-oak."

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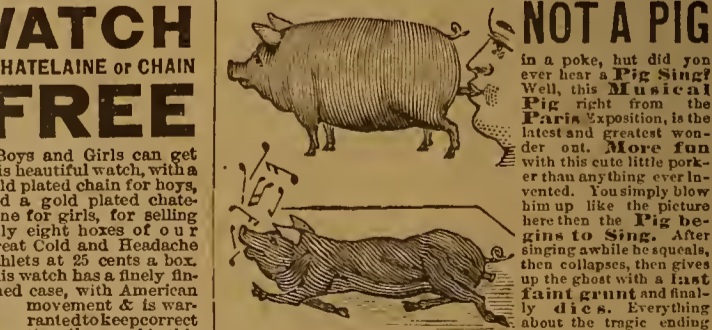
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SMILES

THE MAN THAT WANTS A JOB

Man wants but little here below, and that's just what he gets, And he collars mighty little of that, unless he watches his nets; So I'm going to ask the President that will be by and by For a little civil service sit that I've gimletted with my eye.

I'd like to serve my country in lands beyond the sea, For a place in the diplomatic corps will just about fit me; I know I'm the man—I admit it—I do not hesitate— Just calculated to adorn a first-class consulate.

I don't care where they send me—Italy, France or Spain, To Germany's icy mountains or Egypt's golden plain; I make only one condition—one's as good as a few— I want a place with plenty of space and nothing at all to do.

—R. J. Burdette, in Los Angeles Times.

A LOST LESSON

The story is told of an Idaho preacher who once owned a talkative parrot, and, like most things about a preacher's home, it could swear. To break the bird of the habit the preacher had striven for months, but all his efforts had proven of no avail. Finally he adopted the "sure remedy" proposed by one of his laymen. He was told to have a tubful of water ready, and when he caught the bird swearing again, to take the bird, cage and all, and swing them around his head swiftly for a few moments, then souce the whole business into the tubful of water.

This appeared to be the pure article—just what the preacher was looking for. He hurried home and got the tubful of water in readiness, then awaited Polly's criticism. It came in a hurry. "Hello, Polly! P-o-l-l-y! Ha! ha! ha! Damme, Damme! Polly wants a cracker! Damme!"

The preacher waited for no more. He desperately grabbed the cage, and with mighty effort swung it about his head, and after making several sharp twists and turns brought it full force into the water. When he regained his wud he carefully took out the cage and placed it beside the tub; then, in his kindest and most gentle voice he asked, "How does Polly feel now?"

The parrot looked crestfallen. She winked and blinked and shook herself, but said nothing. When she had regained her perch and straightened out her tail-feathers, however, she let out several of the most unearthly war-whoops the preacher had ever heard. But the divine was undaunted, and repeated his kind words of a few moments before.

"How does Polly feel now?" cried the parrot. "Oh, I'm all right; but where in h— were you when the cyclone struck us?"—New Denver Ledger.

A QUICK DIAGNOSIS

ONE of the anecdotes related by Dr. Weir Mitchell in the July instalment of his "Century" serial, "Dr. North and His Friends," might well be a personal experience of the author's:

"I once went to Harrisburg and had to return during the night. The train was crowded. At last, in the stifling, dimly lighted smoking-car, I found a man asleep across two seats. I awakened him, and, saying I was sorry to disturb him, sat down.

"After a little he said, 'Do you know Dr. Owen North?"

"Rather astonished, I said 'Yes.'

"'What kind of a man is he?'"

"'Oh, a very good fellow.'

"'He is like all them high-up doctors, I guess. He gets big fees. I want to know.'

"'No,' said I. 'That is always exaggerated. Why do you ask?'"

"'Well, I've had a lot of doctors, and I ain't no better, and now I haven't much money left.'

"'Upon this my friend confided to me all his physical woes in detail. We parted before day-break. It was too dark in the car for either of us to see plainly the face of the other.

"About ten next day the man entered my consulting-room. As I should not have known him except for a rather peculiar voice, I, too, remained unidentified. I could not resist so comic an opportunity. I said, looking at him, 'Sit down. You have a pain in your hack.'

"'That's queer, I have.'

"'And you are blind in the left eye, and your digestion is very bad,' and so I went on.

"'At last he said, 'I never saw a doctor like you. It scares a man, must. Can you cure me?'"

"'I said 'Yes,' and wrote out my directions. It was really a simple case.

"'When he produced a well-worn wallet I declined to take a fee, and said, 'I owe you for the seat and the good sleep I disturbed last night.'

"'Thunder! I see. You were the man. But law! why did you give it away? I'd have sent you the whole township.'

AN OLD STORY RETOLD

At a recent revival meeting, which was being conducted in a neighboring city, the services were disturbed by two young men who audibly scoffed at everything they saw or heard. Finally the pastor remonstrated with them on their behavior, and asked them why they attended the meeting.

"We came to see miracles performed," impudently replied one of the rascals.

Leaving the desk, and walking rapidly down the aisle, the pastor seized one after the other by the collar, and as they disappeared out of the door remarked, "We don't perform miracles here, but we do cast out devils!"—Epworth Herald.

LABOR SAVED

"Sedgeley's cow broke into my lawn and chewed off all the grass."

"What did he do?"

"Sent me a bill for using his cow as a lawn-mower."—Philadelphia North American.

THEIR PLATFORM

"Fellow-citizens of the jungle," said the monkey, "various as our interests may be, can't we find some platform on which we may all stand?"

"That's right," put in the elephant. "Let us denounce menageries!"—Puck.

HE SURPRISED HIMSELF

First tramp—"Say! dat bulldog gev you a lively chase."

Second tramp—"Dat's right. I never knowed dat I wuz capable of sich extraordinary mobility."—Puck.

THAT'S ALL

"I hear that young Taddells is a veterinary surgeon uow," said Mrs. Medders to her husband.

"Nonsense!" replied Mr. Medders. "He ain't nothin' but a horse-doctor!"—Judge.

SPRAYING FRUIT TREES

The question of spraying fruit trees to prevent the depredation of insect pests and fungous diseases is no longer an experiment, but a necessity.



Our readers will do well to write Wm. Stahl, Quincy, Ill., and get his catalogue describing twenty-one styles of Spraying Outfits and full treatise on spraying the different fruit and vegetable crops, which contain much valuable information, and may be had for the asking.

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**A JUBILEE**

Ten years ago, when every one was talking of the Queen's Jubilee, the following conversation took place between two Scotchwomen:

"Can ye tell me, wumman, what is it they ca' a jubilee?"

"Well, it's this," said her neighbor: "When folk has been married twenty-five years, that's a silver waddin'; when they have been married fifty years, that's a golden waddin'; but if the man's dead, then it's a jubilee."—London Spectator.





## FARM SELECTIONS

### THE CROP AFTER CORN

IN a large area of the best farming land in this country the time-honored crop rotation is corn, oats, wheat and grass—a four to seven years' rotation, according to the number of years the land is left in grass. It is all right when oats do well, but there is a rather wide belt, from the seaboard westward, in which oats form an unsatisfactory crop from point of income. There is too much heat four years out of five for them, a few hot days about two weeks before harvest ruining all chances of a good yield of grain. It is unfortunate that there should be so great an area of fine farming land in which it is a puzzle to get a fair income the year following corn.

Where potatoes can be grown with profit it is a common practice with many farmers to use a part of the corn-stubble land for this crop. A well-manured sod is turned for corn, and the rotted sod and manure are brought to the surface and mixed through the soil for the potatoes. Where there is sufficient fertility, the finest of potatoes are grown in this way, the tubers being brighter and cleaner than those grown in sod. It is a fact, moreover, that corn-stubble land seems to be looser—in better physical condition for potatoes—than the sod-land. The rotation of potatoes after corn is all right when the fertility is sufficient, and after the potatoes a full yield of wheat can be secured. But the area of land that can be disposed of in this way is limited.

On some soils in this belt the tendency is to drop oats and go directly to wheat after corn. It works all right in the loose and rich soils, but not nearly so well in the clays. The land is not broken with a plow, but is prepared for seedings by use of harrows. The cost of making the seed-bed is small, and that is an important item. But in much of this belt the seeding is too late, and the soil often lacks moisture, thus making a profitable crop of wheat out of the question. The silo has helped in this respect, making it possible to get the corn off the ground earlier, but the number of acres of corn that go into the silo is comparatively small.

Would it pay in some cases to drop out the unprofitable oats in the southern side of this belt and try to grow a crop that would furnish some feed, enrich the soil and leave it in such condition that a seed-bed for wheat could be made without breaking the ground? The only plant of this kind that we now have is the southern, or cow, pea. Along the heat lines that run through the Ohio Valley, southeastern Pennsylvania and central New Jersey, the cow-pea grows well, and while I have regarded it merely as a crop for fertilizing the soil, yields of one to one and one half tons of cured hay have been produced. The soil is left in fine condition for wheat, only harrow and roller being needed to fit it, and the hay is very rich feed. The only trouble is the curing. Making of any kind of hay in September is not very easy, and this would be especially true of peas, which do not cure at all quickly.

When there is too much heat for a full crop of oats, and yet too short a season to get a full crop of wheat after corn, we need a crop that will furnish a lot of rich feed, add nitrogen to the soil and leave the land ready for wheat without replowing. The cow-peas come near to this on the warmer soils, but they cannot fill the place satisfactorily on most of this area. They are all right farther south, just as oats are farther north. The profitable crop following corn in this belt has not been found for much of the land.—Alva Agee, in *National Stockman and Farmer*.

### CATALOGUES RECEIVED

F. E. Myers & Bro., Ashland, Ohio. Calendar hanger illustrating pumps and hay tools.  
Cole's Seed Store, Pella, Iowa. Cole's garden annual for 1901—garden and flower seeds.  
The Storrs & Harrison Co., Painesville, Ohio. Illustrated catalogue of a complete line of seeds, trees and plants.  
Reasoner Bros., Oneoc, Fla. Handsome catalogue of the Royal-Palm Nurseries. Native and exotic plants, trees and shrubs.  
The Page Woven Wire Fence Co., Adrian, Mich. Sample copy of the "Page Fence Age," a bi-monthly sent free to any farmer asking for it.  
Harry N. Hammond Seed Co., Bay City, Mich. Illustrated catalogue of tested farm, garden and flower seeds and Northern-grown seed-potatoes.  
The Gould's Manufacturing Co., Seneca Falls, N. Y. Illustrated pamphlet on spraying and spraying appliances, containing a spray calendar and formulas.  
Peter Henderson & Co., New York. "Manual of Everything for the Garden." Handsome catalogue of nearly two hundred pages in beautifully illustrated covers, containing six full-page plates of vegetables and flowers in colors. Price 20 cents.

### RESULTS OF A CROP OF RAPE

The present time is the harvest season of experience for all who are engaged in the culture of the land or in the feeding of cattle, but most of all to the careful, intelligent shepherd. And of all the experimental knowledge gained in recent times that in regard to the growth and use of rape is just now the most valuable.

This crop is a standard one in all the European countries, especially in England, and the other parts of Great Britain in which sheep are thicker on the ground than any other country in the world, and rape is the main fall and winter feeding, along with turnips. It has got a good start here on this side of the world, but it is only like the first pale glimpse of the coming dawn compared with the bright fullness of the noontime sun. For by and by it will be found on the majority of the farms, as well as on the ranges, wherever the climate will admit of its growth, and the cheapness and value of it will be so fully recognized that sheep will be seen on every hand, and their plaintive bleating will be heard from east to west, as the sunrise glows across the vast expanse from the Atlantic to the Pacific, and starts the sheep to feeding, in one continuous, pleasing harmony.

But while this has its poetic point of view and thought, the material results will be astounding. As the culture of the turnip and of rape for the feeding of sheep is the commonly admitted foundation of the prosperous culture of the soil, by which two distinct profits are made and gained from it, one going to support in comfort the millions of farmers who occupy the land as tenants, and the numerous proprietors who represent the enormous money capital invested in the land, in the crowded islands of Great Britain and Ireland; so it will be on this side of the ocean, but with far more satisfactory results. For the American farmer is his own landlord, and gains in each hand the income from his thought and skill and labor, with that which represents the interest on his capital invested in his farm, and which the economists call rent, or profit for uses, and distinct from that for labor, thus deriving himself all the profits of his capital invested and those from his business enterprise and personal labor. With the culture of rape one most valuable restorative crop is added to the common rotations, one, too, which may be made the most profitable in itself of all that are grown, and at the same time is necessarily so greatly improving to the land that the present low yield of the crops may be doubled without any added expense except the pleasant one of gathering them. It is this which makes the sheep of such vast importance to our agriculture; and while at present the large majority of the flocks are found ranging over the apparently boundless Western plains, yet before long we shall surely see the fields covered by the verdant crops of rape, and dotted all over by the farm flocks kept solely for the fertilization of the land first of all, but no less profitably for the money they bring in from their fleeces and fattened carcasses.

The farmers do not seem to realize this. It seems as if the voice of one crying from the great Western wilderness of the shepherds, and the melodious bleating of the millions of sheep scattered over the plains—on which one at night may see the stars shining from the horizon to the zenith all around and overhead, one boundless canopy of brilliance—must be needed to awake the enterprise of the farmers and stimulate them to undertake the work of improving their lands and increasing their income meanwhile by adding a flock of sheep to their present farm live stock and growing rape to feed them on.—Henry Stewart, in *American Sheep Breeder*.

### WAYS OF SAVING THE MOISTURE

Experiments carried on at the Kansas station to test the relative efficiency of different kinds of culture in conserving soil moisture showed that simple plowing while the soil was in good condition was as efficacious as plowing followed by planking, rolling, harrowing or subsurface packing. Disking was found to be a good means of saving moisture, but was not equal to plowing.

The importance of plowing stubble-ground as early as possible while moisture is still in the soil was shown by experiments in two years. Early plowing left the ground in good condition, as regards soil moisture, for wheat-seeding, while late-plowed ground was found to be dangerously dry.—*New York Witness*.

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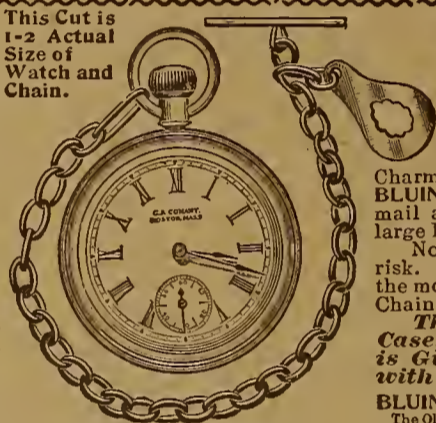
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It will thrive in a city where no other tree would live.

No bug, worm or insect will touch its root, bark or leaf.

No animal will eat it or rub against it.

It is the best hedge-plant, but its chief value is for timber.

It is the most durable above or below ground of all trees.

No person has ever seen a rotten one or a dead limb.

It never has any of the diseases common to other trees.

It is sure to grow, while a large per cent of others die.

Its roots run so deep that it will stand drought well.

Like iron among metals, it is most useful among trees.

Railroads in the Southwest give double price for the ties made of it.

Railroad-men are quick to see a good thing, and are planting this tree along their roads for ornament and for the timber.

It is planted on the Lancaster, Ohio, camp-grounds for shade.

It is dioecious, and there is but one species.

After what we have said the question will arise, Why is such a valuable tree so long coming into general use? There are two reasons: When young it has sharp spines, which were supposed to be a defect, but which are really one of the greatest advantages, protecting the tree till it gets old enough to shed off the spines.

WHO SHOULD GROW PURE-BREDS?

Every one is not fitted for such a work. The man who has never grown sheep of any kind should not engage in it unless he can secure the services of a properly qualified shepherd to supervise the work.

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## The Development of Agricultural Experiment Stations

By Jane A. Stewart.



DEVELOPMENT of general interest is the work of the agricultural experiment stations of the United States. Recent reports of these institutions manifest increased activity and usefulness, and seem to dissipate the doubts often expressed that their work would not be of practical value to the farmer. As it exists to-day the system of agricultural experiment stations in the United States seems to be the most comprehensive system for advancing agriculture that has ever been known. These stations are not intended to be object-lessons as model farms, but are distinctively for the purpose of developing farming as a science. Although there has been some friction through political changes, the work has been more and more divided up among experts.

The experiment stations, especially those east of the Mississippi River, have done much to prevent the sale of fraudulently prepared fertilizers and in removing obstacles to agricultural industries. A most educative work has been accomplished in helping the farmer to discriminate between the really injurious animals and insects and those which are helpful to growing things. The stations have not only helped to educate the farmer on broad lines, but have aided greatly in developing new industries.

It is just twelve years since the federal government, through the United States Commissioner of Agriculture, Honorable Norman J. Colman, established the office of experiment stations. This was done with a view of carrying out the provisions of the Act of Congress of 1887, known as the Hatch Act, for unifying and tabulating the results of investigations made at the various stations. Of these there were at that time about thirty-eight, Alabama, Connecticut, Massachusetts, New Jersey and New York having two each and Louisiana three. The total amount expended in 1888 was \$720,000. In 1899 the outlay had increased to \$1,200,000, and the number of stations to fifty-six. In 1888 three hundred and ninety-three officers were employed at the stations; in 1900 six hundred and seventy-eight. During the past decade more than ten million

dollars have been expended for the maintenance of agricultural experiment stations in the United States. Of this sum seven million dollars came from the federal govern-

ment and three million dollars from state sources. During that time, it is pertinent to note, the nation produced agricultural products valued at thirty thousand million dollars. The maintenance of the stations,

century. It is significant that the first agricultural organizations recognized the desirability of experiments for the advancement of agriculture. No less a personage than George Washington was a member of the first society for promoting agriculture organized in the United States. This society was formed at Philadelphia, then the seat of the general government, March 1, 1785. The establishment of experiment stations is in direct line with President Washington's long-sighted views as expressed in his annual message to Congress in 1796. Pleading for

the first to inaugurate experiment-station work by establishing a chemical laboratory at Albany for the analysis of soils and manures. It was a little later—in 1855—that the Patent Office laid out a propagating-garden and arranged with the Smithsonian Institute for procuring and publishing records of meteorological observations. The establishment of a separate Department of Agriculture by the government took place in 1862, and for several years after the grounds on which its buildings now stand were used as an experiment farm. One



DAIRY-BARN AND CREAMERY, OHIO AGRICULTURAL EXPERIMENT STATION

a national board of agriculture, he declares explicitly that one of the functions of such a board is "to encourage and assist a spirit of discovery and improvement . . . by stimulating enterprise and experiment."

also should not lose sight of the pertinent fact that experiment investigation in field and laboratory has been the first work undertaken by the agricultural colleges which followed the Land Grant Act of 1862.

At first it appears the work of experiment was conducted with small means and by voluntary labor of professors outside their regular duties as instructors. Foremost among the early agricultural experimenters and educators were Profs. S. W. Johnson and Wm. H. Brewer, of the Sheffield Scientific School of Yale College, under whose direction experiment-work for the benefit of agriculture was carried on to a limited extent at New Haven, Connecticut, more than thirty years ago. "Through the influence of the professors and pupils trained in this school more than to any other single cause," declares Director True, "is due the recognition of the importance of the establishment of agricultural experiment stations, first in



MAIN BUILDING OF THE OHIO AGRICULTURAL EXPERIMENT STATION, WOOSTER, OHIO

consequently, involved the expenditure of but one dollar for every three thousand dollars' worth of agricultural products.

For the beginnings of the agricultural-experiment movement one must go back a

The growth of the experiment-work has been natural and steady, until it has reached its present status as a recognized essential factor in agricultural education. The New York Agricultural Society in 1849 was among

Connecticut and subsequently throughout the whole country."

It is just a quarter of a century since the first regularly organized state agricultural [CONCLUDED ON PAGE 8 OF THIS ISSUE]



A VIEW OF THE OHIO EXPERIMENT STATION FARM FROM THE TOWER OF THE MAIN BUILDING

## FARM AND FIRESIDE

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THE "traveling rural post-office" experiment inaugurated in Carroll County, Maryland, was briefly described in these columns in the issue of December 15, 1899. In an article on rural mail delivery in "Pearson's" for February Mr. Theodore Dreiser brings the story of the service in that county up to the present time. He says, in part: "The working of the new system there is of such special interest that it cannot be ignored, because there the fact was finally settled that rural free delivery is the greatest thing for the improvement of the condition of the rural citizen that has yet been devised."

"The plan inaugurated called for the discontinuance of sixty-three of the ninety-four fourth-class post-offices in the county, as well as thirty-three star routes and two messenger services, and the substitution therefor of four postal-wagons, or traveling post-offices, and twenty-six rural carriers.

"The postal-wagons introduced there and still running are fully equipped post-offices on wheels. The clerk in charge sells postage-stamps and stamped paper, issues and pays money-orders, registers letters, postmarks and back-stamps all mail, and supplies the rural carriers on outlying routes with mail for dispatch. In fact, these wagons do all the work now done by a Presidential post-office of the first class.

"The perplexing difficulties and annoyances usually attending an innovation or radical change were in this case greatly added to by the concerted action of sixty postmasters, who attempted to convince the people that the killing of their small post-offices meant the destruction of all postal facilities. Their word, however, was not of much weight in the face of the actual service rendered. A complete map of his route was furnished each carrier, showing the location of every residence, and to the front doors of these he now betook himself. From the very first day each carrier served an average of four hundred and eight families, the postal-wagons eight hundred and fifty-eight each. They traveled an aggregate of eight hundred and thirty-four miles every day, and reached considerably over nineteen thousand one

hundred people. Where formerly every farmer had been obliged to travel to the nearest country post-office, his mail was now brought within one hundred and seventy-six yards of his door at the worst, and in many instances actually to the door.

"This created a great stir. During the first month the new service handled one hundred and fifty thousand odd pieces, a substantial increase over the business done by the combined post-offices which had been discontinued. During the second month the same service handled over one hundred and ninety-five thousand pieces, and the third month saw this increased to over two hundred and twenty thousand. Letters were registered as never before. Where, by the old system, four hundred and fifty-one money-orders were issued in three months, now six hundred and thirty-three were issued, an increase of forty per cent. The general revenues rose from \$6,429.21 for three months under the old system to \$7,930.36, or \$1,501.15 more.

"It was said, however, in the beginning that the service might do very well in fair weather, but that storms and bad roads would put an end to the daily service. The opponents of the new system waited for this catastrophe in order to set up a hue and cry. The determination, as well as the ability, of the government to maintain a daily rural service under any conditions was demonstrated early in March, 1900, when a severe blizzard swept over the country. The roads were blocked by impassable snow-drifts—in many places from fence to fence. Traffic was practically suspended throughout the country. The contractors who hauled the postal-wagons, however, were instructed to hitch four horses to each wagon, and gangs of shovelers were sent out several hours in advance to cut the drifts. Amid storm and sleet the service was performed without interruption and with but little delay, much to the surprise of those who had waited cheerfully to see the government confounded.

"After this experience there was not one among all the farmers who was not enthusiastic about the new service, and the few who complained were compelled to admit that they had not fully realized the great importance of the service, nor the real convenience it afforded. The men who, every winter previously, had been cut off for weeks by snow and the impassable condition of the roads now received their correspondence and daily papers the same as if they were in the heart of the most populous community. Since then there has been no doubt in the minds of the postal authorities as to the greatness and importance of the new service."

THE Senate committee on agriculture presented a majority report in favor of the Grout Bill and a minority report against it. The minority—Senators Heitfield, Money and Bate—submitted a substitute bill providing stringent restrictions on retail dealers and for proper marking of oleomargarine, but removing the restriction as to coloring, thus permitting the very foundation of fraud and deceit to remain. The minority report says: "The object of the bill is to prevent competition between two home industries by building up the one and destroying the other. Such use of the taxing power of the government is an abuse which should not be encouraged or even tolerated for a moment. The bill is class legislation of the most dangerous character. It is not demanded by any economic conditions in this country, and its passage would be not only a perversion of the taxing power of the government, but a violation of the Constitution both in its letter and its spirit."

The majority report is much better reading. It says: "The bill appears to be unanimously desired by the farmers of the country who are engaged in dairying, and has the earnest approval of the Secretary of Agriculture. Your committee has listened with interest to the representatives of the live-stock interests and the cotton-seed oil manufacturers, and is unable to see in this measure anything that can greatly injure either. The Secretary expressed the opinion before the committee that the dairy-cow was a necessity to the restoration of the exhausted cotton-lands of the South. We have heard some objection to this measure from organized labor, and while it is true that some laboring men may prefer as a matter

of pride to consume oleomargarine that is yellow instead of white, yet your committee believes that while the pride of some may suffer under this measure, which will raise the tax in the colored and reduce it in the uncolored, a far greater number are now being deceived through the sale of oleomargarine as butter and at butter prices."

A correspondent of the "Rural New-Yorker" gives an account of the hearings before the Senate committee on agriculture, in part, as follows: "The oleo interests were represented mainly by paid attorneys of the manufacturers and cotton-seed oil interests. From their arguments I am forced to the belief that they have made out a very poor case. Their arguments were not only weak, but inconsistent. Every man whom I heard on the oleo side contradicted himself over and over before he left the floor. Their main contentions are that the proposed law is unconstitutional, that they cannot sell oleo except when colored yellow, that the law is intended to kill their industry for the benefit of the dairymen, and that if this bill becomes a law dairymen and creamerymen will form a trust to advance the price of butter to the consumer. Some of their arguments would make a farmer smile at the blissful ignorance of the speakers. One contended that the farmers' wives made butter in their bedrooms; this same speaker, who claimed to represent labor unions, insisted that he ate oleo in preference to butter, and insisted that all laboring men wanted oleo when they could get it. He thought the only trouble was that farmers would not know what to do with their cows if the people were allowed the free use of oleo. Another claimed that working-men in Pennsylvania towns asked for butter at the store, and winked one eye when they wanted oleo. Another claimed that the butter was an imitation of oleo; but perhaps the most amusing of all was the serious way a Chicago oleo employee read a black-pepsin-fraud circular and offered it as an argument against the Grout Bill. It was like a thief asking to have the laws against stealing annulled because a bunco-man had attempted to sell a gold brick.

"Those who appeared for honest butter simply contended that it is a fraud on the consuming public to mix up cheap fats and color them in order to sell them for butter. While butter is generally colored to preserve a uniform appearance there is no deception; but, on the other hand, oleo is colored in order that it may be sold for butter. There is the deception and the fraud. Those who spoke for honest butter called attention to the fact that ice-cream is eaten and relished when in its natural light color, or when colored chocolate, pink or strawberry. Why not adopt one of these colors for oleo? There is but one answer; it could not then be sold to a consumer who thought he was buying butter at butter prices. But the game is up. The Grout Oleo Bill will become a law."

"THE FORESTER" for January speaks of the increasing interest in forestry as follows:

"The thing which is conspicuous above all others in the development of the past year is the growth and spread of popular interest in the questions which concern the country's forests and in forestry. This has come out most clearly in the correspondence of the American Forestry Association, in experiences and conversations which its members have had in all parts of the country, and especially in the public press. In the East and in California the interest has shown itself conspicuously in the activity of forest associations and other organizations which have allied themselves with their work. Throughout the Rocky Mountain region there are few associations to give expression to this interest, but it has none the less made itself apparent in the tone of the press and in utterances at public meetings of various sorts.

"In the plains region this increasing interest has been notable. The number of applications for planting-plans and for working-plans which have been received by the Department of Agriculture and the numerous additions to this association's membership indicate the practical way in which the country is taking up forestry. That the interest has everywhere ceased to be chiefly sentimental is shown most clearly by the number of students now registered in the three forestry schools. At Cornell there are twenty-four, four of them seniors; at Billmore there are nine; at Yale, where the new

forestry school was started in October under the most favorable circumstances, with Professor Henry S. Graves at its head and Professor J. W. Toumey as assistant professor, there are seven."

IN HIS annual review of the trade of the United States in farm products Frank H. Hitchcock, chief of the section of foreign markets of the Department of Agriculture, says:

"The fiscal year 1900 brought to a close a century of marvelous development in the history of United States commerce. In 1800, a century ago, the total value of the merchandise imported and exported in our trade with foreign countries was considerably less than one quarter of a billion dollars. The value of the goods exchanged in the last fiscal year reached nearly \$2,250,000,000, far exceeding all previous records. Since the opening of the century our commerce with the rest of the world has increased more than twelvefold.

"It was chiefly in the export trade that the enormous growth of the century occurred. Our domestic exports in 1900, with a recorded value of \$1,370,763,571, were over forty times as large as in 1800. The total imports for 1900, on the other hand, amounting in value to \$849,941,183, were less than ten times as large as in 1800.

"Compared with the value of our imports for 1900 that of our domestic exports showed an excess of \$520,822,387. Of the merchandise imported from foreign countries in the fiscal year 1900 about forty-nine per cent consisted of agricultural products. These products had an aggregate value of \$420,136,381, exceeding by almost \$65,000,000 the record of the year before. Hides, silk and wool were the leading factors in the growth, although vegetable fibers, sugar and tobacco also showed important gains. The six items mentioned contributed nearly \$60,000,000 to the increase in value.

"Products of United States agriculture were marketed abroad in the fiscal year 1900 to the value of \$84,616,530, forming about sixty-two per cent of the total domestic exports. With the single exception of 1898 the last year witnessed the largest annual export trade in farm produce on record. The value attained came within \$15,000,000 of the phenomenal figures for 1898, and surpassed those of 1899 by more than \$50,000,000. A considerable portion of the increase over 1899 was accounted for by the higher price of cotton. The exports of this great staple, although smaller in quantity than in the preceding year, exhibited an advance of nearly \$33,000,000 in value. Aside from cotton the largest gains in value were those afforded by the exports of meat products and live stock. Tobacco, fruits and nuts, vegetable oils, oil-cake and oil-cake meal, dairy products and seeds also furnished examples of increase.

"A comparison of the value of our agricultural exports for 1900 with that of our agricultural imports shows that the former exceeded the latter by \$424,480,149. The export value was slightly more than double the amount of the import value.

"Among the agricultural imports of the United States for the fiscal year 1900 the leading items, named in the order of value, were sugar, hides and skins, coffee, silk, vegetable fibers, wool, fruits and nuts, tobacco, tea, wines, vegetable oils and cocoa. These twelve items comprised in value nearly ninety per cent of our import trade in the products of foreign agriculture in the year."

THE professional tramp is the subject of a recent special investigation by the Chicago "Tribune," summarized as follows:

Tramps in the United States.....	100,000
Cost of food yearly.....	\$ 3,650,000
Cost of clothing.....	1,000,000
Value of transportation.....	5,000,000
Damage to property.....	13,000,000
Police surveillance, court costs, etc.....	2,500,000
Total.....	\$25,150,000

One hundred thousand able-bodied tramps, who would rather walk than work, or ride than eat, costing \$25,000,000 a year to society, and at all times a moral burden upon the public conscience—in these figures are the debits of an idle class which moves on when it has to and which vacillates between city and country with all the regularity of dwellers on the city boulevards.

## ABOUT RURAL AFFAIRS

**Catching Rabbits** I have this to say in favor of the ordinary wild rabbit, that while, like the poor, they always have been with us, and while I have frequently seen them around my premises and orchards in considerable numbers, and noticed the tracks left by them in the snow in such a manner as to make one believe that whole droves of the animals had been congregated there, I can remember but a very few instances of actual injury suffered by their presence. Once one of the little bunnies persisted in eating my squash-vines in the garden, and the only way to save the remnants of the vines was to catch the marauder, which I did with one of the ordinary steel traps, such as are used for catching muskrats, weasels, skunks and common rats. Bunny, however, had almost pulled off its leg in trying to get away, and was dead when found the next morning. I have never set another such trap for rabbits. From people in other locations I have learned that rabbits often appear in large numbers, and then may become very troublesome by barking fruit-trees, eating bean and squash vines, etc., and that the only remedy lies in hunting, trapping or otherwise destroying the pests. I know from experience that these animals, when properly prepared by a skilful cook, make a delicious dish. In short, so long as the rabbit is with me I will desire to get hold of it, either to get rid of it or to make use of it for my table. A box-trap, which simply imprisons the animal without doing it bodily harm until it can be dispatched by a smart blow over the head with a club, and quickly opening its blood-vessels in the neck with a sharp penknife, in the same way as I kill my Belgian hares for the table, is surely the most humane means of trapping rabbits. A rabbit is easily induced to enter a trap, especially if it is made in such a way as to disarm suspicion. We may have a hollow tree or log on the premises, and if so, we may easily convert it into a trap that must look quite natural and innocent to our intended victim. The trap-door is placed in a saw-cut near the front opening. The rear is closed up by nailing boards across, with a door for the removal of the imprisoned animal. The trigger may be baited with an apple or a carrot. Rabbits have a goodly portion of curiosity. When they find the log on their travels they are sure to investigate it and very liable to get caught in it.

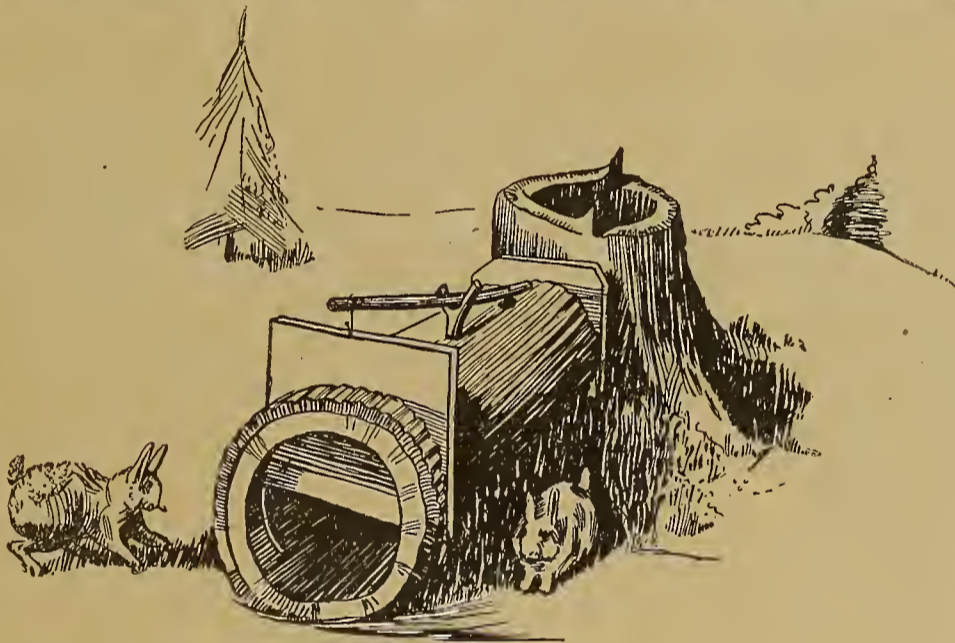
### California Fruit Interests

From the "California Fruit Grower" I learn that the state of California (State Board of Trade) is making preparations for a great exhibit of the agricultural, horticultural, viticultural and other industrial resources of the state at the Pan-American Exposition. California, already a most formidable competitor of the Eastern fruit-grower, sees in the coming great show peculiar advantages for increasing the markets for her products, and an unusual opportunity "to reach personally thousands of people who desire to seek new homes, and who have only hesitated to come to California for want of adequate, reliable information regarding the practical advantages of the state for permanent residence." The California people consider the Pan-American of much more importance to them than was the Paris Exposition, because, as they say, "the former addresses the people with whom we should have most intimate trade relations, and in whose markets we ought to create large demand for our products." California fruits excel in outward appearance and in the masterly manner in which they are packed and marketed. No question the state will be able to make a fine show, and our Eastern fruit-growers will have this lesson impressed upon them, that for long-range marketing (and frequently for short-range offerings, too) only the best fruit and only the best method of packing are good enough. If the California people were to put fruit such as our Eastern fruit-growers are in the habit of putting up for shipment, and packed in the slovenly manner so often indulged in at the East, into our markets here they could not hope to have the ready sales and comparatively large prices which they obtain when competing with our own fruit products, which in quality are often far ahead of the California fruits. As a fruit-grower I am not much in fear of California competition. The distance is too

great; they appeal more to the eye than to the taste. There is a proper field for expansion in the sale of California fruits, no doubt, but this is mostly among people of means, who can afford to pay a good price for the sake of having things out of season and of making a show with really fine-appearing fruit. We, the Eastern growers, will surely retain the trade of the ordinary run of people—those of moderate means and income—and the custom of every one who appreciates high quality and freshness more than size, color and general appearance, provided we do our part in the production, sorting and packing of our fruit products. If Californians imagine the East will not be able to match their fruits at the Buffalo show they will soon find out their mistake.

### The Hired Man and Tobacco

I used to smoke a good deal in earlier life. I do not smoke any more. I quit, with the result of great improvement of my general health and well-being. I would not be able to get my boys to smoke or chew tobacco if I were to attempt forcing them to chew tobacco. The first trial is liable to make the boy deathly sick. He continues his efforts in the direction of getting his system reconciled to the introduction of nicotine only because he sees grown men, even men of some sense, smoke, and he imagines that a pipe or cigar stuck between his teeth will make a man of him. Sometimes I try to imagine what a well-bred man from a strange country where the use of tobacco is entirely unknown would say if he were



RABBIT-TRAP

suddenly placed in a group of smokers. How he would open his eyes in wonderment! I was born in a provincial city of middle Germany, where everybody, almost without exception, is addicted to the smoking habit. I was probably fourteen or more years of age when I for the first time beheld a "colored" gentleman. He came with a troupe of showmen to our yearly city fair. It seemed the greatest curiosity of our lives to us boys, and we would undoubtedly have been willing to walk ten miles just for the privilege of seeing that man with woolly hair and a face as black as the ace of spades. I have no doubt that there are millions of people in Germany and other European countries who have never looked upon the face of a black man. It was once told that shortly after the introduction of tobacco in England a black "Moor" traveling with a troupe of foreign showmen came into a German country place. A peasant stood there staring at him with wide eyes as the negro was puffing away at his pipe. In a jocular way the latter held out his pipe, motioning to him to take it and try it. The reply came, "No, thank you, Mr. Devil, I eat no fire."

I am not a crank or extremist. My motto is, "Live and let live," and so I do not expect that the world must move just in the way I think it should. If people want to use tobacco I would consider it their business, so long as they do not ask me to suffer in consequence of such habit. But there is the rub. If the sulphurous gentlemen from Hades had desired to make us a gift of something that brings misery to the receiver he could hardly have hit upon anything much

worse than tobacco. The smoke of cheap cigars and poor tobacco which people blow into my face here and there is something of an annoyance to me, and I might bear it without complaint; but the yellow juice squirted all over the floors of outbuildings, into the white snow, along the sidewalks and in various other places is what makes me disgusted with the tobacco habit more than anything else about it, unless it be the smell of the breath and the yellow color of the teeth of the people with whom I have to talk and who are slaves to the chewing habit. I have seldom been so fortunate as to have a hired man who did not both smoke and chew, and when I have these men in my house and seat them at my table this feature is most unpleasant to me. I could afford to add materially to their month's wages if they would abandon habits that are so absolutely nasty and filthy and which dull all finer sensibilities. Think of a refined woman forced to endure the polluted breath of a tobacco-chewing husband, the smoke and smell of a stinking pipe, the great splashes of yellow liquid on the floors and possibly on the stove-hearth! American freedom, of which we boast, does not include the privilege of annoying others. T. GREINER.

### SALIENT FARM NOTES

**Pessimistic Prophets** "Don't you think that this warm weather will start the fruit-buds and endanger the prospects for a crop this year?" asked a man who is constantly on the lookout for news of a depressing sort. "I don't know," I replied. "In fact, I have quit speculating and worrying about the fruit crops; quit several years ago. We can't afford to worry about these things, because we cannot change the temperature one degree either way by worrying about it. We shall have fair days and foul days, and the only thing we can do that will be of any benefit to us is to so arrange

calves in the orchard all through the growing season. Without a doubt many will differ from me in this matter, but I am satisfied that most farmers will get more and better returns from the orchard and the ground it occupies by pasturing it than by constant cultivation or mowing. Cultivation takes a great deal of valuable time, and mowing once or twice a year is not only unsatisfactory, but also wasteful. Pasturing keeps down weeds, adds to the fertility of the soil, and helps to reduce the number of insect pests by the destruction of fallen fruit that is infested. I am satisfied that good crops of fruit of the best quality can be grown in pastured orchards if the trees are properly pruned and sprayed. One certainly can get about in pastured orchards for the purpose of pruning and spraying much more easily than in one that is cultivated, and very often this fact decides the matter of spraying when the work should be done. It is advisable to keep young orchards under cultivation, because a large growth of wood is what we want. We need a strong, thrifty growth, and the best way to get it is by constant and thorough cultivation. After the trees come into bearing we want less wood and more fruit, and I have found that pasturing tends to check the growth of wood and to increase the production of fruit of high color and excellent flavor. I have seen Ben Davis apples grown in a pastured orchard that in texture, flavor and color were simply splendid. On thin and clayey soils we might find it necessary to cultivate frequently and fertilize heavily to obtain good fruit, but in ordinarily fertile soils I have come to believe that cultivation of bearing trees is a mistake. Another thing. We cannot expect a good crop of apples every year; and if we cultivate we lose the use of the land every off year, while if we pasture it we get the benefit of the grass that grows on it and at the same time are adding to its fertility. I am well satisfied that the farmer who puts wire-netting guards about his apple-trees, sprays and prunes properly and pastures the orchard with sheep will have apples when anybody does, and that they will be first-class in texture, flavor and color.

### The Keiffer Pear

I am asked by a farmer whether it will pay him to plant a few Keiffer pear-trees. The querist says that this pear has been denounced as a fraud by so many writers, who assert that it is not a real pear, but an imitation, that he scarcely knows whether to plant a few or not. If I lived on a village lot I would plant at least two Keiffer pears. If I lived on a farm I would plant not less than a dozen. When the Keiffer pear is properly handled it is a very good fruit. When improperly handled it is no better for eating than a raw potato. The tree is hardy, a strong, rapid grower and an early and heavy bearer. It is also free from the diseases that affect pears than any I know. I would set the trees about twenty feet apart, a little more rather than less, and head them low, eighteen to twenty-four inches from the ground. The first four years after planting I would cut back, after the leaves have fallen, one half of the growth of that year, and also thin out the branches. What we want is a low-headed, sturdy, open tree. After the fourth year all that is really necessary is to cut out the weak, slender branches and shorten those that go wrong. If one wants extra-large fruit he will find it necessary to pick off one third or more when about one fourth grown. The tendency of the tree is to overbear and weaken itself. In thinning the rule is to not allow those left on to touch each other. When the fruit is ready for picking it will come off the tree rather easily. When picked the pears should be laid not over four deep on shelves or on the floor of a dark room, and in a week or ten days they will begin to turn a golden yellow, becoming a little soft and juicy as an orange, and are then ready for canning. It will not ripen on the tree. It colors up beautifully, but never becomes soft and luscious as when ripened in a dark room. Some writers assert that it cannot be sold twice to the same person. That is all stuff. I have sold it to the same families three years in succession, and they will come for more of the next crop. Every year I sell a great many to people who use them for dessert fruit, and like them first-rate. Properly handled and ripened the Keiffer pear is a most excellent fruit, and most people who try it, either for canning, for pies or for dessert, like it very much and buy it year after year. The only persons who object to it are those who have never tried a properly handled, well-ripened specimen. Unless it is carefully handled and properly ripened it is not even good pig feed. FRED GRUNDY.

### Pasturing the Orchard

For many years I have strongly believed that the constant cultivation of bearing orchards is a mistake. I believe that on most farms it is better to keep them in pasture. Put wire-netting guards about the trunks of the trees, and keep sheep, pigs or



### FARM THEORY AND PRACTICE

**SMALL AND LARGE FARMS.**—There is much discussion about the relative advantages of small and large farms. As in most agricultural problems the main factors are local conditions and the ability of the one in control of the farm. But somewhat extended observation leads to these general conclusions: 1. The tillage of crops is not usually as thorough as it should be. 2. There is a neglect of details on a vast majority of farms that reduces income. 3. The soil is not kept up to as high a state of fertility as is desirable. 4. There is not sufficient cash capital to run the farm to the best advantage. These four observations are admittedly true in the estimation of nine thoughtful men out of every ten when discussing their own and neighbors' farming.

**BETTER TILLAGE.**—In cropping one essential to success is first-class tillage. It counts most in the very dry year—sometimes in the very wet year. The man who makes net income from the cultivation of crops is the one who makes a good seed-bed and then cultivates the crop just when needed or near that time. This becomes more and more true as land grows older. The inclination is to plant extensively, trusting to seasonable weather to insure growth. On the small farm there is less temptation to do this, and usually there is more working force for a given acreage. It seems more feasible on a small farm to put a lot of work on a small field, and the right kind of work is a fair assurance against crop failure in an off year, when prices are usually high. Constituted as we are, most men would find a smaller acreage of tilled crops more profitable than their usual acreage.

**NEGLECT OF DETAILS.**—It is an old and trite saying that very few manufacturing concerns could stand the same rate of waste and loss that most farmers stand. Our watch of details is not good. We don't "get around" to many things until too late. The ditch left unopened, the rotted fence-posts not replaced, the leak in the roof not repaired, the meanest of weeds not killed before seeding, the lost bolt in an implement not replaced, the buildings not painted till the wood is injured, the hundred things we do too late for best results or leave entirely undone—these will usually be fewer in number on a small farm, or should be, unless we have ability to employ others freely. At any rate, the man who is now rushed on a big farm and neglects these details could do better on fewer acres with the same amount of labor. Neglect, waste, delay, wipe out profits on many farms. Does any one doubt this?

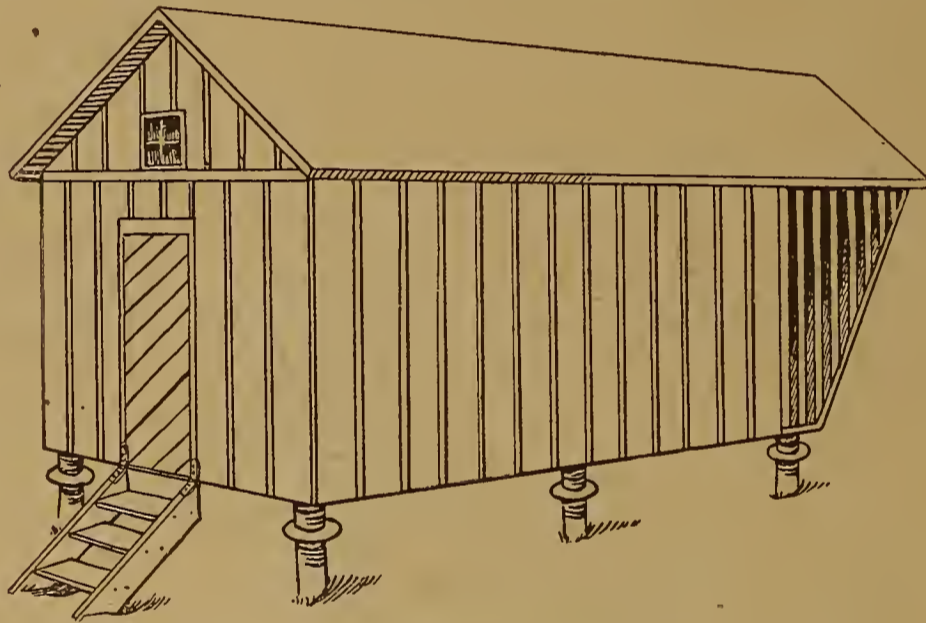
**SOIL FERTILITY.**—We plow and till more extensively than we fertilize. Labor is costly, and profit comes from a rich soil. "Why should not a large farm be made just as rich as a small farm?" some one asks. It can, I presume; but it will not be made so in the hands of a majority of us. On small farms it seems more feasible to grow manurial crops for the fields, to draw manure to the farthest field from the barn, to keep every acre under one's own eye. With hundreds of acres needing special attention the expense bill becomes alarmingly big. I know that it would seem that that which would pay on a five-acre field should pay proportionately well on a fifty-acre field; but whether it would or not, the five-acre field is surest of attention, and therefore surest of net income in its tillage.

**CASH CAPITAL.**—The natural inclination is to become an extensive landowner. Men like to own large farms. There is a tendency to measure others' income by their acreage. It results that very many farmers are land-poor. They do not have loose cash capital in an amount that is proportionate to their acreage, and are hampered in their efforts to make farming pay. It takes money to make money. When one knows just what is needed to secure the best returns from his investment in land he must have sufficient capital to put his plans into force, or else secure something less than the best returns. On all sides farmers say, "I am sure this and that should be done, but I haven't the money." Delay through lack of capital and the employment of the credit system keep thousands from winning, though they work

very hard. Fewer acres and more cash capital would mean release from a condition too nearly approaching slavery.

**THE WAY OUT.**—What is the remedy? The usual advice is to sell; but in some sections this is not practicable, I fear. In other districts it is entirely so. Sales of surplus land can be made where the farms are tillable and the soil has fair, natural strength. In hilly and mountainous sections and in some of our Southern states sales are less easily made. But more land can be gotten into grass, being seeded to rye, timothy and other grasses for pasture, and less land be left for the plow. Concentration of manure and labor on a smaller acreage, depending chiefly upon it for income, and letting surplus land produce what pasturage it will, would mean more clear money for many a land-poor farmer of the South and limited acres of the North. Concentration of energy is the thing. Close oversight, good tillage, good stock, good care and a more fertile soil should be our aim.

**SOME LARGE FARMS.**—There are exceptions to the rule that small farms give the most net income from the dollars invested. These exceptions are more numerous in sections adapted to pasturage and stock-raising than in others. The owners have capital and are thorough-going business men. The investment an acre is not large, and the farm is stocked just right to get the best returns. The same management serves for five hundred acres as well as for one hundred acres. But success on such farms results from such business methods and amount of capital as would bring success in other ventures in the business world. The average farmer must move more slowly and



IMPROVED GRANARY AND CORN-CRIB

cautiously. He does not have a free hand. For him the way out is along the line of better tillage of fewer and richer acres, and of care of small things. It would often lead to a more free, happy and successful life. The American farmer undertakes too much.

DAVID.

### THE FARM CORN-CRIB

I know just what the ordinary farm corn-crib is, for I had the fortune, or misfortune, to possess one for a number of years; and in that time I know that I lost many dollars' worth of corn, besides suffering untold pangs of conscience every time I passed by the miserable mouse and rat trap.

My old-fashioned corn-crib was on the farm when I bought it, and the pressure of other things prevented me from giving it my attention for a long time. It was as good as any crib of its kind. It stood up from the ground several feet, and the posts were protected with the regulation tin pans turned bottom upward and placed over their tops. And yet never a winter passed that rats, mice and squirrels did not revel in the product of my corn-field, to my loss financially and spiritually. Every spring I was compelled to carry out several bushels of shelled corn, from which the rats and mice had gnawed the chit, mingled with no end of cobs and other litter.

Once, in a moment of unwisdom, I went at it and lined the various divisions of the crib with wire cloth. This also was vanity. It simply made the rats' nest a little more palatial. I was so busy, however, making repairs on the house and barn that the corn-crib went by until I made up my mind that, come what might, I would put an end to that sort of thing. And here is how I did it:

The dimensions of my granary—you see I have got past the corn-crib period entirely—are as follows: Length, sills, eighteen feet; plates, twenty feet; width, fourteen feet; total length of posts, twelve feet; height of floor from the ground, three and one half feet. These dimensions may vary, according to the amount of grain to be stored. Wide strips of tin shield the tops of the posts from the invasion of rats and mice.

Inside the plan is as follows: Corn in the back part, the crib running across the end, and on each side a row of grain-bins. These are arranged so that the ends nearest the alley between, which is four feet wide, may be removed in case they are not needed. These empty bins afford store-room for a corn-sheller, or for bran or other feed. A loose floor overhead also furnishes space for putting away many articles which might otherwise be cast around anywhere. The inside is lined with matched Southern pine three eighths thick. The outside is battened, and the boards being surfaced the whole is painted. The entire expense of this granary was not far from seventy-five dollars, and I have received the compliment that it is the best job I have done in the way of building, and I have spent a small fortune in that line. In fact, it pleases me exactly. I never have seen but two mice in this granary, and those I carried in with empty bags; and, as may be supposed, I was on nettles until they had been found and settled with. I got the cat as quick as I could, and entered upon the most exciting hunt I ever took part in. It beat the famous fox-hunts of the city folks who come out to kill time all hollow. And I succeeded, which is more than the city chaps who hunt for the fun of the thing can often say.

In my granary I keep my corn-knives, corn ties and bags—everything, in fact, that concerns corn and garden stuff. The satisfac-

tion I draw my slips in the evening, and after the sun gets low enough that it will not wilt them down, I set them out. I let them take the dew of the night, and early in the morning, before the sun is high, I take a hoe and cover them all up with dirt, so the scorching rays will have no effect on them. I let them remain in this condition for a week or ten days, when the roots of the young plants will have taken hold in the soil, then I uncover the tops. They never wilt, but start to grow much quicker than if set out and watered and then left to take the scorching rays of the sun before they have taken root in the soil.

On this plan sweet-potatoes are not half the trouble to cultivate, from the fact that you can plow close up to the plants, and the hoeing will be a small matter. I plow my sweet-potatoes twice with a double-shovel or cultivator, following each time with the hoe, slightly hilling them at the last working.

The farmer who tries this plan once will never go back to the old-time plan of ridging his land for sweet-potatoes.

J. M. W.

### PRACTICAL ARBITRATION

Two neighbors of mine owned a large stack of alfalfa hay, half of it belonging to each. The stack was well built, level on top, with both ends of equal height, but one end was a foot wider than the other. This was the only obstacle in the way of a perfectly satisfactory division. Being a small matter this was not allowed to prevent an agreement, and it was decided between the two men that the one taking the wide end of the stack should accept a portion one foot shorter than the other's.

Some months later one of the neighbors discovered that the stake set to mark the division-point had been moved. Of course, he moved it back. This led to a dispute, in which a pitchfork, and afterward a shotgun, played a threatening part. Neither cared particularly for the amount of hay involved—worth about five dollars—but both felt bound to insist on his rights for the sake of the "principle" at stake.

It happens that one of the disputants is a member of the grange, and, therefore, familiar with the doctrine of arbitration. He therefore saw a way out of the difficulty without sacrificing either "principle" or pride, and proposed to arbitrate. Of course, no fair man can refuse such an offer when it is likely to save him a quarrel and a lawsuit. So the two men agreed to submit to the decision of two or three arbitrators.

One of the men chosen was of a practical turn, and declined to serve unless both parties to the dispute were willing to sign an agreement to abide by such decision as the arbitrators might make. The granger agreed to this, and the following form was drawn up:

"We, the undersigned, having failed to agree upon the division into two equal parts of a certain stack of alfalfa, do hereby agree to submit our differences to arbitration, each of us to select one arbitrator, the two to select a third if they find it necessary and advisable, and we hereby agree to accept and abide by the decision of the arbitrators, whose names are hereunto attached as witnesses to this agreement."

When the disputants and their representatives assembled at the hay-stack the paper was produced and signed by the four men. Then the arbitrators inquired into the merits of the case, measured the stack, and with a hay-knife cut across the top and down the sides of the stack to mark the division-line. This done, they called the owners of the hay and reported what they had done.

The decision was accepted with the best possible grace, the first to speak saying he was perfectly satisfied, the other adding that he was as well pleased as if he had done the thing himself. Naturally the arbitrators were gratified to have their judgment accepted so promptly and in so good a spirit. They were also pleased by the offer of pay for their services.

Perhaps the best part of this settlement by the arbitration is the agreement which the disputants were required to sign. It is short, simple and easily understood, though lacking the fullness of detail it would contain had it been written for ten dollars by a lawyer; but it is just as binding as if it were a yard long.

It is always possible that some one will appeal from the decision of a court, so it is possible that one of these men may become dissatisfied with the judgment of the arbitrators. When he does, what will happen? Why, the agreement will be produced in court, and the man who has shown bad faith will have the costs to pay.

D. W. WORKING.

### LEVEL SURFACE SWEET-POTATO CULTURE

Making ridges or hills in which to set sweet-potato slips is useless. Five years ago I made ridges for half of my sweet-potato crop, and the remainder I set out on a perfectly level, smooth surface. Those in ridges made longer tubers, but many of them were too stringy for use. The tubers of those cultivated on the level surface plain were shorter, considerably larger in circumference, more uniform in size, without strings among them, and in every way more desirable for home use or for the market.

The sweet-potato tuber never begins to expand until the tap-root has reached the hard ground, consequently if the slip is set high up in the ridge the tap-root has so much farther to grow to reach the hard ground that it makes the crop later and gives the tubers less time to expand and mature; therefore, much of the crop will be stringy and unmarketable.

I break my sweet-potato ground about five inches deep, pulverize it well and mark the rows off about three feet apart. I do not wait for it to rain and make a season; neither do I carry water and make a season. I

# NOTES FROM GARDEN AND FIELD

**SUCCESS IN THE GARDEN.**—It pleases me greatly to receive an occasional letter like the following, which comes from L. R. S., of Frederick County, Maryland: "I have been following your writings, and have enjoyed garden-work very much. I have better health, and have things on my table right along that were once a rarity and luxury. Nothing could induce me to again leave the occupation of tilling the soil. My garden is the pride of the community and astonishes everybody with the amount of vegetables raised. I have the advantage of a favorable situation—a hill to the north and a running stream of water

made easier without a horse?" Of course there is. In fact, in a small garden I would entirely dispense with the use of a horse after the soil has once been prepared. Our common hand wheel-hoes, such as the Planet Jr. or Iron Age, are very efficient tools, and just the thing needed to keep patches of small garden vegetables—lettuce, onions, carrots, beets, parsnips, radishes, turnips, etc.—free from weeds and in a fine state of cultivation. This and a light, sharp hand-hoe will do good work in a small garden. I prefer the two-wheel concerns which straddle the row especially in the earlier stages of the development of all these crops. For use among cabbages or other wider-planted crops, or among onions, lettuce, etc., when they have begun to spread out to some extent, a one-wheel hoe is very useful. It is by no means hard work to operate one of these tools, especially with a little practice.

my friends should try for an early sort. If left unthinned in the latter part of the season it is liable to commit suicide by overbearing; at least it sets fruit so abundantly that it is unable to carry it to maturity. The one variety of vegetables, however, which is offered by Burpee & Co., and which I must have above all others, is the Gibraltar onion, as it is by far the largest and sweetest of all onion kind now known to me. I would greatly miss it if I had to do without it for my table, and I use it both for green (bunching) onions and for dry bulbs. But you will have to look this catalogue over quite carefully to find it. Burpee makes no spread over it, simply because the seed is all grown in Europe, the variety a shy seeder, and the seed not always reliable. With this I have met a case where even "Burpee's seeds do not grow."

# ORCHARD AND SMALL FRUITS

CONDUCTED BY SAMUEL B. GREEN

## EUROPEAN METHODS OF TRAINING TREES

In going from the United States to northern Europe one is impressed by the fact that the absence of much bright sunshine makes many differences in the practice of horticulture there. This is especially evident in the growing of fruits, which in many sections cannot be grown to best advantage except against a wall or on a side-hill where the sun's rays will be hotter than in the open field; and it is not uncommon to see long and expensive walls built for the special purpose of affording a good place for the growing of fruit. This difficulty in the growing of fruit will probably prevent these sections from ever competing very successfully with the United States in many lines of fruit production, and will always insure their remaining markets for our surplus.

Another phase of horticulture in Europe is that there are so many persons there who love to handle plants and to train them in ingenious ways. The past summer I had the pleasure of visiting the National School of Horticulture, at Versailles, France, and I was impressed by the fact that most of the students' time seemed to be devoted to the training of trees and vines in ingenious ways; and here this subject is reduced to a very elaborate system. The illustrations herewith show some of the forms into which these people ingeniously train plants. It will be noted that generally they are trained against walls; but frequently, too, they are trained in the form of vases, spirals or cordons, and it looks rather pretty to be passing along a walk on each side of which is a balustrade, as it were, of apple-trees trained lengthwise, and none of them more than six feet from the ground, and yet well laden with fruits. To keep these trees in this



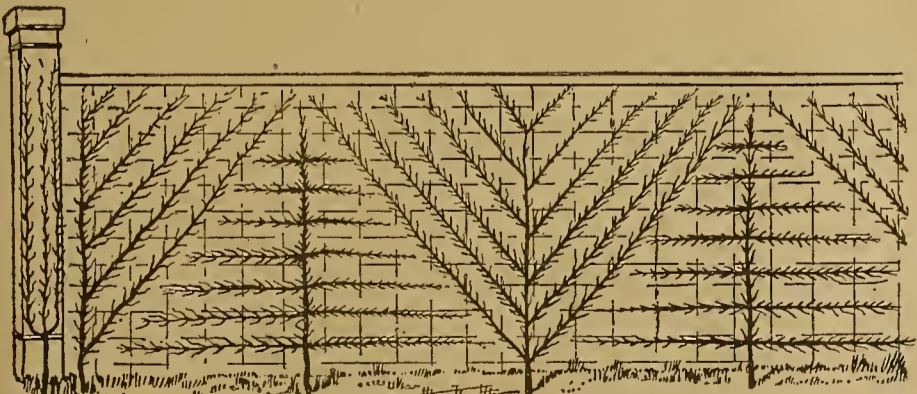
available for irrigating purposes. Some new vegetables of merit are the Improved Guernsey parsnip and Eureka Self-Blanching celery. These vegetables have given perfect satisfaction to my customers. My parsnips will give me twelve dollars from four rows one hundred and twenty feet long. I sell three pounds for five cents." Undoubtedly there are many persons having such natural advantages for garden-making purposes, and all that is needed is to learn how to make the most of the opportunities offered. There is both pleasure and profit in it.

Any woman or half-grown boy can use the wheel-hoe to advantage and with comparatively little effort or inconvenience.

**THE SEED CATALOGUES.**—Quite a number of seed catalogues have come to my desk during the past two weeks. One of the first to arrive was "Burpee's Farm Annual—Quarter-Century Edition." As usual, it claims that "Burpee's seeds grow," which is no particular advantage, since it is the general experience of all careful seed-buyers and seed-users that the seeds of all our leading seedsmen will grow when properly planted. Mistakes will happen everywhere, and are not impossible even with Mr. Burpee. The instances where one receives a package of seeds that are without germinative power or of low vitality, however, are rare with all those seedsmen whom we class as "reliable." This year this firm adds a new Cupid sweet-pea, the Royalty, to the list of dwarf sweet-peas introduced during the past few years. Among the novelties of the season Burpee offers a Matchless muskmelon as a distinct type of Netted Gem, or, as now frequently called, Rocky Ford; also a Twentieth Century Dwarf Wax bean, claimed to be a more certain cropper than Saddleback Wax; the new Prolific Bush Lima bean, an improved strain of the Sieva Bush Lima; a new cabbage lettuce, the Giant Glacier; the Nansen, or North Pole, lettuce, a solid and sure-heading sort of the butter-head cabbage type, suitable for both early spring and late fall. The new Fordhook Fancy mustard, which makes a plant of vigorous growth, and has beautiful dark-green leaves that curve outward like an ostrich-plume, may be the same thing that I once got from a Southern grower, then lost and could never secure again, although a great many packages of curled mustard were sent me for trial by friends all over the country. I had the Chinese Giant pepper

The catalogue of James J. H. Gregory & Son comes in practically the same form as I

**JADOO FIBER.**—I have an inquiry from C. M. T., of Memphis, Tennessee, about Jadoo fiber. Of course, I have tried this, and there is no question but that it is a good thing. I would use it right along for plant-raising purposes if it were cheaper. Its cost is the only objection to its use that I know of. My experience with it is pretty nearly the same as that reported from the "Rural" grounds in "Rural New-Yorker." Wherever plants are set out in Jadoo fiber, or a mixture of this and garden loam, they showed remarkable thrift and health, with a darker color of leaf. The fiber is rather coarse, and does not seem to decompose very readily. It holds water like a sponge, and yields it up to the roots of plants gradually as needed. For ordinary crops, tomato-plants, etc., which will take care of themselves in any ordinary soil under ordinary treatment, Jadoo fiber is too expensive to use. It is stated, however, that it is "largely used abroad in old, long-cultivated garden soil for such plants as tomatoes, which do not adapt themselves well to the climate." The "Rural New-Yorker" recommends a mixture of one third Jadoo and two thirds garden loam, without additional fertilizer, as the plants do well in it and the mixture is less likely to become sodden than the pure article.



Jadoo and its mixtures with soil can be sterilized by exposing to dry heat in an oven sufficiently hot to roast a potato, without losing much of its fertilizing properties. This is an advantage where valuable seeds are sown or difficult plants propagated.

last year. It made a large fruit, but seemed to be rather a shy producer. I shall try it again, but will put my reliance for peppers rather on one of the older sorts—the Ruby King, Golden Dawn, Golden Upright, etc. Burpee also offers a "grand new tomato," the Success, a scarlet-fruited sort of good size and fine quality; also the Magnns, a late sort which I found quite good and reliable last year; then Spark's Earliana, a very early, smooth, bright red tomato which all

have seen it for the past thirty years—plain, comprehensible, pleasing. It also offers the Earliana tomato; a new Rose-Ribbed Self-Blanching, or Golden Rose, celery, which may be the same that gave me so much satisfaction a few years ago by its thick and brittle stalks; the Perle LeGrand celery, highly spoken of as a good winter variety; a new Winter Queen celery, and Mand's Wonder, a new foliage plant which is simply recommended for trial. Campbell's Early grape is offered as "the king of American grapes." With all its plainness Gregory's is a catalogue well worthy of closest inspection.

unnatural form requires constant attention and supervision and much skill in their pruning. For such purposes the apple is not generally grafted upon the common apple-roots, but is put upon the Paradise root, which has the effect of dwarfing the tree, so that it does not grow so strongly. Pears are often grafted on the quince to dwarf it. The result of this dwarfing in either case is to bring an early fruitage, as well as to make them more amenable to this peculiar method of training.

## INQUIRIES ANSWERED

**Mulching Fruit-trees—Pruning Trees—Book on Fruit-growing.**—E. M., Princeville, Ill. A good covering of mulch around your orchard-trees would be quite a protection against root-injury in winter. It may be put on at any time. If mice are abundant in your vicinity they might collect under the mulch and girdle the trees unless you put poison in with it. This may safely be done by using a mixture of corn-meal and arsenic in old tomato-cans that are nearly closed, so that nothing larger than mice can get into them. This mulch should consist of stable litter, preferably, as it also furnishes some plant-food, as well as acts as a mulch. If the trees did not make a good growth in 1900 they should probably be manured, and if green manure is available it may be safely put on in winter; but if only well-rotted manure can be had it should not be put on until spring. Examine the trees for the egg-clusters of the tent-caterpillars, and cut off and burn the infested branches, or destroy the eggs in some other way.—Don't prune unless you know exactly what you want to do. Your trees probably need some pruning, but this should be done only for some special reason. In pruning apple-trees take off awkward and interlocking branches and sprouts that are not needed to replace some poor branch. Severe pruning generally causes the trees to sprout badly, makes bad wounds, and is seldom needed.—For book on orcharding get "Amateur Fruit-growing," published by the Farm, Stock and Home Co., Minneapolis, Minn. Sent prepaid for fifty cents.

**WHEEL-HOES.**—B. M. McL., of Portland, Oregon, asks the following question: "Is there any tool by which gardening can be

Quite in contrast with the catalogues just mentioned is that of the John A. Salzer Seed Co. It is overcrowded with illustrations and descriptions, the former often poor, and both often overdrawn. Yet I have had some good seed from this firm, and know that some of my neighbors, after having dealt with him for a number of years, still "swear by Salzer." Scores of the varieties for which particular claims of goodness are made bear the prefix "Salzer's." As that seems to be a harmless pleasure to him we will let it go at that. I find in this catalogue not only the German coffee-berry, a soy-bean repeatedly mentioned by me, but also "Salzer's Javanese Jaavaa coffee," which is claimed to be larger than the preceding, but on the whole superior to the other. As companion Salzer's American chicory is offered. I do not know whether it is true, as allegedly claimed by Mrs. Rorer, that "chicory does more than make coffee delicious, purifies it and makes it healthful;" but I know that chicory is a healthful vegetable, and makes a most serviceable salad material, especially for winter-forcing purposes. Of course, the blanched foliage is the part used. Other catalogues will be mentioned as they are received.

T. GREINER.

## THE DEVELOPMENT OF AGRICULTURAL EXPERIMENT STATIONS

[CONTINUED FROM PAGE 3]

experiment station in this country became a fact through the generosity of the Connecticut legislature fired by a desire to emulate similar useful institutions in Europe. Naturally the success which attended this effort was appreciated by advanced agriculturists all over the country. North Carolina, New York and New Jersey were next to adopt the idea, and the movement has grown in favor with each succeeding year. It has been greatly stimulated by the Hatch Act of 1887, already referred to, which provided an appropriation of \$15,000 annually to each state and territory specifically for the experiment-station work.

Though supported in part by the funds given by the government, the agricultural experiment stations are looked upon as distinctively state institutions, and their management is entirely in the hands of the state officials. The office of experiment stations in the Department of Agriculture exists as a sort of clearing-house or national headquarters for the collaboration and tabulation of results. In addition the stations, as well as the agricultural colleges with which they are more or less closely connected, form together a national system of agricultural education and research through the Association of American Agricultural Colleges and Experiment Stations. The stations are also largely represented in the associations of official agricultural chemists, economic entomologists and experiment-station veterinarians, through which the uniformity and the efficiency of the station-work in chemistry, entomology and veterinary science with special reference to the methods employed are greatly promoted.

In order that its work may be best systematized and most effective it has been more widely recognized of late that the station must preserve a separate autonomy from the college with which it is connected. To this end it is desirable that it have its own special competent executive officer for the promotion of its individual work in the line of investigation pure and simple.

The breadth and scope of this work is apprehended when it is known that it comprises studies in physics, chemistry, botany, zoology, and especially entomology, geology, meteorology, agronomy (plant production), horticulture, forestry, physiology (of man and domestic animals), zootechny (animal industry), veterinary science, agrotechny (agricultural technology), including especially dairying and rural engineering.

In a general way the work has been grouped under five divisions: (1) investigations involving original features; (2) verification and demonstration experiments; (3) studies of natural agricultural conditions and resources; (4) inspection and control work; (5) dissemination of information. The verification and demonstration experiments are made with the co-operation of farmers.

Closely united with the demonstration experiments of the stations have been studies regarding the natural agricultural conditions and resources of the different states. Valuable data regarding meteorological conditions, geologic formations, nature of the water supply and the botanical possibilities have been secured. The department of inspection, beginning with that of fertilizer inspection, has expanded to include dairy products and other foods. The chief educative force of the stations is naturally centered in their publications, each station being required to publish quarterly bulletins and a complete annual report of its operations.

If the true measure of an institution's usefulness is gaged by its record of work attempted and achieved, the experiment station has to all appearance a strong claim on public respect and appreciation. The most important general result of the work has been along the line of dairying. The investigations of food nutrition and the successful introduction of new crops which have led to helpful diversity of agriculture in many regions are valuable and practical public benefits. Typical of the specific and local work done may be noted that of the stations in the South. These have done a great economic work in showing that forage plants of different kinds may be successfully grown, thus laying the foundation for the development of a new industry in the raising of live stock, and in demonstrating the value of cotton-seed and its products as feeding stuffs and fertilizers, thus adding materially to the value of the cotton crop.

On consideration of their work and history one may well agree that as organizations for the advancement and diffusement of agricultural knowledge the influence of the stations has been remarkable.



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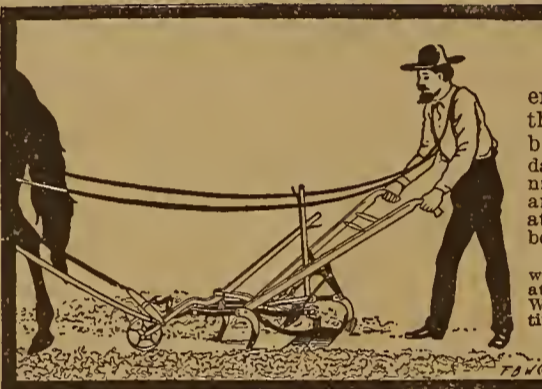
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The mode of ventilation depends largely upon the kind of poultry-house. Ventilation is indispensable, but it must be obtained on scientific principles, and not by means of open ventilators or windows.

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No one should retain a fowl, when it comes from some other place, if it shows even the slightest indication of disease, as there is no knowing the nature of the disease until it fully develops.

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The ordinary Pit Games have been known for centuries. Farmers and market-poultrymen have looked upon Games as adapted only for use in the pit, and the quarrelsome dispositions of the male birds have kept fanciers from breeding them to any great extent.

THE EARLY-HATCHED PULLETS

It is nearly time to hatch the early pullets. Those hatched in February, if of Leghorn blood, will probably begin to lay about July or August.

INQUIRIES ANSWERED

Rose-comb Plymouth Rocks.—C. S., Haven, N. D., writes: "Are there rose-comb Plymouth Rocks? If so, how do they compare with the single combs in hardness, laying, etc.?"

FENCES AND FLYERS

No fence will confine a persistent flyer. A fence is usually eight feet high, but six feet is generally found to be sufficient for the breeds of poultry of medium size.

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The comb begins to swell and have a red color when the hens are about to lay. When it is of a bright red color it also denotes health. There is no disease known as "black comb."

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THE BEST EGG FOOD for laying hens is Green Oat Bone. Nothing equals MANN'S NEW BONE CUTTERS for preparing bone.

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## QUERIES

READ THIS NOTICE

Questions from regular subscribers of **FARM AND FIRESIDE** relating to matters of general interest will be answered in these columns free of charge. Querists desiring immediate replies, or asking information upon matters of personal interest only, should inclose stamps for return postage. The full name and post-office address of the inquirer should accompany each query, in order that we may answer by mail if necessary. Queries must be received at least **TWO WEEKS** before the date of the issue, in which the answer is expected. Queries should not be written on paper containing matters of business, and should be written on one side of the paper only.

**Cheap Hose for Garden Irrigation.**—T. M. E., Atkinson, Neb. In answer to your query we republish the following from the **FARM AND FIRESIDE** of December 15, 1894: "Cheap hose for distributing irrigation-water from a reservoir can be made of twelve-ounce duck. Take a piece thirty feet long and cut it lengthwise into three strips, which will make ninety feet of hose about two and one half inches in diameter. To sew the hose bring the edges of the cloth together, double once over, and with a sewing-machine sew through the four thicknesses twice. It will be strong enough to stand six or eight feet of pressure. For waterproofing use five gallons of boiled lard-oil with one half gallon of pure pine-tar melted together. Place the hose in a wash-tub, turn on the oil hot (say 160 degrees Fahrenheit), and saturate the cloth well; then run the hose through a clothes-wringer screwed down rather tight and hang it up to dry. A little pains must be taken to blow through the hose to keep it from sticking together as it dries. Tie a string around one end of the hose, gather the other end around a tube, blow it full of wind, tie the open end, hang it on a line, and it will be dry in a few days and be ready for use. To join the ends use a tin tube two and one half inches in diameter and about one foot long. The tube is kept tied to one end of a section of the hose all the time. To connect two pieces, draw the open end of one over the tube of the other and tie securely. With this simple arrangement the hose can be handled conveniently in sections."

**Preserving Fence-posts.**—J. A. F., Sylvia, Tenn., writes: "In January 15, 1901, issue C. L. B., Marysville, Ohio, asks for a cheap, successful way of treating common timber to make fence-posts last like cedar. I answer that the following treatment will do it: One pound of blue vitriol (sulphate of copper) to twelve gallons of water. Dissolve the vitriol with boiling water and then add the remainder. The ends of the posts are then dropped into the solution as deep as intended to be put into the ground. They should stand in the solution from six to ten days, according to the size of the post. An oil-barrel will answer for a small number of posts. When one filling is taken out and another put in some more vitriol and water should be added. White woods, such as white poplar, cottonwood, gum, etc., when thus kyanized will last as long as the red woods. Posts made of white woods soon rot even above ground, therefore the entire post should be kyanized. Shingles thus treated, though made of white or sap woods, will last for fifty or more years. Shingles should be sawed. Cut shingles are checked on one side in cutting, and are therefore of little value. Blocks of timber thus prepared may be used instead of rock for the foundations of buildings. I set some fence-posts thus treated sixteen years ago. They are as sound to-day as when set. At the same time I treated with this solution some square blocks which I used under a building. They are perfectly sound to-day. The fence-posts were white oak; the blocks chestnut."

## VETERINARY

CONDUCTED BY DR. H. J. DETMERS

To regular subscribers of the **FARM AND FIRESIDE** answers will be given through these columns free of charge. Where an immediate reply by mail is desired the applicant should inclose a fee of one dollar, otherwise no attention will be paid to such a request. Inquiries should always contain the writer's full address. Queries must be received at least **TWO WEEKS** before the date of the issue in which the answer is expected. Veterinary queries should be sent directly to **DR. H. J. DETMERS**, 1315 Neil Avenue, Columbus, Ohio.

**NOTE.**—Parties who desire an answer to their inquiries in this column must give their name and address, not necessarily for publication, but for other good reasons. Anonymous inquiries are not answered.

**Actinomycosis.**—L. G. K., Fort Atkinson, Ia. Please consult answer to J. W. M., Mercersburg, Pa., and A. P., Ferry, Mich., in **FARM AND FIRESIDE** of January 15, 1901.

**Probably a Fractured or Dislocated Sacrum.**—S. A. W., Wolverine, Mich. Your heifer when in heat was probably jumped on in an awkward way, and either tried to escape or broke down, and in consequence had the sacrum broken, and as a result the posterior part of the spinal cord injured; also more or less internal injury may have been the consequence. An exact knowledge of the existing condition can only be obtained by a careful examination. A treatment is useless.

**Diseased Sheep.**—H. P. P., Amberson's Valley, Pa. You say your "sheep run at the nose, and cough, and have been doing so for over two years." If you mean to say that the individual animals have been so for two years it must be some chronic disease that is very likely incurable. But you probably mean that the disease has been in your flock for over two years. If this is the case the discharge and the cough are probably caused either by the presence of lung-worms in the terminal ramifications of the bronchial

tubes or by so-called grubs in the head. A careful post-mortem examination of the first one that dies will reveal the cause. Please consult answer to O. D. H., Kendallia, W. Va., in **FARM AND FIRESIDE** of February 1, 1901.

**Probably a Case of Rachitis.**—J. L. B., Klamath Falls, Oregon. Although weakness in the hind quarters of swine may be produced by a variety of causes, as has been repeatedly explained in these columns, your case, according to your description, is probably a product of rachitis, caused by an unsuitable diet and maybe want of exercise. If it is not yet too late, and you can get it, you may try prepared bone-meal, and mix about one tablespoonful with each meal. At the same time sour slop of any kind must be strictly avoided.

**Lice on Cattle.**—J. H. G., Roy, Wis. Many things will kill lice on cattle if properly and thoroughly applied. Among others a wash with a five-per-cent solution of creolin in water is not poisonous and very effective, but, as has been repeatedly stated, none will give satisfaction unless the cattle, after they have been washed, are protected against a reinfection by a thorough cleaning and disinfection of the premises and are provided with sufficient quantities of sound and nutritious food to enable them to become thrifty and to gain in flesh. Lice do not seem to feel comfortable on well-fed animals, especially if the same are also well groomed and kept clean.

**Cribbing—Spavin.**—L. K., Liverpool, N. Y. Cribbing is simply a bad habit, most frequently acquired by young and energetic horses when occupying the same stable with an old cribber, whom they imitate. It is next to impossible to break an experienced cribber of that habit, while a beginner may be induced to abandon it if separated from the old cribber, and if, at the same time, employed at steady work that makes him tired enough every evening to think of nothing but to eat his feed and go to sleep. The only cribbers that are really objectionable are those that take hold of the edge of the feed-box whenever they have taken a mouthful of grain and thus drop the latter. Concerning spavin please consult **FARM AND FIRESIDE** of December 1, 1900.

**Probably Impaction of the Third Stomach—Inflammation (?) After Calving.**—J. N., Chewalah, Wash. Your heifer calf probably suffered from impaction of the third stomach. You possibly might have saved it if you had before the eyes were sunken in their sockets—which in all diseases of cattle is considered a symptom of a fatal termination—given to the animal from ten to fifteen drops of pure croton-oil mixed with about three ounces of linseed-oil, and had given this mixture very slowly and carefully, so as to assure its direct entrance into the third stomach.—Your second question is not very plain. If you mean inflammation of the vagina and uterus after calving, it is usually caused by rough or irrational assistance, and the prevention, therefore, suggests itself. If you mean puerperal paralysis, or so-called milk, or calving, fever, please consult answer to B. B., Gratiot, Wis., in **FARM AND FIRESIDE** of January 15, 1901.

**Possibly Anthrax.**—P. N., Hasty, Minn. The symptoms you describe are such as are observed in cases of anthrax (charbon in French, and Milzbrand in German); but your description does not go far enough to make a sure diagnosis. If, besides the symptoms you related, the blood was rather thick and black, like coal-tar, and not coagulated, I would not hesitate to make the diagnosis of anthrax. Anthrax is not only one of the most fatal, but also one of the most infectious diseases known, and often is communicated not only to other cattle, but also to all other live stock and even to human beings. Therefore, if the blood was as I said, it is anthrax. I most decidedly advise you to inform your proper state authorities (if your state has a state veterinarian, he will be the proper man), because the measure of precaution that must be taken cannot be too thorough in order to be effective. Of course, no milk nor meat nor even the hides of the sick animals must be used.

**Three Questions.**—A. W., Jenny Lind, Cal. (1) What is the best wash to kill lice on cattle depends upon circumstances. Several will do the work equally well, but none will be efficient unless the cattle, after they have been washed, are protected against any reinfection and are fed well enough to improve their condition. For further information please consult the numerous answers recently given to inquiries concerning lice. (2) A few applications of an ointment composed of soft soap and gum camphor (about one part of the latter to twelve of the former will answer) will decrease the production of milk, and therefore accelerate the drying-up process. (3) The most effective "medicine or condition powder" you can mix with the feed to put cattle in condition for market is plenty of either ground, steamed or boiled grain. You cannot produce flesh and fat with chemicals, medicines or condition powders no more than one can make gold out of brass.

**A Morbid Growth.**—O. H. O., Byron, N. Y. It may be, and it may not be, that the tumor, or abnormal growth six inches long, four inches wide and two and one half inches thick, and looking white on the outside and like flesh inside, which you found attached to one lobe of the liver and to four or five ribs, had anything to do with the death of the horse; at any rate, there is nothing in your communication indicating that it had, neither is there anything to show any casual connection between the abnormal growth and the frequent attacks of colic, but there is good reason to suppose that the last of the frequent attacks of colic caused the death of the animal. If the unexpected presence of the abnormal growth had not absorbed your sole attention and not prevented you to look any further, I have no doubt you would have

found the immediate cause. The abnormal growth may possibly have been the mediate, but surely not the immediate, cause of death. That you found a part of the colon, and probably the caecum, too, ten inches wide is nothing abnormal if these intestines were filled with gases, as they would be apt to be, no matter what might be the cause of death, if the post-mortem examination was not made immediately after the horse died. Concerning the nature of the tumor nothing can be learned from your description except that it was not very malignant (cancerous).

**A Lame Horse.**—J. C., Canaan, N. H. If your horse has been lame for over two years the prospect of ever effecting a cure is very slim. According to your description it is hardly probable that the lameness is due to pumiced hoofs (chronic founder), for if such was the case the heels of the hoofs would hardly be contracted, and high calks and short toes would increase the lameness, while a bar-shoe and throwing the weight upon the heels instead of upon the toe would effect an improvement. If the lameness is caused by navicular disease it would be just the reverse, for any relief of the posterior part of the hoof, and consequently of the navicular bone and the flexor tendons, would effect an improvement, while putting on a bar-shoe, throwing the weight upon the heel-part of the hoof and upon the frog, and relieving the toe, would increase the lameness. Please consult article on spavin, ring-bone and navicular disease in **FARM AND FIRESIDE** of December 1, 1900. It is impossible to base a diagnosis upon your description.

**Wart—So-called Rattail.**—O. D., Jasper, N. Y. The wart in the flank of your horse if left alone will in time disappear; but if you do not wish to wait for that you may, since it is sessile, remove it in the following way: First procure an ounce of pure nitric acid, then fasten a piece of surgeon's sponge to a stick of convenient length; have your acid in a salt-mouthed vial, dip the sponge into the acid, and when nothing leaks off any more touch the wart with it for a few seconds, but take care not to bring the acid in contact with anything but the wart. Repeat this until the wart is burnt down to one half its former thickness and then stop and let it alone. If in about a week or two it should appear that the wart is not fully destroyed touch it again a few times with the acid, but do not overdo it.—As to the tail of your horse, if the hair drops out it will be a rattail, and you cannot do anything to prevent it, because wherever the roots of the hair have been destroyed nothing can reproduce them. It will be somewhat different if the hair breaks off, for then the process may be arrested by applications of antiseptics; for instance, a weak solution of liquid subacetate of lead, etc.

**Splints.**—M. W., Advance, Texas. The median small metacarpal, or splint, bone is connected with the large metacarpal, or shank, bone with fibrous ligaments. If the pressure or weight and concussion upon the head of this median metacarpal bone, or splint-bone, becomes too great or abnormal; for instance, if, as is the case in some horses, the median bone in the lower row of the carpal (fore knee) joint rests entirely upon the head of the splint-bone, or if the horse is a little bow-legged, the connecting fibrous ligament is apt to become strained, more or less inflammation sets in and exudates are produced. These exudates soon become solid and finally ossify. When this happens the splint is hard and finished. Splints may also be produced by interfering; if this is the case and the interfering is not stopped the splint is apt to grow larger and larger, which is not likely to happen if the splint is produced as first stated, for then the ossification of the exudates will make the connection between the large metacarpal and the small metacarpal bone very firm. If the horse is bow-legged the splint-bone may be somewhat relieved by either raising the outer wall of the hoof or by paring down the lower border of the median wall of the hoof just enough to relieve the median part of the joint. Splints, except those caused by interfering, will grow smaller, because contracting, when getting older, even if nothing is done to them; but if one wishes to do something a little gray mercurial ointment, as much as a small pea at a time, may be thoroughly rubbed in once a day. Only such splints as extend to the joint will cause lameness.

**Coughs and Has a Fetid Discharge from the Nose.**—W. M., Sprague, Wash. Either the diagnosis of the veterinarian of your State Agricultural College is correct or your horse suffers from chronic foreign-body pneumonia, which has produced the formation of an abscess (or abscesses) in the lungs and been brought about by pouring medicines into the trachea and the lungs when your mare had the attack of colic which kept her sick for a week. Usually such a foreign-body pneumonia has a fatal termination within about two weeks; still it may happen that the foreign substances given as medicine enter only a small portion of the lungs, and cause only one or a few comparatively small abscesses opening into a bronchus. In such a case it is not impossible that before any pus is formed the incipient abscess or abscesses will become separated (sequestered) by a formation of an encasing layer of connective tissue from the surrounding lung tissue, thereby preventing an infiltration of the latter and a spreading of the abscess-formation. Under such favorable conditions even a foreign-body pneumonia may become chronic and the animal may live and be in comparatively fair health for a year or more. In a case like yours the only way to ascertain the true condition of the animal and to get at the exact facts will be to have the patient examined by a competent veterinarian, because in such a case any diagnosis based only upon a more or less imperfect description and not upon a thorough physical examination cannot be anything but a mere guess or unreliable.

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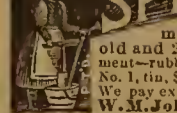
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Estab. '32 **SCALES** OF EVERY DESCRIPTION. Satisfaction guaranteed. Write for prices. **JESSE MARDEN**, 109 S. Charles St., Baltimore, Md.



THE GRANGE

Conducted by MRS. MARY E. LEE, New Plymouth, Ohio

GRATIFYING number of ambitious boys and girls have written me asking how to begin nature-study, what books to get, what subject to take up first, and various other questions of like nature.

The only satisfactory way to begin to study nature is to observe nature; note the common things about you; inquire into their secrets till they are no longer common, but objects of deepest interest.

One of the best aids is pencil and paper. Make note of your observations. Describe as accurately as possible some object, noting shape, size, color and any peculiar attributes it possesses.

By this time you will wonder if your observations tally with those of others. You may now get a book. If it is botany you are anxious to study get Gray's text-book or Bessey's.

I have recommended books of the highest authority. Many there are in story form—easy to read—but so far I have found none written with scientific acumen.

One thing I want to impress upon you. Do not let any book take the place of your own eyes. Be observant. Register your own observations and correct them in the light of the experience of the author.

I want you to see the beautiful, the esthetic side of nature. You can find in no land writers who got closer to nature's heart than Emerson, Thoreau and Burroughs.

clearly and tersely. You will then learn to appreciate the sentiment of others. Who knows but you some day will be able to thrill multitudes by the magic of your wonderful knowledge of nature through the medium of your pen.

Mrs. F. D. Saunders, the efficient lecturer of Michigan State Grange, makes the following plea. It applies to every state where the bulletins are used.

“Worthy Lecturer, as yet I have received returns from but sixty lecturers for the last quarter of 1900. Why should you shrink from duty in this respect? If you have been unable to use anything the bulletin contained it is no reason why you should not return the supplements, plainly stating what your condition is and tell me how I can help you.

The interest and usefulness of the grange may be multiplied many fold by the lecturers choosing from the membership persons to correspond with the officers of the experiment station. Select those who are particularly interested in the subject assigned, or who would be apt to give the matter the attention its importance demands.

In this way the grange will be familiar not only with its local surroundings, but it will be brought in close contact with the experiment station. Both results will be highly interesting and beneficial financially.

Now, don't make that time-worn excuse, “No one here cares for anything of this kind.” There is no neighborhood but what has some who do care. Some who, by a little intelligent direction and sympathetic help, would do wonderful things in the world of progress.

Some time ago we asked our readers concerning the labor problem in their locality. Quite a number have responded. All, with one exception, report a scarcity of labor. The lowest wages paid were fifteen dollars a month, the highest thirty-five dollars; board in both instances. Several reasons were given—drift of population to the city and to other localities, war and shiftlessness.

The better class of hands work a few years, get a team and begin operations for

themselves, first by renting, and afterward by buying, a small piece of land. The farmer who can secure one of this class during the few years he works out is indeed fortunate.

The concensus of opinion was that the farmers were paying as high a wage as their business would bear and as much as the laborer was worth.

It is a matter of serious import to the farmer how he can best conduct his business so as to feel the least the burden placed upon him. Here at Glen Lee we are getting our fields in permanent pasture and meadow as rapidly as possible. In some communities farmers are practising co-operation on a small scale.

One of the baneful effects of our need of labor will be the relaxation of our views concerning immigration. Immigrants who are honest, industrious, intelligent, who come to our country determined to become a part of its people and to abide by its laws, will make desirable citizens.

It has long been the theory of social economists that country life will build up character. Acting on that principle philanthropists are sending out small colonies of people from the city.

In some instances, where the families sent out were of the better class, the plan has met with success. With the criminal class it has been otherwise. It is true that segregation will dwarf some of the evil tendencies, but isolation is not creative.

One of the hopeful signs is the tendency of the better class of citizens to seek homes in the country. Telephones, electric cars, centralized schools, rural mail delivery and good roads are robbing the country of its terrors of isolation.

Only a few of our readers will be able to attend the meetings of the Department of Superintendence in Chicago, February 26-28, but their earnest good-will will follow these educators in their work.

John Trimble, Secretary of the National Grange, sends the following statement of new granges organized and reorganized from October 1, 1900, to December 31, 1900, both inclusive.

Table with 2 columns: State and Number of Granges. Includes Connecticut, Illinois, Iowa, Maine, Massachusetts, Michigan, New Hampshire, New York, Ohio, Vermont, and Total.

Advertisement for Sharples Tubular Cream Separators. Includes an image of the machine and text describing its features and benefits.

\$10.98 HAY RAKE OFFER. For \$10.98 we offer a strictly high grade Hay Rake the equal of rakes that retail at double the price.



Satisfactory, exactly as represented, and the equal of rakes that others sell at double the price, then pay the freight agent OUR SPECIAL OFFER PRICE, \$10.98 and freight charges, less \$1.00 if sent with order.

Advertisement for Scientific Grinding Mills. Includes an image of the mill and text describing its use for grinding feed.

Advertisement for Corn Sheller. Includes an image of the sheller and text describing its features and benefits.

Advertisement for Seed Sower. Includes an image of the sower and text describing its use for sowing seeds.

Advertisement for Kansas Corn and Grape Vines. Includes text about grape vines and corn products.



## IN HONOR OF WASHINGTON

By Ruth Virginia Sackett

**Y**OUNG woman who has the happy faculty of making her entertainments a delightful combination of amusement and instruction invited the Colonial Club of which she is a member to a supper party on the twenty-second of February.

The invitations, quaintly decorated with old-fashioned lads and lasses in water-colors of dainty tints, read that they were to come together to celebrate the birthday of "The Father of His Country." The wise little woman did not ask her invited guests to come in costume, nor did she or her brother, who received with her, welcome them as George and Martha, as they thought to do so would make the affair more of an exaggeration than in any way true to the period which they meant to represent.

The decorations were suggestive, and in many ways followed out charmingly the patriotic nature of the observance, the walls being lavishly decorated with starry flags arranged with taste and pleasing effect. In

answered by an additional fact to every inquiry. At the end of this most interesting game the young woman who had the good luck to guess the most characters described was presented with a statuette of George and Martha Washington.

There was still another game that I am sure is worth telling about. In the beginning one of the company left the room, and during his absence a member of Washington's cabinet was selected. Upon his return one of the players was supposed to impersonate the person upon whom they had fixed, all remarks being addressed to him. The guesser had to find out by what was said who it was, and the one whose remarks led to the right name had to take his or her turn to go out.

The latter part of the evening, spent in conversation and singing, wound up with the stately minuet, and the hostess knew that the club members fully appreciated her efforts to make the meeting a success by the pleasure expressed by all before leaving.



FIG. 1

a conspicuous place, side by side, hung pictures of General and Lady Washington, while the globes over the gas-jets were covered with red shades, thus making a soft, subdued light.

In the dining-room the table had many hints of the anniversary occasion; in the center a circle of low candlesticks held candles burning under tricolored shades. The guest-cards were miniature hatchets tied with yellow ribbons, the club colors. Beside every plate was a three-cornered hat of spun sugar filled with candied cherries, and the ices were in national colors, with two or more Jacqueminot roses beside every serving. The decorations and refreshments all showed the exquisite taste of the hostess.

Before leaving the table, and while standing, the "Star-Spangled Banner" was enthusiastically sung, after which the guests returned to the parlor, where several games in keeping with the occasion were introduced. In the first place, the hostess pinned on each individual present a card bearing an appropriate pen-sketch and a printed name of some man or woman prominent in Revolutionary times. She informed them that for one half hour they must talk of nothing else but the leading events in the lives of those persons. All entered heartily into the spirit of this diversion, as most of the participants were earnest students of the history of that time, and so interested did they all become that now and then a remark would be followed by a general discussion, so that the half hour lengthened into a much longer time.

Before the evening silhouettes of those present had been procured without giving any reason for doing so. After seating the company these were exhibited one at a time, and the person first guessing whose likeness was shown was handed a slip of paper, and



FIG. 2

the one having the most of these papers after all the pictures had been disposed of received a photograph of George Washington.

Another amusement greatly enjoyed was the guessing of "Colonial personages." Some one described a person of Revolutionary fame in a way which was difficult to guess, although carefully keeping strictly to the truth, yet giving the less prominent rather than the more important and well-known happenings in their hero's life. Whenever a name was spoken of which none were able to identify, each one asked a question, and were

### LINCOLN'S BIRTHDAY

The wise little school-teacher in District No. 2 of the small village of Memphis taught her pupils many lessons not found in the textbooks. Bright and cheery was the snug little brown school-house on the wintry evening of the twelfth of February. A faded and tattered American flag, which the local Grand Army of the Republic kindly loaned, draped one side of the room on this "red-letter day." A large star of red, white and blue was placed opposite. The platform was decorated with gay bunting and this motto, "Lincoln, the Defender of the Union," in bright red letters. Small flags were artistically arranged on the white window-curtains. A jar of thrifty red geraniums stood on the desk.

Six young girls happily acted as assistants; two wore simple white dresses, two blue, and, of course, the others chose red. Every member of the school on this festive evening wore a ribbon rosette of the loyal colors, the gift of "Miss Rose." It was a patriotic

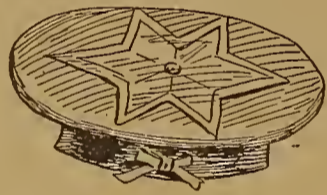


FIG. 3

American audience which fervently listened to the following entertainment:

- Song—"America."
- Recitation—"The Flower of Liberty."
- Recitation—"The Recessional."
- Song—"The Stars and Stripes Forever."
- Essay—"Lincoln the Patriot."
- Recitation—"Our Country."
- Essay—"Famous Pictures of Lincoln."
- Class Song—"The Battle Hymn of the Republic."
- Song—"We are Coming, Father Abraham, Three Hundred Thousand Strong."
- Recitation—"Dedication of Gettysburg Cemetery by Abraham Lincoln."
- Song—"Marching Through Georgia."
- Essay—"Lincoln, the Hero."
- Essay—"The Funeral."
- Recitation—"Ode for the Burial of Abraham Lincoln."
- Presentation of bust of Abraham Lincoln by the Trustees of the District.
- Song—"The Star-Spangled Banner."

The grand old hymn "America" was enthusiastically sung.

Rudyard Kipling's "Recessional" was appropriately selected:

"God of our fathers, be with us yet,  
Lest we forget! Lest we forget!"

"Lincoln the Patriot." Every loyal American will concede that this grand republic has three great heroes—Washington, Lincoln and Grant. Abraham Lincoln, one of the grandest figures in modern history, began life in a very humble station, as a farm-hand on the frontier of Illinois. He next acted as pilot on a flat-boat, became a popular clerk, a sturdy "rail-splitter," a soldier in the Black Hawk War, a storekeeper, a successful surveyor, faithful postmaster, an able lawyer, congressman, a firm, courageous president, and finally a wise commander-in-chief of the American armies.

Burdened with incompetent generals, harassed by the inaction of the army, and an impatient Congress and nation, Abraham Lincoln, with wisdom and patience, brought

the American people triumphantly through its greatest vicissitudes. From the bombardment of Fort Sumter, battle of Shiloh, Manassas, Antietam, Chancellorsville, the magnificent victory for the Northern troops at Gettysburg, the siege of Vicksburg, Chickamauga, the terrible battle of the Wilderness, Sherman's conquering march to the sea, to the fall of Richmond, was a four-years' battle, when victory for 'the Union' ended the mighty struggle and peace was declared. Thrice-glorious peace spread her mantle over the Blue and the Gray.

"Our Country," by John G. Whittier.

"Oh, land of lands! to thee we give  
Our love, our trust, our service free;  
To thee thy sons shall nobly live,  
And at thy need shall die for thee."

"Famous Pictures of Lincoln." In a portrait from an ambrotype made in 1858, when Lincoln was forty-nine, the strong, earnest features show the dominant force of his great character. Later photographs represent the president wearing a short beard; in several of them the great kindness of the noble nature is clearly portrayed. "Lincoln and his son Tad" is familiar and

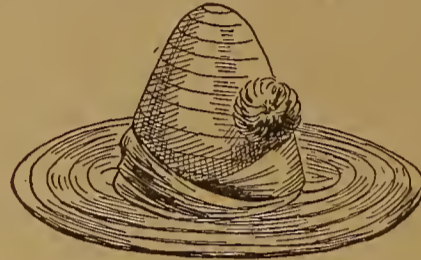


FIG. 4

attractive. Another, which is in the War Department collection, illustrates the intellectual and dignified statesman.

We who lived and hoped in those days can never forget the stirring songs of the Civil War.

"Dedication of Gettysburg Cemetery by Abraham Lincoln." Extract—"We cannot dedicate, we cannot consecrate, we cannot hallow this ground. The brave men, living and dead, who struggled here have consecrated it far above our power to add or to detract. The world will very little note nor long remember what we say here; but it can never forget what they did here. It is for us, the living, to be dedicated here to the unfinished work that they have thus far so nobly carried on. From these honored dead we take increased devotion to that cause for which they gave the last full measure of devotion. We here highly resolve that these dead shall not have died in vain; that the nation shall, under God, have a new birth of freedom, and that government of the people, by the people, for the people shall not perish from the earth."

"The hero Abraham Lincoln had two chief qualities—conscience and decision." "Once convinced of duty, nothing could turn him aside." "If this country cannot be saved without this principle of liberty," he said, "I would rather be assassinated on the spot than surrender it."

One of his noblest traits was earnest helpfulness; nothing was too trivial or insignificant to win his attention. When his work was finished the vile hand of the assassin shot down the great leader of the American Republic.

"The Funeral." In the early morning of the fifteenth of April, 1865, President Abraham Lincoln died from the effects of the bullet of his assassin, John Wilkes Booth. The sorrow and indignation which the sudden tragedy aroused was stupendous. Business was suspended, and on Sunday, throughout the broad North, from east to west, from the metropolis to the distant frontier, the beloved president and the grief of the nation were the subjects of the sermons. On Tuesday the dead president rested in state in the White House, while hundreds paid their last sorrowful tribute to the great hero. Memorial services were held in all the prominent Northern cities. Then began the funeral pageant from Washington, D. C., to Springfield, Illinois. Baltimore, New York and Chicago all held magnificent funeral ceremonies while the nation mourned. The journey occupied fifteen days. Never before was such a glorious tribute paid to mortal man.

In the words of Abraham Lincoln, "Let us renew our faith in God and go forward without fear and with manly hearts."

ADELE K. JOHNSON.

### MILLINERY

There is a wonderful lot of economy in the making of children's head-wear at home. Herewith are the descriptions of six styles for children from six to twelve years of age.

Fig. 1 is a six-quarter jockey-cap worn by both boys and girls; it can be made of the same material as the dress or suit, is very neat and very easy to make, and almost

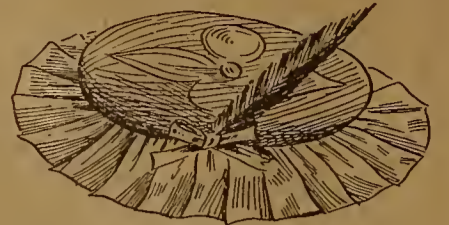


FIG. 5

always becoming. The outside band, which can be drawn down over the ears, may be lined with flannel of not too heavy a grade to cause it to be bunglesome. Measure the child's head, and cut a pattern to fit. Bind each of the six quarters with ribbon on a silk bias, and use two rows of machine-stitching in putting together. Use cardboard, and renew when it becomes bent or broken, for the "children must play."

Fig. 2 represents the Chinese Boxer, which is one of the clever designs of the season, and made principally of leather or stitched felt. It can be made on a buckram frame with velvet or cloth. Trim with a long silk tassel and machine-stitching.

Fig. 3 is a tam-o'-shanter, which almost everybody knows how to make. Plait a round piece of cloth into a stiff rim. Nicer ones are crocheted.

Fig. 4 is the Mexican hat, which is a leader. It is made of striped stitched felt, and is ornamented with a soft pompon and a twist of silk or velvet around the crown.

Fig. 5 is a little girl's hat with embroidered tam top and plaited brim. It can be made of felt or heavy cloth. If light material is used wire the brim.

Fig. 6 is a toque of fine broadcloth embroidered with braid and a silk tassel, with Shaker-flannel lining. E. HARRINGTON.

### TO DEVELOP THE CHEST

Many women who have a poor chest-development will be glad to know of a very simple breathing exercise and massage, recommended by a gymnasium director.

After removing all tight or cumbersome clothing, stand erect, head well back, chin in, and throw the arms out straight, directly in front of you, until the palms touch each other. Then begin to take in a long, full breath, at the same time parting the arms until they are back just as far as they will go; then bring them together again, letting out the breath as you do so. Repeat this twenty times night and morning and you will soon find that it will make breathing easier and will develop and strengthen the chest. At first you may not be able to do it twenty times successively, but you can gradually work up to this number.

The massage of the chest is done by the circular motion of three fingers pressed



FIG. 6

gently but firmly first in one spot, then in another, until the entire chest and throat have been gone over. A little cocoa-butter, cold cream or vaseline rubbed on the tips of the fingers will serve as a sort of skin food, cocoa-butter being the best. This massage should be done once or twice a day, five minutes at a time.

Time and patience combined with these two simple remedies will do wonders in developing the chest and filling out the thin places. E. L. H. R.

### "THE MAN WITH THE HOE"

May sometimes be an object of commiseration, but if the great army of sallow-complexioned women whose lives are burdens to them because of inactive livers and shattered nerves would regularly and systematically wield that instrument for at least an hour daily when the weather is seasonable, in flower or kitchen garden, assisting Dame Nature to accomplish her work, there would be less recourse to powder-box and medicine-bottle. 'Tis the best cosmetic and tonic in existence! Try it and be convinced. KATHARINE E. MEGEE.

## UNDERTONE

Saints and singers and sages—  
What are they all to me?  
A heart beat through the ages,  
A pulse that will always be.  
Worship and music and learning—  
Wisdom and song and prayer—  
I see in each of them burning  
The lamp that love set there.

Saints and singers and sages,  
Clear as a swinging bell,  
Canvas and lettered pages—  
This is the word they spell:  
"I kneel," "I sing," "I listen,"  
Each in a different tongue;  
"Love that was dead is risen!  
Love that was old is young!"

Saints and singers and sages—  
What are they all to me?  
For the rusty locks of the ages  
They furnish the golden key.  
The clasp of the hand that's human;  
The cry of the heart for its own;  
The love of the man for woman;  
The ache of the soul, alone!  
—Post Wheeler, in New York Press.

## OLD FRIENDS WITH NEW FACES

MOST enjoyable entertainment can be given in the form of a "Colonial reception" or a "Martha Washington tea-party." The hostess has large play for her skill in devising amusing features, and her guests will always be glad to learn there is something new under the sun.

The writer had the pleasure of assisting a club of young people in the arrangement of a reception of this kind. The invitations were written in "Old English" on old-fashioned, brown letter-paper, and a little verse accompanied each, to tell what character the guest was expected to represent.

A committee of three decided what parts were best suited to the various persons to be invited, and the verses were written accordingly. Though crude, they answered the purpose, and afforded much pleasure to both the writer and readers. To a dark-eyed maiden with inky tresses was given the part of Pocahontas; a tall, blue-eyed six-footer was George Washington; a Mr. and Mrs. Bradford were Governor and Mrs. Bradford, of Plymouth Colony, and some fifty parts were thus assigned. The following will give an idea of the form of the invitations:

(Invitation sent to a Mr. Hill.)  
Your presence is requested at a  
Colonial reception at the home of  
Mistress Mary Stewart,  
February ye twenty-second,  
at the earlie candle-light.

"If Daniel Webster was pretty big, we think a  
'Hill' no smaller;  
To be like him just get a wig, e'en though it makes  
you taller."

## Among other verses were:

"You're truthful, with his little hatchet;  
That story, have you one to match it?  
If not, please do your best to show  
Just how he struck each Georgian blow."

(To a Mr. Lawrence.)

"Though danger spread her ready snare,  
Your erring steps to trip,  
Remember that dead hero's prayer,  
And 'Don't give up the ship!'"

(To a Mr. Wallis.)

"You're Corn-Wallis, who surrendered at York-  
town;  
If you don't want to be him you can fork down  
A more pleasing part from ye olden time;  
We choose this name to help out the rhyme."

"You're the very best man for Brom-bones;  
Kill all your rivals with trombones;  
Put your hat on one side, then away with your  
bride,  
And call her your own in fierce storm-tones."

"Don't worry about your clothes;  
The fewer the better; you pose  
As 'Rip Van Winkle' with his dog;  
We'll furnish him, but not the grog."

(To a gentleman and his wife.)

"As the Frenchman who said, 'I'll get up and get  
To 'The Land of the Free,' sure's my name's  
Lafayette,"

You will come with your stars and your stripes;  
And the marchioness, too, in your good wife we  
view,  
Fairer lady we never have met."

"As Virginia Dare,  
The first heir  
To English parents born  
On Freedom's soil,  
You can prepare  
A costume rare,  
Or else yourself adorn,  
Just as you choose,  
(So you wear your shoes)  
And keep your hair in coil."

"You will come as Sir Walter Raleigh,  
Who his cloak for 'Queen Bess' did spoile;  
Bring a hot potato, fresh from the equator,  
And for a kerchief an old-fashioned doily."

Sheets of paper were folded to form the envelopes, which were sealed with red wax.

The guests were expected to appear in costumes appropriate to the characters designated in their invitations, and to familiarize themselves with those characters and act them to the best of their ability. So there was quite a helpful reviewing of history and of Irving and other writers, and much planning of costumes. By the time for the reception some of the distinguished guests had become so learned—being for the time quite versed in the stately phrases of bygone days—that they were scarcely recognized by common folk, if, indeed, by themselves.

The hostess, attired as Katrina Van Tassel, received in the spacious parlors, which were thronged with elegant lords and ladies arrayed in silks and laces and wearing powdered wigs. Surely the real Martha Washington would have felt at home in the midst of that brilliant assemblage.

The Marquis de Lafayette was there in French splendor, and announced that he had crossed the sea just for the pleasure of that evening.

Rip Van Winkle came with his dog, and so ragged was his costume that he feared it would not outlast the evening; so he soon withdrew to don some whole garments, which Mr. Van Tassel was kind enough to have in waiting for him.

Daniel Boone wore a suit made of skins, with foxtail trimmings, and his hunter's cap and rifle were witnesses to the fact that he had "cilled a bar."

Sir Walter Raleigh led the grand march with Queen Elizabeth, and at an opportune moment threw down his handsome cloak, that she might walk dry-shod over an imaginary mud-puddle. The exquisite grace with which this timely act of gallantry was performed made the hit of the evening.

Various amusements had been provided by the program committee. The company drew slips of paper, which were numbered, and when one's number was called he had to do what the paper said or provide a substitute. Some were required to sing a song, others to recite, debate, make impromptu speeches, poetry, etc. Considering that no time was given for preparation some of the responses made by the guests were very fine.

Later in the evening written questions were handed round; they referred to events in the lives of the persons supposed to be present. These questions were read in quick succession by those holding them. When the reader could not answer, a volunteer would. It was requested that every one give some answer, no matter how ridiculous. One question was, "In what war was Miles Standish, and were he and Dolly Varden ever engaged?" The clever answer was, "In the 'War of the Roses,' most likely, as he succeeded in conquering a Rose" (Miles' wife was named Rose); and "A Dolly would have made a suitable wife for Miles, because, like him, she would have been unable to 'speak for herself.'"

"If George Washington was the 'Father of His Country,' who was its mother?" happened to be handed to Martha Washington herself, and her ready answer was, disregarding grammar, "Me!"

For refreshments we would have been glad to have had all the good things an old-fashioned board would have had upon it. We did our best to get up a Colonial supper, reading Irving's "Legend of Sleepy Hollow" and other tales for suggestions.

Though coming in the costumes of "ye olden time," the merry folks brought with them regular twentieth-century appetites. And well they deserved a feast after the arduous task of powdering, lacing, beruffling and courtesying they had undergone.

After supper more games were indulged in, some songs were sung, and lastly the soul-stirring strains of "Auld Lang Syne" rang out while every hand took every other hand in the kindly, old-fashioned grasp of friendship—the one fashion that, though old, is ever new. VIRGINIA LEE COOKE.

## THE OTHER SIDE

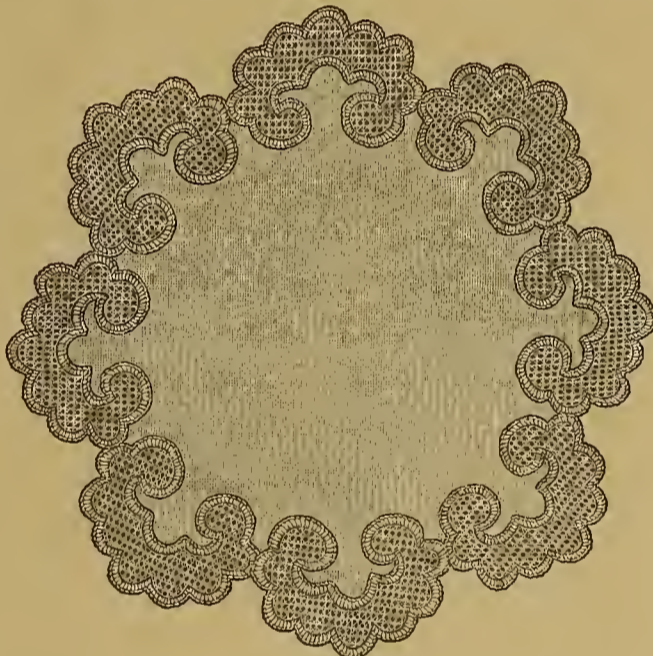
It is a fact that many wives and mothers go serenely about their daily duties of house-keeping and home-making, and never realize the deplorable state of drudgery to which

they have been reduced until their eyes are opened to their unhappy condition by reading the articles of condolence extended to them through the columns of some favorite household journal.

Before taking upon themselves the yoke of marriage the world lay before them, and they were free to enter into any one of the many avenues of employment now open to women. But willingly and gladly they elected to marry the husband of their choice, and enter into the duties and responsibilities of domestic life, realizing as they did that no compulsion had been used, but that of their own free will they had chosen the profession of housewifery rather than do battle with the world in a public career.

For the first few years, perhaps, all goes well with our professor of housewifery; and although she has many things to learn, and she is often perplexed, her domestic duties rest lightly upon her, and she is a happy wife, content to be the presiding genius in a congenial home. Then sooner or later the advent of little children bring additional cares, as well as additional joy, into the home, and the wife and mother, in her zeal to be and to do all that a wife and mother should for her home and family, very often overtaxes her strength; the strain tells upon her nervous system, and for the first time she begins to see life's seamy side.

And just at this time, when she most needs a little judicious counsel and encouragement of the kind that would brace up her flagging spirits, she picks up her household magazine and reads something like this: "The narrow environment and the never-ending drudgery of domestic life is filling the wards of our insane asylums with wives and mothers, broken down mentally and physically by their self-sacrificing and thankless toil." And after reading this, if she does not fully realize her hopeless condition, she has only to turn the page, and there she will



read of the "dull, dead monotony" and the "mental stagnation" and "spiritual starvation" of those mistaken souls who are bound in shallows by the narrow limitations of four square walls.

But come, let us reason together. In the first place, let me tell you that these dismal phrases are only the stock in trade of a certain class of writers who have nothing better to offer the public in the way of entertainment. And as a rule the average woman is simply amused or disgusted with such stuff and nonsense.

There is no career open to women that is higher, broader or more potent for good than that of home-maker. And there is no place or position where a woman's heart will find as much unalloyed happiness and real content as in a home-life that is sanctified by the love of husband and children. Think for a moment; what has the world to offer you that you would be willing to accept in exchange for the satisfying joy of a happy home, and the love and affection that is the true fulfillment of life?

It has been said that there must be some inherent taint of vulgarity about a person who considers housework a drudgery. All household labor, the cooking and dish-washing, the sweeping and dusting, and the making and mending, are but a means to the end of making and maintaining a home. And the crying need of humanity to-day is not for women in any public capacity, but for broad-minded and progressive women as home-makers. We need women of thought and action, who are capable of lifting the tasks of housekeeping and home-making above the plane of common drudgery and sanctifying them as a labor of love. We need women to dignify the profession of

housewifery, and lift it from the old rut of monotonous toil to its rightful place as a science and an art. And we need a great deal less of the discouraging and depressing sort of literature and more of the helpful and inspiring in our household journals. And, above all, we need to impress upon the mind of every home-maker that intellectual ability and a refined and cultured womanhood are never degraded by performing the sacred duties of home-making.

In every true home where the husband is the bread-winner and the wife the home-maker there must always be mutual toil and burden-bearing. The wife has her own cares and perplexities, and the husband has his burdens, which often are heavy and hard to bear. He must see to it that his family are comfortably housed and clothed and fed, and his children reared to useful and honorable manhood and womanhood. And then let us consider what it would mean if he should habitually bring to his fireside a gloomy and discontented face, because of the incessant toil which the support of his family imposes upon him.

It is the mutual burden-bearing and the love and sympathy that binds the hearts of husband and wife and parents and children together and creates the ideal home. And it is a good thing, a great thing and a blessed privilege for any woman to be the central figure upon which the happiness of such a home depends. MRS. CLARKE-HARDY.

## A LITTLE ABOUT "WASTING"

"I do not understand what is wrong with this cake!" I once heard a young girl exclaim, as she looked ruefully down at the heavy mass which she had just taken from the oven. "I so wanted it to be good! Why, I beat it until my arm ached, put in almost twice the butter that the receipt called for, and in spite of all my trouble it is not fit to eat!" And she looked very much as though she was inclined to cry.

"No wonder it is a failure!" laughed her mother, not unkindly. "My dear Katie, you must learn that it is quite possible to have too much of a good thing. But do not look so woe-begone. Throw away that poor, discouraged-looking cake and make another, being very careful to follow the directions. It is only very experienced cooks, my dear, who can venture to tamper with a receipt." And there is often more involved than spoiling your cake by an excess of riches or richness, girls; there is the waste of good material, even though the "cake" is not ruined. For instance, when directions tell you that a teaspoonful of washing-powder is all-sufficient to a dish-panful of water, why shake the box recklessly over the pan instead of taking the very slight trouble of providing yourself with a common teaspoon, thus saving perhaps a quarter of the powder, and consequently the price thereof.

There is a deal of truth in the old adage which tells us that if we take care of the pennies the dollars will take care of themselves; and there is a tremendous difference between "closeness" and "carefulness," the latter being quite as praiseworthy as the former is reprehensible. Be liberal, or even lavish where lavishness is an improvement. If you are making a rich cake, make it rich and put in only the best materials; but there is no virtue in throwing away a penny or a pennyworth because it is "only a penny." Many a little comfort or even little luxury might be added to many a little household were this fact more constantly borne in mind. And so if a teaspoonful of washing-powder or borax or baking-powder is called for, don't put in two just because "it won't do any harm." It certainly will not do any good, and is therefore a distinct waste. A. L. H.

## LINEN CENTERPIECE

This beautiful centerpiece is worked in pale green heavy floss upon firm linen. Lace or fish-net is basted under the scallops, and the pattern run before embroidering it, and the linen cut away.

## "DO YOU SUPPOSE?"

"Do you suppose," said Johnnie, as his little cousin laid away her largest, rosiest apple for a sick girl, "that God cares about such little things as we do? He is too busy taking care of the big folks to notice us much."

Winnie pointed to mama, who had just lifted baby from his crib. "Do you think mama is so busy with the big folks that she forgets the little ones? She thinks of baby first, 'cause he's the littlest. Surely God knows how to love as well as mother."

[HOUSEHOLD CONCLUDED ON PAGE 19]

## NIP AND TUCK—A FARM STORY

By Dora Read Goodale

### CHAPTER II.—CONTINUED



ON THE Monday after Thanksgiving Hobart took the horse and plow and turned several long, deep furrows through the wildest part of the den lots. Uncle Peter quizzed him about his "sorrel-bed" and his "hardhack-patch," but Hugh divined that these trenches were meant to serve as runways for something larger than woodchucks. The first snow of the season fell next day, and Hobart was in high spirits, dividing his time between mysterious consultations with Lamson and excursions into the den. By this time the whole family was openly curious.

On Wednesday Hugh went down to the woods to chop. It was a bright, still day, and the crisp sprinkling of snow, sparkling under the morning sun, seemed to become the landscape even better than its summer dress. Hugh chose a strip of large timber running along the edge of the pasture for the scene of operations. The trees, which were of various kinds, had a half-human character which instantly appealed to his fancy, and instead of making a clean sweep he determined to thin them out judiciously, leaving fine single specimens or little groups with space to develop symmetrically. He had had practice before in swinging an ax, and went to the task so vigorously that the chips flew in all directions, and he was soon glad to throw off his coat and push his cap to the back of his head. Now he selected a tall beech for his victim, its massive gray column crowned by a cloud of papery leaves; now it was a venerable maple, scarred with innumerable spout-holes and already dying at the top; and again a ring of white birches, which seemed to have joined hands like village girls in a game.

The shock and echo of his own blows, the screaming of birds, the rending groan of the trees as they fell, all stirred his blood, and he felt that this was a kind of sport quite as exciting as hunting and more sure of results. At the end of a couple of hours he sat down on a big trunk in which the life-blood was still (as it were) warm, and had just taken from his pocket a goodly supply of rye bread and cheese wrapped up in brown paper, when he caught sight of a figure making across the lots some distance off. The first glance told him that it was Hobart, walking head in the air, with something bulky over his shoulder. Hugh jumped up, waved his cap, and shouted "Hello!"

"Hello!" returned his brother, facing about and starting toward him at a swinging pace.

"What have you got?" called Hugh, eagerly; but Hobart made no answer until he was within a few yards, when he stopped, slid his burden from his back, and triumphantly held it up to view. It was a fine red fox, with bushy, black-tipped tail and black forelegs, wide-open eyes, and mouth snarling so warningly that it was hard to believe it dead.

"Oh, my eye, what a beauty! Hurrah for you! Kill him yourself!" exclaimed Hugh, quite carried away by this unlooked-for glory.

"You bet I did, old man!" returned Hobart, with more spirit than elegance.

By this time Hugh was examining the prize with the air of an expert. "See what white teeth he has!" he ejaculated. "That means a young one, I guess. I wonder how many of our chickens you've stolen, you rascal!"

"He won't steal any more, anyhow," said Hobart, who was visibly swelling with pride.

"Built like a greyhound, isn't he? No wonder he can run! You didn't shoot him?" asked Hugh.

"No, sir, I didn't; and what's more, I'm not going to tell you my secret. Why, there's millions in it, my boy," chuckled Hobart.

"You didn't trap him, I know," declared Hugh, who had been looking his paws over, "so you must have poisoned him. Oh, well, not very sportsmanlike—but never mind."

"Ever hear of angleworm-oil?" asked Hobart, lazily.

"No, I didn't. Is that what you use?"

"Ha, ha! Ever heard of bumblebees' honey?"

"Ye-es; but not of killing foxes with it."

"Smart boy! Neither did I. Now, don't bother your little brains, for you won't find out what did the business. Hi! Look there; did you ever see a handsomer brush, tell me that?"

"No; it beats Uncle Peter's foxskin rug hollow. You'll skin him and sell the pelt, I suppose?"

"You're mighty full of questions to-day, youngster," observed Hobart, laughing, and hoisting Reynard to his shoulder again. "Got some trees down, haven't you? Ready to come along home?"

"No; I guess I'll work awhile longer," said Hugh, glancing up at the sun. "It can't be more than eleven."

"All right. Good-by till dinner-time, then," and Hobart strode off.

Hugh walked back, picked up his ax, and fell to work with redoubled energy.

"Hobart has done well so far, and I'm glad of it," he said to himself, as if defying some secret thought. "I shouldn't wonder if he got lots of foxes, and coons, too, for the den country has always been a great place for game. Foxskins bring a dollar apiece, I believe, and if he can kill skunks he'll get about the same for those, I suppose. Goodness knows, I don't mean to grudge him his luck; it's only the notion that he's

smarter than I am that gives me a mean feeling now and then, and I'm going to get the better of that if I die for it."

Hobart meanwhile went straight to Dave Lamson's with his prize, and took a lesson then and there in the art of skinning, and then a lesson in curing the skin, branches which the old man understood like an Indian. This nimrod, who had outlived his own youthful strength, had taken a great fancy to Hobart, and imparted to him secrets which had been jealously guarded for forty years, feeling well repaid by the remarkable aptness and open admiration of his pupil. His hunting stories were retold with such trifling embellishments as time naturally brings about, what ought to have happened insensibly mingling with what did really happen; and Hobart, as he listened, was fired by visions of deer-stalking and bear-shooting from Maine to the Rockies as soon as his turn of probation was over. The uncertainty and excitement of the chase just suited his adventurous spirit, which soon grew restive in any humdrum pursuit, and all his am-

caught in a steel trap baited and set in a most artful and engaging manner. This victim, being unpoisoned, was cut up and fed to the hens, and it tickled the boys' sense of humor to see those unconscious ladies turning the tables on their arch-enemy. Several handsome black-and-white "varmints," as Uncle Peter called them, likewise paid the penalty of past excursions into the chicken-yard, while a nestful of flying-squirrels, surprised in a hollow tree, was sold alive to a grocery firm, and suggested a new field of enterprise.

Hunting and wood-chopping aside, our boys found their first winter on the farm surprisingly free from that dullness and monotony which their town friends had predicted. Those two unrivaled country sports, coasting and skating, prolonged many a fine evening and sent them to bed with their blood daucing under the double stimulus of rapid motion and congenial society. On days too stormy for work they read, "tinkered" the wagons, plagued poor Phebe, and vied with each other in gymnastic feats, having fitted up the big barn with a set of home-made apparatus. The Rockham Grange, a flourishing organization, welcomed them to its monthly meetings, where learned papers on rutabagas or Chester Whites were interspersed with more enlivening matter; but the crowning enjoyment of the winter lay in the singing rehearsals, in which most of the young people of the neighborhood took part. Both the Willises had good voices—Hobart's tenor, Hugh's baritone—and they were promptly invited to join the church choir, which met for practice at



"Triumphantly held it up to view"

bition was enlisted to make the business in hand a success. Scraping and rubbing were the next requirements, and in less than a week the skin was thoroughly tanned and as smooth and flexible as the finest chamois. Hobart had taken out the jaws and polished Master Fox's incisors with an old tooth-brush, after boiling them up on the kitchen stove, amid indignant protests from Phebe. These ornaments were now glued into place, and a pair of glass eyes added the finishing touch to his crafty countenance. But Hobart was not yet satisfied. He went to an old tailor who understood fur-sewing and had the skin handsomely mounted under his own supervision. Then he drove to Weatherby and placed it with the principal furniture-dealer, to be sold on commission. It was marked \$8, and sold within a week for a gentleman's library; not only that, but it attracted much attention, and two others were spoken for. One customer (a lady) preferred hers without teeth; the other demanded a flannel tongue and a particular shade and cut of cloth, and offered \$10 for it.

It was the first time that any scheme of Hobart's had "worked," and his elation was funny to see, for he crowed over all detractors like a young cockerel. The gun was now secured (a muzzle-loader, but good of its kind), and he blazed away early and late, presenting his first brace of birds to Uncle Peter for a jubilee dinner. Grouse, or partridges, as Northerners call them, were very plentiful that year, and he picked off five under the same oak-tree, where they came to eat acorns. Rabbits and even squirrels were not despised, and before Christmas three more foxes had succumbed to his pills, and a fourth was

different houses under the despotic leadership of the schoolmaster, Eliphail Morrow. The principal soprano was Laura Pray, an intellectual damsel who studied geometry while her mother did the family wash; bright-eyed Emily Crozier was chief alto, and Frank, one of her six brothers, second bass. These were not all, of course, but they lived near, their parents were old friends of Uncle Peter's, and with the teacher, who boarded at the Prays', and our two boys they made a jolly company. Hugh soon found that his pleasure was doubled if Emily sang from his hook, and used to manoeuvre for a seat next to her in the big sleigh, and exchange his bits of news for her playful but pointed comments. He hardly knew how it happened; there were other bright, pretty girls quite as ready to laugh and chatter with him, but he liked none of them half so well. Perhaps her great attraction lay in a fact which he early discovered; namely, that she had something to her. She was brave, generous and warm-hearted, and Hugh, young as he was, cared little for graces that were not rooted in character.

So the winter slipped by, and almost before they were ready for it the ice began to break up, the drifts disappeared, and the young farmers realized that the season of planting was at hand. Hugh had filled the shed by dint of determined work when heavy snows and natural indolence often combined to tempt him to linger indoors, and it was with solid satisfaction that he placed an additional hundred and fifty to his credit in the Wachusett bank. Though Hobart, too, had worked hard, his work was more of the nature of fun, being in the main just what he liked best to do, wherefore it seemed only fair that his brother

should have outstripped him in his receipts. Hugh, then, was ahead; and that he was not farther ahead was due entirely to Hobart's ingenuity in disposing of his wares. The dried skins as ordinarily sold would not have brought him a quarter of what he received.

Spring opened warm and wet. Hugh wanted a hoed crop on his orchard land, and decided to plant it to corn. Hobart also put a large piece in corn, and the crop flourished mightily under the July sun; but though a source of great pride to the owners, it was destined to cause them much tribulation of spirit before they saw the last of it.

### CHAPTER III.

#### SECRETS

"What would you wager," said Uncle Peter, "that I haven't learnt of something valuable on the farm that you boys will never find, though it's as plain as the nose on your face?"

"The nose on Hugh's face, you mean?" asked Hobart, so innocently that even the owner of that feature could not help laughing.

"Valuable? Valuable in what way, uncle?" he demanded, as soon as he could make his voice heard.

"Well, I won't say what way exactly, more than to tell ye it's something either one of ye'd be glad enough to get a-hold of. But there! You never will get a-hold of it unless I tell ye, and I'll wait to do that till after the property's lotted; it'll help to make things a bit even."

"Uncle's discovered a gold-mine! Hooray! Say, if one of us should discover it, too, may we work it up?" inquired Hobart.

"Yes, yes, my boy; work up all the gold-mines you happen to run across, and good luck to ye," chuckled his uncle.

"Well, I believe it's the black muck down in the swamp, and I've been thinking for some time that would make a splendid fertilizer. I mean to raise a big crop of celery there next year, and later I shall either clean out the swamp or flood it and start a cranberry-bog," announced Hobart, who could not be caught day or night without a brilliant idea in his head.

"Pooh! I don't believe it's anything common like that," began Hugh, when his brother cut him short with the exclamation, "Hi, there, company's coming!" and all hurried to the door as a loaded buckboard drew up with a flourish. Three boys—Frank, Leon and Charles Crozier—were out in a twinkling, and three muscular right arms were extended to the young girl, who sprang lightly down in the midst of her noisy body-guard.

"Good-morning! How are you all?" cried the cheerful young voice. "Charles wanted to consult Hobart about the hunt to-morrow night, and as I had an errand with Phebe, I thought I'd come, too."

"Glad enough to have a sight of your pretty face," responded Uncle Peter (and the boys agreed with him perfectly). "It takes some piece of business to bring you here nowadays, for you ain't neighborly as you used to be," he added, shaking her hand reprovingly.

"Well, you don't need me now, sir, with so much home talent to draw upon; and, besides, it takes most of my time to keep six brothers in order," returned Emily, glancing up at the manly group with playful solicitude.

"Let's sit outside," proposed Hugh, and they were soon clustered comfortably about the porch and steps, two or three of the lads preferring the crisp bank under the maple-tree. It was a perfect fall morning, all dazzling sunshine and spicy shade, with the last traces of hoar-frost just vanishing at the edge of the wood, and the trees on every side flaming like splendid bouquets, while at the foot of the meadows Fort River wound blue as a turquoise. For a few moments all sat hushed, drinking in with delight the beauty of the familiar but ever-new scene; then Uncle Peter broke the spell, and soon every tongue was clattering briskly, for neighbors are a pleasant institution unknown to cities, and our friends enjoyed their privilege to the full. The latest anthem must be practised extempore, the coming school year and its changes discussed, the list of blue ribbons at last week's cattle show commented on, and Hobart's prize cauliflower and mammoth pumpkins displayed. A basketful of grapes appeared, and likewise disappeared in an astonishingly short time, while the prospects for the hunting season drew an intermittent cross-fire from the two half-fledged sportsmen perched on the veranda rail.

"Really, I must go and find Phebe," exclaimed Emily at last, shaking back her two brown braids. "There's a heap of mending as big as a hay-cock at home, and I promised to do the pasting on Joe's windmill this forenoon."

"Hear about the corn-thief first," put in Hobart, not too much absorbed in the merits of rival dogs to take note of all that went on.

"Oh, have you caught him? Father said last week you were losing your corn, and wouldn't have enough left to chase a becoon through by the time the moon was full."

"Yes, we've caught the rascal at last," spoke up Hugh, making a praiseworthy effort to conquer his diffidence in the presence of the less warlike sex.

Cries of "Who was it?" "How did you catch him?" and "Did he fight?"

"No chance to fight. It was Bill Landry."

"What! That one-eyed Canadian with four bare-footed children? I pity them, anyway, poor things!"

"We'll let him off easy if you say so," declared Hugh, gallantly; and turning to the eager-faced group, he went on:

"You see it was this way, boys. We found that somebody was getting into the back lots and making off with the corn, a little here and a little there, so it wouldn't show much, but we missed it,

and made up our minds to stop that game before we were many days older. It was so dry you couldn't follow the tracks, so last Tuesday night we decided to watch, Hobe taking the lower piece and I the upper field, next to the orchard."

"What sort of a night was it?" interrupted Frank.

"Oh, kind of half dark, with the moon peeping out now and then between big black clouds. We cooled our beels till 'most midnight without seeing a thing, and then as I sat leaning against that queer pock-marked rock that just puts its nose out— Did you speak, uncle?"

"No," said Uncle Peter, with something between a cough and a chuckle.

"Well, I was sitting there half asleep, as I say, when I heard a noise that started me up wide-awake in a jiffy, and pretty soon I made out two figures in a one-horse cart making along next to the fence—"

"Did you have a gun?" asked Charles, thirsting for bloodshed.

"No; uncle wouldn't let us. I had a stick and my jack-knife, and that was all except some matches."

"What did you want of matches?" asked Emily, curiously.

"Well, I read about a Westerner once who caught hay-thieves that way, and he crept up behind and fired the load. The man discovered it just in time to skip, but the wagon was hurned, and the horses got their tails singed, I guess."

"Ob, Hugh! And you tried the same thing?" exclaimed Leon, with round eyes.

"No, I didn't, but something like it. By that time the moon had gone down, and it was as black as a tar-bucket, so I dodged from one shock to another till I got pretty close, and when their backs were turned (they were loading up as fast as they could) I slipped around, cut the traces, jumped on the horse and gave him a cut that sent us flying before you could say Jack Robinson. The two danced and swore and yelled after me in their French lingo, but I just tore to the barn, put the beast in the stable, locked everything up snug and went to bed. Hobart recognized the horse the minute he set eyes on it, and I should have called on Master Landry with a constable next day if he hadn't come around himself and begged off."

"Did they take the wagon home?" asked the boys, deeply interested.

"Pitched off the load and ran it home by hand. He'll have to pay up, of course, but we'll let him work it off, and won't be hard on him," said Hugh, nodding at Emily.

"Why don't you fellows get up a husking-bee, finish your corn-shucking, please your uncle, and have a jolly good time besides?" suggested Charles, who was stretched at full length on the turf, chewing grass like a meditative colt.

"Bright boy! That's a first-rate idea! We'll do it!" cried Hobart, slapping his knee; and the others agreed that it was "the very thing," for any device for turning work into a frolic was welcome in their busy lives.

"Room enough on the big barn floor for all the young folks in town, and there hasn't been a company there since I was a young spark myself," observed Uncle Peter, squaring his shoulders as

if the weight of forty odd years fell off as memory traveled back to the wholesome days of lang syne.

"We shall want to have the house all open and lit up, roaring big fires in the fireplaces and supper in the log kitchen. It's just the place!" cried Hobart, whose fancy had caught like tinder, as usual. "A row of Jack-o'-lanterns along the top of the fence, and asters and red leaves stuck up around, will be decoration enough; then we must have Dick Lamsou to play the fiddle for us, and wind up with a good old-fashioned Virginia reel. Pandowdy, doughnuts and apple pie, with sweet cider to drink, will be the proper refreshments, beh, uncle?" he went on. "Phebe will cut up about the cooking, of course, but we can call her the chaperon and they're always disagreeable."

"Oh, Phebe will like it. She'll be in her element," declared Emily. "No doubt she went to real husking-bees when she was a girl, and she won't mind the extra work because of the sentiment of the thing."

"I doubt if the Griffin ever was a girl; anyhow, there's no more sentiment in her than there is milk in a broom-handle," returned Hobart, with conviction.

"Indeed, you're mistaken, sir!" exclaimed Emily. "I've known her longer than you have, and she has a kind, warm heart of her own, in spite of her tongue."

"Well, we'll take your word for it, for you see the best side of everybody. But what do you mean by talking about real husking-bees, as if ours wasn't real?" demanded Hobart, with mischief in his hawk's eye.

"Why, I think all such modern revivals of good old customs are only a sort of make-believe, like the Christmas celebration at Bracebridge Hall," answered Emily, frankly.

"Well, so long as there's real corn and real young folks I don't know why there shouldn't be real husking-bees," declared Uncle Peter. "Only trouble is, there's nobody now can play the rousing old games—'It rains and it snows,' and 'Chasing the buffalo,' and 'Copenhagen.' Bless me, didn't we use to make the rafters ring with 'em!'"

"Our girls wouldn't dare play them for fear of Mrs. Grundy," said Hobart, slyly.

"You ought to write your invitations in rhyme. Something Yankeeified and not too flowery," remarked Emily.

"Write 'em yourself, Milly. You do poetry first-rate," advised Leon, promptly handing out a torn paper and a stump of a pencil; and in less than ten minutes the obliging muse had produced the following:

Good Farmer Clapp and his two boys  
Extend to you an invite  
To come and help them husk their corn,  
Let's say next Wednesday night.

The moon gets up 'fore seven,  
We'll set to work by then,  
But if it looks a sight like rain,  
Why, Thursday try again.

Amid the acclamations which greeted this effort Emily departed in search of Phebe, and soon after the meeting broke up.

[TO BE CONTINUED]

nity; "but isn't this something out of the ordinary?"

"I don't know," drawled the rancher; "ask Mary. It's my first venture in the matrimonial line. Say, parson, you'll have to hurry up and join us, for I've got to hurry back to feed the pigs."

The reverend gentleman took the hint, and proceeded over the 'phone: "James, do you promise to take this woman for your wedded wife, to love, cherish and protect until death do you part?" etc.

"Of course," responded the rancher, testily; "that's what I'm here for."

Deacon Philpotts cleared his throat, and "Um! um! extraordinary case!" buzzed over the 'phone. Mt. Olympus end could hear the minister propounding the same question to Mary, at the close of which she said, "I do."

"I now pronounce you man and wife," exclaimed the Deacon, as if glad the ceremony was concluded; then he proceeded with the customary congratulations, in the midst of which the inconsiderate telephone-girl said, "Time's up!" and shut them off.

Two weeks later the train stopped at Mt. Olympus and a tall, blonde woman of the peroxide order alighted and began to look about her inquiringly. Any one would have guessed her age from thirty to forty, though she might have passed for middle-age. Nevertheless there was still a far-away resemblance of what had once been youth, and perhaps good looks. Her dress was somewhat faded, and her hat was not strictly à la mode. In fact, the only new article of apparel was a black jersey waist, which made her thin figure look still more attenuated. In her hand she carried a black satchel, which, like herself, was somewhat the worse for wear.

"Are you looking for some one?" asked a loungeer, who was smitten with curiosity at the apparition.

"I am," was the confiding reply. "I am looking for my husband, Mr. Boone; are you acquainted with him?"

"What! Do you mean old Jim Boone?"

"I mean James Partington Boone, sir; in other words, the proprietor of Mt. Olympus Sanatorium," she exclaimed, scornfully, as she walked away.

"Whew, but she's a typical old maid!" cried the loungeer; and one of his companions mimicked her by saying, "Prunes and prisms."

But no one whom she thought could be her husband appeared, and the bride began to feel anxious. There was no four-in-hand, not even an ordinary buckboard, in sight. Across the street was a building which served as a post-office, grocery and dry-goods store, and as the door stood invitingly open, Mary entered to make inquiries.

"I am Mrs. Boone. I expected my husband to meet me, but he has evidently been detained," she said. "Can you direct me to his place?"

"Who do you mean? Old Jim Boone, the hermit?" queried the clerk.

"No!" she snapped. "I mean James Partington Boone, the proprietor of Mt. Olympus Sanatorium, if you please."

"Great Scott, ma'am, but old Jim is a slick 'un! Excuse me, ma'am; if you'll come with me I'll take you to Jim's—your husband's—place."

Mary's cheeks burned, and she began to be suspicious; but there was no alternative, so she accepted the offer. And thus it came about that instead of a four-in-hand the bride rode in a gig to her new home.

The man of merchandise was very talkative, and in a round-about way tried to quiz Mary; but she had very little to say as they drove up the canyon past acres of mesquit, sage-brush and chaparral.

At length they came to a barren, god-forsaken-looking place, with no signs of habitation except a tent, which was soiled and ragged, flapping discontentedly in the breeze.

The driver called "Whoa!" The woman's heart sank like lead and all her romantic notions of love and courtship fled at that moment.

"This 'is Jim's place," said the driver, eyeing her curiously. "Right smart, ain't it? Hello, there, Jim! can't you come out and welcome your wife, you lazy old sinner?"

Whereupon James Partington Boone appeared on the scene, his clothing unkempt, his gray hair matted, and presenting an altogether dilapidated appearance. The bride and groom inspected each other, and it was evident that both were disappointed.

"Deceiver!" cried Mary, tragically.

"Minx!" exclaimed James, mockingly. Instead of the sentimental meeting the woman had dreamed over for a fortnight, there they stood glaring at each other like two pugilists. The man of merchandise enjoyed it all hugely, but tactfully turned it off by saying:

"Well, I suppose you can get along without me, so I'll vamose."

At first Mary didn't know what to do, and she debated whether to go or stay. The inclination to return "to maw" was very strong, but the state of her purse was rather depleted, owing to the recent journeying. Then, too, it would never do to let the people of J— have an opportunity to gossip. So she stayed.

They commenced housekeeping on a rather limited scale, for when the bride took an inventory of their earthly possessions she found that they consisted solely of a hammock, some bedding, one chair, a few cooking-utensils, a small quantity of cracked dishes and a table.

The explanations of both sides were sparse. "Jim" wanted a housekeeper, or rather a "tent-keeper," and he had secured one by strategy, though she came twenty-four hours earlier than he had expected, owing to some misunderstanding.

He patched his side up after the fashion of man; she did likewise after the manner of woman.

"Why, Mary, I'll be blessed if I meant to de-

## A MARRIAGE BY TELEPHONE

By Harriet A. Lusk

I WROTE a letter to a farm journal of the Middle West expatiating on the beauties of his native state. She read it and sent a letter of appreciation to the author. He lived in California, she lived in Missouri; but in these days of overland express-trains it does not take long for a letter to wing its way to the coast, or for a reply to reach the sender if the recipient is a prompt correspondent. That was the beginning of the romance, but not the ending, by any means.

Other letters passed between the two, and in a surprisingly short time she received the following original epistle, which, for the convenience of the reader, is transcribed into readable English minus all the idiosyncrasies of orthography and punctuation, and yet preserving the full meaning of the writer:

MT. OLYMPUS, CAL.

DEAR MARY:—You say your life is a lonely one; so is mine. What do you say to our getting married? I am thirty-five years'old, as good-looking as the average man, and with your help can make you a nice home. I am proprietor-in-chief of the Mt. Olympus Sanatorium, and have one of the largest ranches in California, free of debt. Oranges and figs go to waste by the bushel all about me. I cannot get away at this season of the year, but if you say so, and will come on, we will be married here. As soon as I hear from you we will arrange about transportation. When shall I meet you with my four-in-hand? Have you any pictures of yourself? If so, I shall be glad to receive one, so that I may know you when I meet you at the station. And yet methinks I can see you even now, dear Mary. By the way, how old are you?

Faithfully,

JAMES PARTINGTON BOONE,  
Proprietor Mt. Olympus Sanatorium.

It is needless to say that Miss Mary read this ingenious love-letter with great interest; indeed, it was quite a novelty, as it was the second one she had received in her entire life, and the first one in fifteen years. She therefore lost no time in replying to the invitation, for the proposal quite coincided with her views, which had always bordered on the romantic.

It so happened that she did not have a recent picture to inclose, which was just as well, she was certain; but she happened to think of one she had had taken at nineteen—twelve years before—and she sent that without any explanation. The letter read as follows:

DEAR JAMES:—Surely Providence intended us for each other. I have felt it from the first. My heart went out to you when I read your letter in the paper, and I am ready to marry you any time you say. My mother objects to my going so far away until we are joined in holy bands of matrimony. I have an aunt in San Jose, whom I have never seen. It is my intention to pay her a visit soon, and why can we not be married by telephone after my arrival there? This method is one of the latest fads in the East, I am told, and as the ceremony is just as binding we can put it to the test. At any rate, it would be more proper than for me to go to Mt. Olympus as plain Miss Barnes.

Your loving  
MARY.

P. S.—I am twenty-five years old, but look much younger.

N. B.—I will pay the minister at San Jose.

When James Partington Boone received the foregoing he chuckled audibly, and then sat down at once to write to his fiancée. The day and hour for the marriage was set, and all the preliminaries arranged; after that there was nothing to do but to wait.

That night James smoked his pipe longer than usual, and he sat way into the night watching the smoke curl up from his meerschaum into fanciful pictures of Mary, just as any good lover should have done.

On the following Thursday Mt. Olympus called up San Jose at the hour agreed upon.

"Is that you, Mary?" said James.

"Yes," was the reply; "wait just a moment till I speak to Deacon Philpotts." At that a sepulchral voice, which could only emanate from the throat of a very pious clerical gentleman, said:

"Hello, Mr. Boone!"

"Hello yourself!" was the jocular response.

"You most ready at that end?"

"Yes," assented the minister, with gentle dig-

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ceive you," he said. "Just show me the letter and I'll explain it." Mary got the letter out of the little black satchel, which also held the marriage certificate.

"Why, of course I'm thirty-five years old; you can see I'm not sixteen," he argued. "And isn't this nature's sanatorium, where hundreds of people recuperate in tents every year? To be sure, I am the proprietor-in-chief of this ranch, for no one else is here. Yes, and it's all paid for, for it's government land, unless Uncle Sam has been dishonest. Sure, Mary, it's true that oranges and figs go to waste all about me; the well-to-do ranchers are throwing them away."

And so clause by clause he explained his letter, which Mary had not "interpreted aright." But the four-in-hand puzzled her most of all. If he had not deceived her, what did he mean?

"Oh, that's dead easy," said the wily benedict. "I don't very often wear neckties except on special occasions, and I got a four-in-hand for my wedding tie. See?" And thus by constant arguing he almost convinced her that she was wholly in the wrong. But sometimes the old adage ran through her mind:

"Change your name and not the letter,  
Change for worse instead of better."

For twelve months Mary scrubbed, washed dishes and assisted Jim about the "sanatorium;" in other words, she helped him work the small garden which she had insisted on having, though as a rule the heaviest end fell to her lot, for Jim was constitutionally tired. At the end of the year their accumulations were considerably augmented, for in addition to a crop of potatoes and onions Jim had been induced to lay a floor in the tent and Mary had a new baby, which was straightway christened James Partington Boone, Jr.

It would be pleasant to picture Jim as a model father, and to state that the infant prodigy was the means of a new epoch in the lives of the two people, but as this is a truthful narrative it will be necessary to adhere to facts.

After the baby's advent matters went from bad to worse. Mary was ailing most of the time, and Jim felt that the burdens of a husband and a father were too hard to bear.

One day when he was asleep in the hammock, a picture of placid content, Mary came to a decision that marriage was not altogether a blissful state, which was not to be wondered at, for she was actually hungry, and in consequence the child was not properly nourished.

A little while from the babe capped the climax, and she set her lips very firmly together as she gathered her few earthly possessions in a bundle. Then, without a glance in the direction of the sleeper, she took the child in her arms and left the bed and board of James Partington Boone forever.

On the way to town, as a strange coincidence would have it, the man of merchandise overtook her, and for the second time in a year she rode beside him in the very gig that carried her to "Jim's place." Her taciturnity was very noticeable, but the good-natured man had no idea that there was anything out of the ordinary wrong, attributing her silence to oddity, as he afterward said "It was enough to make any one queer to live with old Jim Boone."

Fortunately Mary had saved enough money from her vegetable sales to buy a ticket to Los Angeles, and she caught a train within two hours after leaving the ahode she had called home.

At Los Angeles she secured work in a hotel, and at the end of three months had saved enough money to take her home "to maw." Meantime she had decided upon a new ruse. It would never do to return as a grass-widow; she would don the weeds of a mourner. She knew that Jim was too indolent to even trouble himself as to her whereabouts, and she would be safe in J—.

A letter preceded her which stated that she was now a widow and her heart was so sore that life was unbearable in California. Would they welcome her home with her little James?

Of course they did, and she was considered a heroine in her black dress, crepe bonnet and long black veil. Indeed, the young women of J— almost envied "Poor, dear Mary," for had she not lived at the famous Mt. Olympus Sanatorium in California for nearly two years?

Mary's mother guessed more than she ever said; but the former vouchsafed no information, and her silence was interpreted as excessive grief. No one ever knew that on the tablets of Mary's heart was indelibly inscribed, "Ye gods, but marriage is a failure."

HOW TO SEND STAMPS BY MAIL

Directions for inclosing stamps in letters are published every little while. None the less many people continue to send stamps so that they arrive useless until they have been soaked free from the paper to which they have adhered; then, in order to use them, mucilage must be applied.

In sending any considerable number of stamps by mail they should be wrapped in oiled paper, with the gummed side of the stamps toward the oiled paper. When one has no oiled paper, and cannot get any, rub a piece of paper over the hair and then place the stamps upon that, gummed side toward the paper.

One or two stamps put loose in a letter or envelop are apt to be overlooked, and so lost. Many people stick one corner of a single stamp or two on the paper. This, while not wholly spoiling the stamp, makes the corner from which a bit must be torn in removing the stamp roll and prevent it being easily applied later on an envelop.

The best way to inclose a single stamp or two is to cut two parallel lines in a corner of the sheet of paper, thus, ||, just long enough to admit the stamp under the strap of paper thus made.—Gentlewoman.

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Box of galvanized steel and iron, 14 in. by 11 1/2 in. by 5 1/2 in. Beautifully finished in aluminum and red. Foot high carbon steel, set in vitrified tile base. Both will last a lifetime. Metal Signal Flag raises automatically when mail is deposited, making it unnecessary to visit box unless flag is up. Lock of finest master key type, giving the security and privacy of a locked P. O. box. Master key provided for carrier. Name of owner permanently stamped on attractive name plate, furnished without charge.

PRICE—Box and post complete, full freight prepaid east of the Missouri river and north of (and including) Tennessee and Virginia, \$8.

**SIGNAL MAIL BOX COMPANY, JOLIET, ILL.**

**SEND NO MONEY** if you live within 500 miles of Chicago (if farther send \$1.00) cut this ad. out and send to us and we will send you this **End Gate Broadcast Seeder** by freight C. O. D., subject to examination. You can examine it at your freight depot, and if found perfectly satisfactory, exactly as represented, and the equal of seeders that others sell at double the price, then pay the freight agent our **SPECIAL OFFER PRICE** - - **\$5.75** and freight charges (or less \$1.00 if sent with order). The seeder weighs about 100 pounds and the freight will average 65¢ for each 500 miles. **OUR SPECIAL \$5.75 PRICE** is based on the actual cost to manufacture, is less than dealers can buy in carload lots. This is the **HIGHEST GRADE END GATE BROADCAST SEEDER** made. Made for us under the very best material that money can buy. Will sow more evenly and more satisfactorily than any other seeder made. Will sow 100 acres of wheat per day, other seeds at proportionate rates. **VERY LATEST MODEL FOR 1901.** Embodies every improvement, every good point of every other broadcast seeder made with the defects of none. Write for free Agricultural Implement Catalogue. Address, **SEARS, ROEBUCK & CO., CHICAGO, ILL.**

**Perfect Butter**

—the kind which brings the highest price in any market can only be made from perfect milk. All bad odors and flavors of animal, feed or stable must be removed.

**THE PERFECTION Milk Cooler and Aerator**

will do it quickly, cheaply and perfectly. Made in various sizes from 1 to 200 cows. Send for prices and catalogue of Farm and dairy supplies. **L. R. Lewis, Mfr., Box 19, Cortland, N.Y.**

## We Sell Advance Fence

DIRECT TO FARMERS AT WHOLESALE.

This plan not only saves you the middle man's profit, but at the same time gives you the best all round farm fence that can be made from wire. Many heights to suit all farm purposes. Entirely interwoven. No loose ends to unravel. Send at once for circulars and special discounts.

**Advance Fence Co., 116 Old St., Peoria, Ill.**

**4 BUGGY WHEELS \$5.90**

HIGH GRADE SARVEN'S PATENT, tired and banded, height 3 ft. 4 in., 3 ft. 8 in., or 4 ft. Spokes 1 1/2 or 1 3/4 in. For any other sizes send for catalogue. Cut this ad. out and send to us. **SEND NO MONEY**, state size wheel wanted and we will send them by freight C. O. D., EXAMINE THEM at your freight depot and then if satisfactory pay freight agent \$5.90 and freight charges.

**SEARS, ROEBUCK & CO., Chicago.**





**DEMAND FOR MEN**

The world wants men—large-hearted, manly men;  
Men who shall join its chorus and prolong  
The psalm of labor, and the psalm of love.  
The times want scholars—scholars who shall  
shape  
The doubtful destinies of dubious years,  
And land the ark that bears our country's good  
Safe on some peaceful Ararat at last.  
The age wants heroes—heroes who shall dare  
To struggle in the solid ranks of truth;  
To clutch the monster error by the throat;  
To bear opinion to a loftier seat;  
To blot the era of oppression out,  
And lead a universal freedom in.  
And heaven wants souls—fresh and capacious  
souls;  
To taste its raptures, and expand, like flowers,  
Beneath the glory of its central sun.  
It wants fresh souls—not lean and shriveled ones;  
It wants fresh souls, my brother—give it thine.  
If thou indeed wilt be what scholars should;  
If thou wilt be a hero, and wilt strive  
To help thy fellow and exalt thyself,  
Thy feet at last shall stand on Jasper floors;  
Thy heart at last shall see a thousand hearts—  
Each single heart with myriad raptures filled—  
While thou shalt sit with princes and with kings,  
Rich in the jewel of a ransomed soul.

—J. G. Holland.

**THE TENDENCY TO HEALTH**

**T**RUST more than you have done in the tendency of all nature to health. Be not too anxious about your symptoms—those little things; think rather of great, enduring, eternal things—the purity of the air, the brightness of the sun, the sweetness of human love, the glory of human destiny. Furthermore, enlist your natural interests in this reform. Withdraw your attentions from the bad feelings by dwelling on the good ones. Make capital of your pleasures; taste your food with relish, or, if that is impossible, sense as keenly as you can the play of muscles when you walk. If it be so bad that you are bedridden, at least be wheeled into the warm sunshine, and thank God for it. Finally, if you are still weary and ill and sore oppressed; if life is indeed a bitterness to you, then, poor soul, bear it as best you may, and take what props you can get; but even then remember that you must communicate your bitterness as little as possible to others; remember that you can even then wring a happiness from your stern and chivalrous campaign of silence. Learn by heart what Browning has said:

Knowledge means  
Ever renewed assurance by defeat  
That victory is somehow still hard to reach;  
But love is victory, the prize itself.

—Daniel G. Mason, in Scribner's.

**GROWING OLD GRACEFULLY**

There is a charm about old age. No one can look upon the form of a person who is bending under the weight of years without at least having the feelings touched. There should be a feeling of veneration in the heart of every one for this class. In the presence of the aged there comes to us a desire to show our respect and reverence. Nothing is more impressive and beautiful than to see a person growing old gracefully, maintaining a lively disposition, free from a complaining spirit, sweet in disposition, kind and lovable, the added years increasing the charms of personality.

How beautiful life is when we look upon it in this way! Some people have a dread of old age. This should not be the case. The evening of life may be made as beautiful as the sunset, when the western horizon is made radiant with its declining rays. Let those whose increasing years betoken the approach of autumn and winter cultivate patience and submission to the inevitable law of nature. When dimness of vision and dullness of hearing and slowness of motion come along they do not bring any improvement in our condition to become fault-finding and peevish. Take it as an evidence of the "dawning of the morning that shall know no night." Let the aged dwell not on their past life with its activity and strength, and feel sad because of the change that has taken place, but look forward to the home beyond the river, where old age and the infirmities connected therewith are unknown. This outlook will afford constant joy. To grow old gracefully requires that the "grace of God shall abide in the heart, sweetening

every hour of life, and making each day of our stay here brighter because of this indwelling."

Many of our readers are on the shady side of life; but remember it need not be dark and dreary. It can be made bright and joyous. Determine to make this the case so far as you are concerned. You hold the key to the situation. The treasures are within your reach. Let the word of God dwell in you richly. Cultivate a devotional spirit, be much engaged in prayer, live as much in the sunshine as possible. Let thankfulness be highly developed in your heart and life, keep in touch with the young, believe in the future, keep your mind and hands both employed. Do not forget that this present state of existence is but the beginning of eternal life.

"The long night will soon be past,  
And the morning will come at last."

Keep your eye on the star that shines for all ages. Make melody in your heart. Commune with God. Keep all impatience quiet. Drive away all thoughts that will exercise a depressing influence. Look on the bright side of life. Be cheerful. Cheer others with the words of inspiration and hope.—Baltimore Methodist.

**GOD UNDERSTANDS**

A touching little incident is told of one of the Chinese babies, aged about six years, who was an inmate of a mission home. One evening after her evening prayer she got off her little knees and turned with a very disturbed air, saying, "Mrs. Field, do you think God understands Chinese?"

"Oh, yes," said Mrs. Field; "but why do you ask?"

"Because sometimes when I feel unhappy I like to pray to God in Chinese; of course, I always say my prayers at night in English, but sometimes I like to pray in my own language."

She was assured that her Heavenly Father understood all languages, and she could relieve her overburdened little heart in her own language in perfect safety.—Commonwealth.

**GIVING AND GETTING**

One of life's paradoxes is that he who gives gets. The way to success is by surrender. They who are most lavish of their own life are the ones into whose lap the world pours the richest treasures. Thousands of hearts are starving to-day simply because they are stingy. They have withheld themselves, and in the withholding have grown lean and poor. The fat and prosperous soul is the one that is liberal with itself, which offers itself as food and strength to every needy man and cause. There is no secret of greatness like the secret of giving—constant and unsparing giving of self's best.—Forward.

**COMING TO LOVE PEOPLE**

We come to love people through what we do for them rather than through what they do for us. God has gone far beyond our thanking in what he has done for us, but we take his gifts as a matter of course until he can induce us to do something for him.

This is why he throws on us the burden of working where he might have wrought, and giving where he might have given. It is for our sakes, that we thereby may learn to love the Doer and Giver of all good.

And so a wise mother, instead of doing everything for her child and herself, teaches it love by setting it to do for her.—Sunday-School Times.

**WHAT HE PUT ON**

A Hindu trader in Kherwara market once asked Pema, "What medicine do you put on your face to make it shine so?"

Pema answered, "I don't put anything on."

"No; but what do you put on?"

"Nothing. I don't put anything on."

"Yes, you do. All you Christians do. I have seen it in Agra, and I have seen it in Ahmedabad and Surat, and I've seen it in Bombay."

Pema laughed, and his happy face shone the more as he said, "Yes, I'll tell you the medicine; it is happiness of heart."—Christian Conservator.

**Ten Thousand Dollars Reward**

**H**ERE is a list of our cash prize winners up to and including our Dec. 20th contests: Arthur W. Madden, Phillipsburg, N. J., \$250 a year for life; Mrs. Martha Brown, Mohawk, Ontario, Canada, \$250 a year for life; Mrs. Martha Brown, Mohawk, Ontario, Canada, \$75 in addition to the annuity for life; Mrs. J. C. Poncher, Unstead, Suwanee Co., Florida, \$500; George C. Cone, Jr., Una, Davidson Co., Tenn., \$200; J. McLaughlin, Mauchaug, Mass., \$105; Sicily Taylor, 538 Cherry St., Kansas City, Mo., \$95; J. C. Gersinger, 648 Minnesota St., San Francisco, Cal., \$90; H. L. Rowley, Matthews Run, Pa., \$90; John O'Brien, Irona, N. Y., \$80; Dr. W. Willhorte, Corbin, Kansas, \$75; R. J. Hicks, Aspen, Colorado, \$50; Martha Gregory, 3 Park St., Norwalk, Conn., \$50; Miss Annie Griggs, 1402 West 4th St., Wilmington, Delaware, \$50; M. Pasz, 77 Colecott St., Shelbyville, Ind., \$50; Mrs. E. C. Reynolds, 408 E. 7th St., Muscatine, Iowa, \$50; Mrs. L. R. Cole, Sedgwick, Me., \$50; Mrs. F. M. Lane, Ewing, Neb., \$50; Mrs. J. Just, Enfield, N. H., \$50; F. Randolph, Burlington, N. J., \$50; Samuel Wray, 521 E. Erie Ave., Loraine, Ohio, \$50; L. Lorch, 163 St. Louis St., Dallas, Tex., \$50; Mrs. J. B. Sherwood, Colon, St. Joseph Co., Mich., \$25; M. Schwartz, Chesterfield, Conn., \$25; H. R. Seleck, Elkton, Huron Co., Mich., \$12.50; Mrs. A. H. Grainger, Independence, Aulauga Co., Ala., \$12.50; C. H. Lamp-

kin, Box 241, Leavenworth, Kan., \$5. We will send you an additional list of prize winners when you answer this advertisement. The winners in our Feb. 1st contest will be published in the March edition of all the leading publications.

We will give \$10,000 in cash to any one if they can prove that we have not paid the cash prizes to the parties whose names we advertise, or if they can prove that we ever knew or heard of these parties before they answered our advertisement. We offer this large cash reward in order to convince the public that they will always receive honest treatment from us.

Now if you were so foolish as to overlook all of our previous advertisements we certainly would advise you not to overlook this one, for we believe you will never have another chance like it the longest day you live.

We want you to read this advertisement over very carefully, and if you think you are dealing with honorable business men answer it, for it does not cost you one cent. One of these contests is, we believe, a very difficult one; in fact, we are quite sure it cannot be solved in a minute or an hour, but it is going to tax your brains and take considerable of your time. It took the President of this Company over six hours to arrange it. However, do not let that deter you from trying; for it can be solved, and just think of the reward! We will give \$2000 in cash for the correct answer.

**I**N THE block square to the left we have printed twenty jumbled letters which we want you to try and arrange. These jumbled letters, when properly arranged, will spell the names of three cities in the world. One city being located in China, one in the United States and the other in North America. In making the names of these three cities the letters can only be used as many times as they appear and no letter can be used which does not appear. When you have found the three correct names you will have used every letter in the twenty as many times as it appears. Realizing that this puzzle is without a doubt the most difficult one ever advertised, we will give a special prize worth \$1 to those who cannot find the three correct names, but find only one. Remember that if you find only one correct name you will have the same chance of winning one of the big cash prizes mentioned in the second half of this advertisement. If you send in your answer at once we are quite sure you will not be disappointed. Some one is going to win the money and it may be you. Anyway, it does not cost you any money to try, and if you are a successful contestant there is only one easy condition which will take about one hour of your time, and which we will write you about as soon as your answer is received. We would advise you to get out your geography, atlas or encyclopaedia and look for the names of these three cities at once. The correct names are only known to the President of

A	N	C	A	C
N	V	O	T	I
T	C	T	N	A
O	I	R	O	N

this Company and his private secretary. The envelope containing the names of these three cities has been sealed and deposited with a leading safe deposit company in Boston, and will not be opened until the day after the contest closes. This, we believe, is the only honest way of conducting a contest, as every one will have an equal chance. In the event of more than one correct answer being received we will request five parties who have answered this advertisement to act as a committee to award the cash pro rata. They will be invited to come to Boston at our expense, and be our guests while in this city. We take this original method of ours of selecting a committee to show our good faith, as we want to treat all in the fairest manner possible. The committee will be selected solely upon their merits from among the contestants ten days before the contest closes, and in addition to their expenses being paid we will allow each one \$5 a day for their time. You may be asked but not compelled to act as one of the committee. In addition to the \$2000 in cash we will give you an opportunity to win

**First Prize \$2000 in Cash Free**

**Second Prize \$1000 in Cash Free**

**Third Prize \$350 Cash Free**

**Fourth Prize \$200 Cash Free**

**FIFTY-EIGHT CASH PRIZES OF \$50 EACH FREE**

**Without Labor or Expense**

**W**E ARE going to give to some one who has entered this contest, and who complies with our easy conditions, an opportunity to win and secure from us, without any labor or expense on their part, Two Thousand Dollars in cash. We mean just what we say. If you are the lucky one, and we hope you are, for some one will get it, we will send the winner Two Thousand Dollars in cash. Now, in addition to the cash prize already mentioned, we are going to give away a Second Prize of \$1000, a Third Prize of \$350, a Fourth Prize of \$200 and Fifty-eight Cash Prizes of \$50 each in the following manner, and that is we will give to one party residing in each State and Territory of the United States and in each Province of the Dominion of Canada a Cash Prize of \$50 each. You have an opportunity to win and secure from us, without any labor or one cent of expense on your part, any of the above-mentioned cash prizes. There is positively no deception, and as for trickery how can there be when the committee is selected from the contestants, and you yourself might be chosen to decide who the winners are? Do not throw this advertisement aside and say, "Oh, pshaw! I have answered puzzles before and got nothing for it;" for if you do you will regret it as long as you live; since one will win the money and it may be you—one can tell. Anyway, it does not cost you one cent, as we do not want any money from you. Are the prizes worth trying for? We think they are, for \$2000 in cash will be the means of building you

either a pretty little home or establish you in a comfortable paying business.

Do you know of any firm in the world who have made such liberal offers in such a fair manner? Of course you have no assurance except our word that we are financially able to carry out the promises we make. If you have the least doubt we would be pleased to have you get a special report from either Bradstreet's or Dun's Agencies, our bankers in Boston, or, better still, write to the prize winners whose names we publish above. We are a responsible company with a paid-up capital of \$100,000, composed of well-known business men, giving employment to upwards of 160 people, and our sole object in giving away such large cash prizes (something never heard of before) is to advertise our business; and we will leave no stone unturned to accomplish, by honest methods only, our object. Every one entering this contest will receive honest treatment, and you will have the same chance whether you live in California, Mexico, Canada or Massachusetts; distance positively makes no difference.

When you have carefully arranged the Jumbled Letters into the three names which you think are right, send your answer to us at once and inclose a stamp for reply. In a few days you will receive an answer telling you whether you are a successful contestant. We will also send you full particulars regarding our other contest whereby you can win for one moment's thought a large cash prize without labor or expense on your part. Do not delay, as this advertisement may not appear in this publication again. Address us this way:

**THE BERNARD-RICHARDS CO. (Ltd.)**  
252 Wharf and Broad Streets, Boston, Mass.

**TERRIFF'S PERFECT WASHER**

**SENT ON TRIAL** at whole sale price. If not satisfactory money will be refunded. **SOLD** under a **POSITIVE GUARANTEE** to wash as clean as can be done on the washboard, even to the wrist and neckband of the most soiled shirt, and with far greater ease. Does not wear out the clothes. Economizes soap, labor and time. **AGENTS WANTED.** Exclusive territory given. Big money made. For terms and prices Address,

Portland Mfg. Co. Box 27, Portland, Mich.

**Elastic Stockings**

**Our Patent Seamless Heel.**

**QUICKLY CURE** Leg Swellings  
Varicose Veins  
Ulcers, Weak and Swollen Joints  
Inflamed and Rheumatic Conditions.

We weave them to your measure of **NEW ELASTIC** (made by us); sell and ship direct from the loom to you at manufacturers' prices.

*Our Stockings have this peculiarity:*  
**They Fit and Wear Well!**

Send for catalog, with directions for self-measuring, prices, etc.

**CURTIS & SPINDELL CO.**  
2 Alley Block - Lynn, Mass.

**\$17.95 STEEL RIDING CULTIVATOR.**  
\$17.95 FOR A REGULAR \$30.00 CULTIVATOR.



**SEND NO MONEY** if you live in Ohio, Indiana, Kentucky, Illinois, Iowa or Missouri (if many other states send \$1.00), cut this ad. out and send to us and we will send you this **STEEL FRAME RIDING CULTIVATOR** direct from the factory in central Ohio by freight C. O. D., subject to examination. You can examine it at your freight depot, and if found perfectly satisfactory, exactly as represented, the equal of any riding cultivator made, regardless of price, such a cultivator as others sell at \$30.00 and upwards, then pay the freight agent our **\$17.95 SPECIAL OFFER PRICE** and freight charges. The cultivator weighs 350 pounds, and the freight will average about \$2.00 for each 600 miles. We offer this 6-shovel, all steel riding cultivator under our binding guarantee as the highest grade cultivator made, a steel riding cultivator embodying all the very latest improvements, all the good points of every other high grade cultivator, with the defects of none. This cultivator is made by one of the best makers in this country, from the best material that money can buy, only skilled mechanics are employed. It is a cultivator that will outwear two of the ordinary cheap machines. The six shovels are made of soft center steel that outwears all others and scours in any soil. The frames are made from the highest grade angle steel, extra strong, and will withstand any kind of usage. It is the easiest handling, most simple, strongest and most durable riding cultivator made.

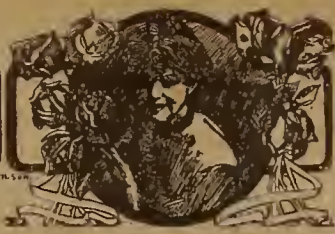
**AT \$17.95** singletree and six shovels. For a complete line of cultivators at prices ranging from 93 cents up, **WRITE FOR FREE CULTIVATOR CATALOGUE.** Address,

**SEARS, ROEBUCK & CO., CHICAGO, ILL.**

**THE YANKEE FIRE-KINDLER** Builds 100 Fires with 3¢ of OIL. No kindling. Wa- ranted 3 years. Greatest Seller for Agents ever invented. Sample with- turns prepaid, 15¢. **YANKEE KINDLER CO., BLOCK 47, OLNBY, ILL.**



SMILES



A MODEL YOUNG WIFE

A young wife bought an oyster-plant and set it out to grow. Quoth she, "Twill please my husband, who does love oysters so!

"So I showed paw the map where he could see Lake Soup peerior izzent in the United States, but Lake Michigan is, and paw looked at it a seckond or two and then he didn't say ennything, but commenet to snoke hard on his sigar and look like if he was thinking very sollum thots."

HER GRIEVANCE

Distressed by her cook's frequent complaints of toothache a mistress of the upper West Side decided a few days ago that it was time to recommend heroic remedies.

PA'S LESSON IN GEOGRAPHY

WHEN me and Little albert got Home from school a few nites ago I thot I would find out if paw uew all about Everything or not. So after he got his sigar lit and we were all Sittin' out on the porch and the pupp had Captun Brinker's wife's cat up a tree I says:

"Paw." "What?" he ast. "Do you know what's the Largest lake in the United States?" I told him. "Of corse," he anserd. 'Lake Soup peerior.'

"That's whare you're rong, paw," I says. "Paw took his sigar out from between his teeth and made some rings of smoke. Then he says: 'George, I've been livin' in this country Several years longer than You, and I haven't been keepin' my eyes shut nor my Ears plugged, neither. Lake Soup peerior is the biggest lake in the United States, and it makes ue feel sad to see you sitting there Grinning like a poleasuum that got cot asleep ou His beat becoz you think you no more Than your fawther.'

"Well, just the same," I told him, 'Lake Michigan's the biggest one in the United States. I lerned that when the teacher gave us Our joggerly lesson to-day.'

"There's whare I say Chicago people make a mistake," paw says. 'It's all rite to Stick up for your town when you can do it sensible, But they ain't enny use tryin' uot to notus Facts when they don't make you feel proud. You mite as well try to keep a baby with a Pin jabbin' it in the side from squallin' by tellin' it some of its ansestors were ofufers in the revolusheuerie War as to think you can ever twist a Fact so it won't fly rite back in shapc the miuute you let Go. So I say it's rong for Chicago people to try to make out that Lake Michigan's the biggest just becoz they can see it from the back end of Their flats.'

"Well," I told him, 'it's so, ennyway. They ain't anuther lake in the United States as big as Lake Michigan, becoz our teacher told us about it.'

"George," paw says, looking like if his hart was tutchted, 'I've tried all my life to Be a good, reasonable pairunt to you, so when you Grew up to be a man and come some time to where the Grass was greu and the Leaves russeld softly abuv the mound, and all was still and peaceful, you would look down with luv in your brest and think of the Dear old days when you could hear the glad, onnust ring of my voice around the House, and blamed if I'm a-goin' to Be contradicted by my own children rite to my face when I no I'm rite. Here I go working away and saving my munny to give you a Home and send you to school, and then you Come back at nite and Tell me I dou't no as Mutch as some teacher that hast to keep at it a Hole munt to ern what I make in a Week. It would of have been a sad day for me if I would of Ever talked to my fawther that Way, and I ain't going to put up with Enny more of it.'

"But, paw," maw says, 'don't be too impaishunt with the Poor boy. You wouldn't want him to think sumthing rong was rite becoz you happened to Get mistakened about it, would you? Mcbby he mite be correct about it, after all.'

"That's it!" paw told her. 'Go on incurridging him to Think his Fawther duzzent no a map from a sheet of Sticky fly-paper. Of corse, I couldn't hardly expect you to Think I mite no as mutch about some things as a Leveu-year-old boy, but I'm not Going to let enny of the rest of the Famby tell me so rite out in plain words. And how can you sit There, maw, and say the boy mite be rite about this Thing? How could he be rite? They are no "mite" about it.'

"Then he had to lite his sigar again, and I whispered in maw's ear when he didn't see me, and she says:

"Well, I kind of think he is rite, ennyway. I tell you what, if you're rong you don't get a new fall overcoat and I'll have my sealskin made over.'

"Oh, shaw," paw anserd, 'what's the use trying to Enliten people that won't lissen to reason? That's one thing I like about me. Whenever I'm not sure of ennything I'm willing to Lerninsted of sticking to what I sed first. I'm always redy to hear the other side, and I don't want enny more of this Contradicktun or enny more of these "mebbies" or "mites" when I no, what I'm talking about, neither!'

"Hannah, there is no use putting it off any longer. There is Dr. Jones over there. He promises to extract teeth without pain. Why don't you see him and have it over with?"

Hannah scarcely relished the suggestion, but after another uight's suffering sorrowfully announced, "Deed, I kin jess stan' dis no longah," and asked permission to go to Dr. Jones. Her mistress rejoiced in the thought that the agony was at last to be ended. When, an hour later, however, she beheld Hannah march down the areaway steps, the whites of her eyes flashing and her head bobbing with a vehemence born of righteous fury, visions not only of lost molars, but of a departing cook, came before her. She entered with the dignity of an insulted African queen.

"Anything wrong, Hannah? Didn't he get the right teeth?" ventured the mistress. "Got de right teef all right, an' a dallah an' a half besides. Yas'm, he did so."

"Well, did he hurt you?" "No'm, can't say he did." "Then what's the matter?" "Well, Miss 'Liza, didn't you tell me dat man ober dere 'stracted teef without payin'?"

NICE FOR THE TORTOISE

"Now, Mary," said a mistress to her newly imported maid, "in the kitchen there is a pet tortoise, and I hope you will be very kind to it. Do you know a tortoise when you see one?" "No, mum; shure and what loike is it?" After having explained it to her the girl went and brought it forth. "Is that it, mum?" "Yes."

FINDING OUT

The girl was very rich, and the young mau was poor but honest. She liked him, but that was all, and he knew it. One night he had been a little more tender than usual.

"You are very rich," he ventured. "Yes," she replied, frankly; "I am worth one million two hundred and fifty thousand dollars."

GETTING WISE

Chicagoan—"Are you New-Yorkers still asking, 'Where did Croker get it?'" New-Yorker—"Well, hardly! We're now asking, 'How can we stop him from getting more of it?'"

EXCUSED, OF COURSE

The scarlet-fever epidemic is bad in the village. Cautious teacher—"Why did you stay away from school yesterday?" Mabel—"Please, miss, muvver's sick."

DIVERGING

Wife—"You mustn't worry so much, dear; it will make you ill." Husband—"Not ill, but cross-eyed." Wife—"Cross-eyed?" Husband—"Yes; trying to look at my income and my expenses at the same time."

NERVE

Charming miss (to gentleman who is about to share seat with her)—"I beg pardon, sir, but this seat is engaged." Gentleman (with admiring glance)—"Indeed! Then it is certainly entitled to my envy."

FREE TRIAL

CLERGYMEN TESTIFY TO THE MARVELOUS CURATIVE POWERS OF SWANSON'S "5-DROPS."

"This time a year ago I was obliged to use crutches on account of Rheumatism, but now, thank God and the regular constant use of 5-DROPS, I am active and able to attend to all the duties of my sacred calling. Had my trouble not been chronic before I began to use your wonderful remedy I feel perfectly satisfied that my cure would have been almost immediate."

"For twenty long years my wife suffered untold tortures from Sciatic Rheumatism and Neuralgia, and I thank God for the day that your heaven-sent remedy fell into my hands, for it completely cured her. I am a minister of the gospel, and when I find any who suffer I cannot help but recommend '5-DROPS,' for I know it will do more than you claim for it."

The above testimonials are certainly proof that it is worth while to secure at once a trial bottle of this marvelous remedy. It is absolutely free. All you have to do is to write for it.



5 DROPS CURES

Rheumatism, La Grippe, Neuralgia, Indigestion, Dyspepsia, Backache, Asthma, Bronchitis, Catarrh, Sleeplessness, Nervousness, Nervous and Neuralgic Headaches, Heart Weakness, Toothache, Earache, Croup, Malaria, Nervous Prostration, Hay Fever, Creeping Numbness and all Blood Diseases. It does not matter whether you are suffering from Inflammatory, Nervous, Muscular or Articular Rheumatism; whether your whole system is full of uric acid; whether every part of your body is aching and every joint is out of shape, "5-DROPS" if used as directed in the necessary quantity will positively give instant relief and effect a permanent cure.

50,000 BOTTLES To Be Given Away.

A trial bottle will be mailed free of charge to every reader of this paper who is a sufferer from any of the above-named diseases. All that we ask you in return is that you take it as directed, and you will find it all that we claim. It costs you nothing, and you need feel under no obligations whatever in securing the trial treatment which we offer. Here is an opportunity to test a remedy without any expense to you. Certainly nothing can be fairer than this.

NOTE—Large size bottles (300 doses) will be sent prepaid to any address for \$1.00. If it is not obtainable in your town, order from us direct. AGENTS WANTED—Write for Terms and Territory. SWANSON RHEUMATIC CURE CO., - - 312 to 362 Swanson Block, CHICAGO, ILL.

Advertisement for Corn Queen planter. Includes text: "TAKE NO CHANCES with so important a matter as your Corn Crop. Plant it with a machine that will Drop Every Hill Right to the Spot accurately, evenly and is easy on both man and team. THIS AVERY PLANTER having a more complete equipment than any other will do this nearly a lifetime and never bother. DROP—either hill drop, drill drop, foot drop, hand drop or drill only. WHEELS—open, flat or concave. RUNNERS—Sled or celebrated Avery Reversed. Write for our handsome Free Catalogue "H." Avery Mfg. Co., 532 Iowa St., Peoria, Ill.

Advertisement for Park's Star Flower. Includes text: "Free! 1st, A glorious new flower just found in the Argentine wilds. 2nd, Tropical but hardy, easily grown, grand for beds or pots. 3rd, Eight ft. high; luxuriant leaves, 2 1/2 ft. long, 1 1/2 ft. broad. 4th, Glowing masses of starry bloom, in huge clusters, all season. 5th, Richly and deliciously lily-scented; open day and night. See eng. 10 Cents gets a pkt. of the seeds, Park's Floral Magazine, monthly, on trial a year, and Park's Novelty Catalogue, illustrated, offering this and a host of other good things in flowers, also pkt. of New Giant Fragrant Nasturtiums. 3 trial subs. 25 cts. See all your friends. This ad. will not appear again. Catalog and Nasturtiums free. GEO. W. PARK, B. 91, Libonia, Pa. 350,000 floral homes are made brighter and happier every month by the visits of Park's Magazine. It's the favorite. Try it. You'll surely like it. Reg. price 25 cts. a year. Sample free. Above is a special trial offer.

Advertisement for Quaker Oats. Includes text: "The Quaker Oats. Famous the World Over. The hardest and healthiest oat in existence. Straw is strong, stiff and free from rust. The grain is the heaviest known. Bright as a silver dollar. Wonderful yielder, producing from 100 to 200 bushels per acre. Send your name and address on a postal card and I will send you a sample, together with my beautiful and instructive seed and plant book, free, if you write to-day and mention this paper. H. W. BUCKBEE, Rockford Seed Farms, P. O. Box 838 Rockford, Ill.

Advertisement for \$7.95 Corn Planter. Includes text: "\$7.95 CORN PLANTER SEND NO MONEY If you live within 700 miles of Chicago, (if further send \$1.00), cut this ad, out and send to us, and we will send you this 1-HORSE CORN PLANTER by freight C. O. D. subject to examination. You can examine it at your freight depot, and if found perfectly satisfactory, exactly as represented, the highest grade corn planter on the market, the equal of planters that others sell at double the price, then pay the freight agent OUR SPECIAL OFFER PRICE \$7.95 and freight charges. The planter weighs about 150 pounds, and the freight direct from the factory in central Ohio, will average about \$1.00 for each 500 miles. OUR SPECIAL PRICE OF \$7.95 for planter, or \$9.95 complete with fertilizer attachment, exactly as illustrated, barely covers the cost to manufacture, with but our one small profit added, less than denters can buy in carload lots. THIS IS ONE OF THE HIGHEST GRADE 1-HORSE CORN PLANTERS MADE. Contains every improvement, every good feature of every corn planter made, with the defects of none. Made by one of the best makers in this country from the very best of material. In simplicity, durability, perfect working it has no equal. It is especially adapted to hilly country, where 2-horse planters cannot be used. Suitable for all kinds of land and under all conditions. Is complete in itself. Marks out and opens the furrow, drops the seed and covers it all with one operation. Strongly built, will stand rough handling, cannot get out of order. Built for us under contract; the best 1-horse corn planter made. AT \$9.95 we furnish it with the best fertilizer attachment made; simple, no delicate gears or springs, hopper contains no machinery, consequently there are no slides or wheels to clog or gum. Almost any kind of fertilizer can be drilled successfully, be it wet or dry. For big 2-horse corn planters at \$16.95 and \$23.85 write for Corn Planter Catalogue. SEARS, ROEBUCK & CO., CHICAGO Address.

Advertisement for Seed Due Bill Free. Includes text: "SEED DUE BILL FREE To get new customers to test my Seeds, I will mail my 1901 catalogue, filled with more Bargains than ever and a 10c Due Bill good for 10c worth of Seeds for trial absolutely free. All the Best Seeds, Bulbs, Plants, Roses, Farm Seeds, Potatoes and many Novelties at lowest prices. Ginseng, the great money making plant. Giant Prize Tomatoes, 2 to the foot, Pan American Oats, sent out free to farmers, and two Free Passes to Pan American Exposition, Buffalo, N. Y. are offered. \$2,635.00 in cash premiums. Don't give your order until you see this new catalogue. You'll be surprised at my bargain offers. Send posts for catalogue to-day. It is FREE to all. Tell your friends to send too. F. B. MILLS, Box 46, Roschill, Onondaga Co., N. Y.

Advertisement for Steel Wheels for Farm Wagons. Includes text: "STEEL WHEELS for your FARM WAGONS any size wanted, any width of tire. Hubs to fit any axle. No blacksmith's bills to pay. No tires to reset. Fit your old wagon with low steel wheels with wide tires at low price. Our catalogue tells you how to do it. Address EMPIRE MFG. CO., Quincy, Ill.

Advertisement for Ornamental Fence. Includes text: "ORNAMENTAL FENCE 25 designs, all steel. Handsome, durable.—Cheaper than a wood fence. Special inducements to church and cemeteries. Catalogue free. KOKOMO FENCE MACHINE CO., 427 North St., Kokomo, Indiana. SHOPPING DONE IN NEW YORK Save money. Send for particulars. Miss Phinny, 147 East 116 St., N. Y. FREE FOR MONEY MAKING INVESTMENTS In West Tennessee farms write Louis G. Brooks, Jackson, Tenn. 25 PACKAGES OF FLOWER SEEDS 25c. by mail. A. E. HOLADAY, Stratton A, New Haven, Conn.

# Paint Without Oil

Remarkable Discovery That Cuts Down the Cost of Paint Seventy-Five Per Cent

A Free Trial Package Is Mailed To Every One Who Writes

A. L. Rice, a prominent manufacturer of Adams, N. Y., has discovered a process of making a new kind of paint without the use of oil. He calls it



THE DISCOVERER OF POWDERPAINT

Powderpaint. It comes to the farmer a dry powder and all that is required is cold water to make a paint weather-proof, fire-proof and as durable as oil paint. It adheres to any surface, wood, stone, brick and plaster, spreads and looks like oil paint and costs about one fourth what the farmer has heretofore had to pay for paint.

Write to Mr. A. L. Rice, J. North St., Adams, N. Y., and he will send you a free trial of his new discovery, also color-card and full information showing how you can save a good many dollars. Write to-day.



## Giant Pansies, Sweet Peas, Mayflower.

Did you ever see 7 straight or circular rows of Pansies or Sweet Peas side by side, each a different color? If so, you know that the effect is charming. Did you ever see Child's Giant Pansies and Sweet Peas, marvels in beauty and true to color? If not, you have not seen the best. As a Trial Offer we will mail for 30c., 14 Pkts. Giant Pansies and Sw't Peas as follows:

Pansy Giant—Snow White	Sweet Pea—Navy Blue.
“ “ Coal Black.	“ “ Black Knight
“ “ Cardinal.	“ “ Gol'n Yellow
“ “ Yellow.	“ “ Orange Pink.
“ “ Azure Blue.	“ “ Cream.
“ “ Violet.	“ “ Scarlet.
“ “ Striped.	“ “ Pure White.

One Packet of each, THE MAYFLOWER Magazine until 1902, (devoted to Flowers and Gardening, Elegant Cuts and Colored plates), and our Great Catalogue, all for 30c. Our Catalogue for 1901.—New Century Edition—Greatest Book of Flower and Vegetable Seeds, Bulbs, Plants and New Fruits, 152 pages, 500 illustrations, 12 colored plates, will be mailed free to any who anticipate purchasing. Scores of Great Novelities. John Lewis Childs, Floral Park, N. Y.

## In Every Home there is daily need of PURE POWDERED BORAX

in kitchen, laundry, bathroom, nursery, sick room; and in toilet uses for hair, hands, eyes, teeth and all beauty purposes. Our new free book, "BORAX IN THE HOME," tells more about its uses than you may know. Sent on request to our Chicago office. You can buy our pure Powdered Borax of your druggist or grocer. See that our name is on every box. That insures you getting the pure kind.

PACIFIC COAST BORAX CO., San Francisco. Chicago. New York.

### Banner Root Cutters.

Unequaled for cutting all kinds of roots and vegetables for feeding live stock. Take out all dirt. Cut fine. 5 sizes, hand and power. Catalog free.

O. E. THOMPSON & SONS, Ypsilanti, Mich. Largest Root Cutter Makers in the world.

### Ford's SURE Crop Yel. Dent Corn

to ripen every year. to produce big crops. to ripen the earliest. to please all who plant it.

Full description in our FREE CATALOGUE of Seeds, Potatoes, Bulbs, Plants and Trees.

FORD SEED CO. Box E, Ravenna, O.

### THE ABC of BEE CULTURE.

The only encyclopedia on bees. 466 pages and 406 illustrations. Every phase of the subject fully treated by experts. Price \$1.20. Circulars and sample copy of our semi-monthly magazine, *Gleanings in Bee Culture*, free if you mention this paper.

THE A. I. ROOT COMPANY, Medina, O.

If afflicted with weak eyes, use Thompson's Eye Water

## HOUSEHOLD

[CONTINUED FROM PAGE 13]

### THE MESSAGE

My baby—who has passed to fuller life—  
Waked in the April sunshine one fair morn;  
A bird was calling, clearer than a fife,  
The note upon a wandering breeze was borne.  
It caught the fancy of the ten-months child,  
Who knew no other language than sweet cries;  
She answered it with note as clear and wild,  
And listened with such gladness in her eyes,  
I since have wondered if the message came,  
Brought by a bird of that most lovely clime,  
Shut out from mortals' gaze by gates of flame—  
She seemed so much of heaven from that time.  
—Elizabeth Cherry Haire.

### A NOVEL DRAPERY

THIS idea is not original with me, but I saw one of the draperies once and have often thought of describing it for the benefit of others. The material needed is stout linen thread and some ears of yellow and red corn. Remove the corn carefully from the cob and soak in tepid water until it can be easily pierced with a needle.

Measure the thread the length desired for the drape and string the corn on it, first one red, then yellow. Make as many strings as you need, which will depend on the width of the doorway where it is to be used, then hang up and allow to dry.

After the corn has become dry varnish and it is ready to hang. The strings are attached to a pole and draped back on each side. The work is easily done and is really very beautiful, resembling the costly bead drapes that are so fashionable at the present time.

Different colored corn may be used, as white and blue, and in different combinations. Grille-work for the top may also be made, and adds to the looks. If one cares to go to a little more expense a few strings of beads may be bought and mixed with the corn; and furthermore, if one has the patience, a set design may be carried out and would have a very Oriental effect. I should think that a woman living on a farm, with plenty of time, might make these drapes and sell them to her city friends, thus adding a pretty penny to her pin-money, as the time would be most of the expense.

Pumpkin-seeds may also be used in this way, but they must first be colored, and I think the corn is the prettiest and has more of the look of beads. New ideas will suggest themselves as you work, and the business may become quite a profitable one.

IRMA B. MATTHEWS.

### HE WOULDN'T GIVE UP

Nantucket boys, inured to hardship and poverty, possess splendid traits of courage and perseverance. They all know how to swim, and it is well they do, for in heavy surf during the fishing season boats are as liable to land bottom side up as any way.

The story is told of one of these boys—a good swimmer—who shipped to San Francisco by the way of Cape Horn. When a thousand miles off the coast of Chili the ship encountered a blow and the lad was swept into the sea. He went into the water with his heavy boots and oilskin clothes on. Three hours later, when the ship picked him up, he was entirely naked. When asked what he was trying to do he replied, "I stripped off my clothes to swim ashore; I wasn't going to give up."

FRANCES BENNETT CALLAWAY.

### SOME THINGS WORTH KNOWING

Water for laying dust is more effective if salt is added.  
Do not pat or smooth down mashed potatoes, as it makes them heavy.  
Mix ginger-cookies with cold coffee instead of water; it will improve them.  
Save your cold tea for the vinegar-barrel. It soures easily and gives color and flavor.  
Turnips are improved by adding one or two tablespoonfuls of sugar when cooking.  
Rub damp salt on cups and saucers to remove discolorations caused by tea and careless washing.

A good way to test toilet soap is to touch it to the tongue, and if this smarters the soap will irritate the baby's skin.  
Chopped orange-peels added to mince-meat gives the meat a pleasant flavor. Two fresh peels will season about eight quarts of mince-meat.

Mrs. J. R. MACKINTOSH.

## WALTHAM WATCHES

It is not alone the value of the jewels that makes a first-class watch---it is the brains that have planned its construction. It is mechanical skill and knowledge that have made Waltham Watches the best in the world.

"The Perfected American Watch", an illustrated book of interesting information about watches, will be sent free upon request.  
American Waltham Watch Company, Waltham, Mass.



## 200,000 PACKAGES TO BE DELIVERED FREE BY MAIL

Dr. Whitehall, the noted rheumatism specialist of South Bend, Ind., writes that he will send a package of his remedies to every reader of FARM AND FIRESIDE who is suffering with rheumatism. The medicine will be sent to actual sufferers free of any charge. This liberal offer, coming from so famous a physician as Dr. Whitehall, will be received with joy by thousands of men and women who are sufferers from this very prevalent disease.

There is no other remedy in the world that will so quickly cure rheumatism.  
A representative who called on Dr. Whitehall the other day was shown a large file case full of letters from people who had been cured. Following are a few among the hundreds of these letters. Space will not permit publishing more of them in this article:  
Elder J. C. Shelton, Brooksville, Blount Co., Ala., wrote: "My wife had rheumatism spells every two or three weeks for 45 years. She suffered awful agony at times until I feared she would go insane. I used your remedy during an attack until she sweated freely, when she got easy of all pain. She continued to take the medicine, and, strange to say, she had no more spells. I will gladly recommend the remedy to every one." Mrs. M. S. Hoadley, of Sedalia, Mo., quoted in her own words: "It is wonderful what your medicine has done for me. I was on crutches Friday night when I received it. I took one dose, and on Monday put away the crutches and used a cane. Since Thursday I have not used either, and am doing my own work. I had rheumatism off and on for 40 years." Mr. A. May, aged 63, Butler, Ind., said he took seven different kinds of medicine without relief. Dr. Whitehall's Rheumatism Cure enabled him to throw away his crutches after taking the medicine three days. Mrs. Dunaway, 437 E. 13th St., Anderson, Ind., wrote that her son was a terrible sufferer for over nine years, and was not able to wear shoes at all. He was cured as by magic. Mrs. Dunaway wrote that she got the medicine for her son upon the recommendation of Captain Coburn of the police department of Anderson, who was himself cured by the remedy. Evan P. Jones, North Vernon, Ind., wrote that he was cured of rheumatism of the severest kind, and said at the conclusion of his long letter to Dr. Whitehall: "You may refer any one to me." DR. WHITEHALL, South Bend, Ind.

### \$25 to \$40 Earned Weekly by MEN and WOMEN

at home or traveling. Let us start you. Our agents made over \$50,000 last two months supplying the enormous demand for the Famous **Robinson Bath Cabinet** 75,000 sold this year by agents. \$100.00 Reward for any case of Rheumatism that cannot be relieved or cured. \$500 in gold will be given to our best agents. \$2.00 book free to all FARM AND FIRESIDE readers. Write for it.

ROBINSON THERMAL BATH CO., 669 Jefferson St., Toledo, O.

### Best Truss Made WORN NIGHT AND DAY

Absolute comfort, holds steadily. Radical Cure. Latest patented improvements. Illustrated catalogue sent sealed.

G. V. HOUSE MFG. CO., 744 Broadway, N. Y.

## A BABY'S OUTFIT

FOR PARTICULARS ADDRESS Krystie's, BOX 477, SPRINGFIELD, OHIO

## 78-TOOTH HARROW FOR \$5.48

\$5.48 for a 8-foot, 190-pound, 78-tooth, 2-horse Harrow. \$7.12 for a 16½-foot, 240-pound, 102-tooth, 3-horse Harrow. \$9.92 for a 26-foot, 360-pound, 150-tooth, 4-horse Harrow. Guaranteed the best genuine Best highest grade, heavy seasoned oak harrow made. AT THESE SPECIAL PRICES we ship direct from the factory in Southern Wisconsin or Minneapolis, the point nearest you. The freight will amount to nothing compared to the money saved.



SEND NO MONEY if you live within 500 miles of Chicago or Minneapolis (if farther send \$1.00) cut this ad. out and send to us, state whether 78, 102 or 150-tooth harrow, we will send the harrow to you by freight C. O. D., subject to examination. You can examine it at your freight depot, and if found perfectly satisfactory and exactly as represented, the equal of harrows that others sell at double the price, then pay the freight agent our special price and freight charges.

THESE ARE THE HIGHEST GRADE WOOD HARROWS made, made for us under contract by one of the best makers in this country. The bars are made from 2½-inch high grade selected seasoned oak, eveners are made from 2¼-inch best seasoned oak; teeth are one-half inch square, highest grade drag steel with dagger point or square center point; sections are independent and connected with eveners by eye bolts, so as to secure a perfect hitch, allowing the sections flexibility and vibration without permitting the teeth to drag or follow each other. The two-horse harrow consists of center section and two next sections adjoining. The four-horse consists of all the sections illustrated. AT OUR SPECIAL \$5.48, \$7.12 and \$9.92 PRICES we furnish draw bars to match the number of sections, complete with connections. Our special prices are based on the actual cost of material and labor, less than dealers can buy in carload lots. For astonishingly low prices on all kinds of wood, steel and disc harrows, write for Harrow Catalogue. SEARS, ROEBUCK & CO., CHICAGO, ILL.

## REBUILT MACHINERY

and SUPPLIES at Bargain Prices. Largest Machinery Depot on earth. We buy buildings and plants; among others we bought the World's Fair, the Omaha Exposition, the Chicago Post Office, and other structures. We rebuild machinery of all kinds, and sell with binding guarantees. Boilers from \$25 up; Engines from \$35 up; Steam Pumps from \$15 up. etc. We carry complete stock of General Supplies, such as BELTING, SHAFTING, HANGERS, PULLEYS, IRON PIPE, IRON ROOFING, HARDWARE, VALVES & FITTINGS, PLUMBING MATERIAL, etc. Will send free, our 250-page Catalogue No. 82. Constantly buying entire stocks at Sheriff's and Receivers' sales. Chicago House Wrecking Co., W. 35th & Iron Sts., Chicago, Ill.

## The Farmer or his Wife

will find pleasure in the planting and satisfaction in the results, if they use

## VICK'S SEEDS

They are superior to all others sold. Send for handsome New Garden and Floral Guide for 1901. A treasure house of information on everything for the garden: seeds, plants, bulbs, small fruits, roses, etc. Free. JAS. VICK'S SONS, Box No. 1525, Rochester, N. Y.

## 60 Days' Free Trial.

ORGANS & PIANOS of fine tone, elegant finish and thorough workmanship, shipped on 20, 30 or 60 days' free trial at one-half dealer's prices. We ask not one cent in advance. Pianos from \$122.75 upwards. Organs from \$21.75 up. A \$300 Kenwood Piano \$150. A \$75 Organ \$29.50 All instruments fully guaranteed and shipped direct at lowest wholesale prices, C. O. D., without one cent in advance. IN NO EVENT place your order for any musical instrument without writing for large illustrated catalogue containing valuable hints to the music buyer.

Sent Free. CASH BUYERS' UNION, (Inc.) 160 W. Van Buren St., B-7, CHICAGO, ILL.

## A SIX YEAR OLD CHILD HAS

Made 4 lbs. Butter in 65 seconds, from sweet cream, with our new Ball Bearing Air Draft Butter Separator. Agents wanted. Exclusive Territory. \$10 a day. Sent on 10 days' trial. Pat. Oct. 23, 1900. Address AIR-DRAFT SEPARATOR CO., White Hall, Ill.

FARM SELECTIONS

HOW SAM SUCCEEDED

**D**URING one of the sessions of the convention at Fairmont, Minnesota, the discussion turned on the value of the dairy-school, when back in the audience a gentleman arose and told this story: "I was out West working in a creamery and earning three hundred dollars a year. With a wife and several children I had a hard time to get along. I was doing the best I could, but the butter did not always bring market price, and I became somewhat discouraged. Finally I borrowed fifty dollars and went to the Minnesota dairy-school. There I learned everything within reach, and when I went out again I found a place at sixty dollars a month, and whatever prosperity I have since had is due to the month that I spent at the dairy-school."

That man was Sam Haugdahl, who has taken some of the highest honors for making fancy butter of all butter-makers in this country. In addition to the many prizes won at state fairs and conventions he took sweepstakes at the National Creamery Butter-makers' Association meeting at Topeka, Kansas, in 1898, with a score of ninety-eight points, and was given first premium at the Paris Exposition last summer. He is at the present time one of the inspectors in the dairy and food department of the state of Minnesota.—New York Produce Review.

THE USE OF WEEDERS

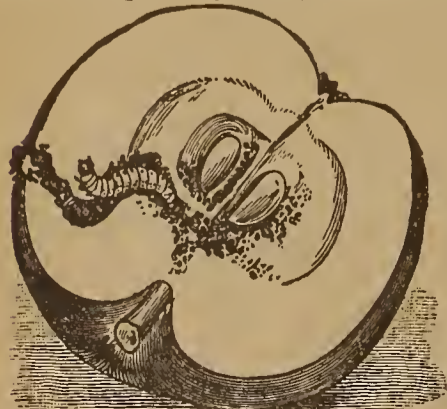
I do not believe that many farmers can afford to be without a horse-weeder on the farm. It kills weeds just when they are starting. It gives rapid, inexpensive cultivation. It breaks the crust after rains, and does it at a rapid rate. It gives surface cultivation, letting the roots be undisturbed. It keeps the ground level. It is especially good for cutting out the little ridge in the row between the plants. In loose soil its work is ideal. In a tougher soil it is even worse needed right after the cultivator that has cut out the middles and slightly ridged the row. It is a money-saver in cultivation, but it must be used on time. It is one farm implement that may often pay its cost in a week's work. Test this for yourself.—Alva Agee, in National Stockman and Farmer.

CATALOGUES RECEIVED

- W. B. Longstreth, Gratiot, Ohio. Seed annual of standard garden and flower seed.
- Johnson & Stokes, Philadelphia, Pa. Handsomely illustrated garden and farm manual.
- M. Crawford Company, Cuyahoga Falls, Ohio. Catalogue of strawberry-plants and gladiolus bulbs.
- Iowa Seed Co., Des Moines, Iowa. Illustrated catalogue of a complete line of garden, field and flower seeds.
- L. Templin & Sons, Calla, Ohio. Illustrated catalogue of seeds, plants, bulbs, etc., from the Calla greenhouses.
- Ford Seed Co., Ravenna, Ohio. Illustrated catalogue of tested flower, vegetable and field seeds, bulbs, seed-potatoes, etc.
- Henry A. Dreer, Philadelphia, Pa. Illustrated "Garden Calendar" for 1901, listing a full line of choice seeds, plants, bulbs, etc.
- Farmer Seed Co., Faribault, Minn. Catalogue of vegetable-seeds, improved seed, grain and small-fruit plants and other nursery stock.
- Highland Nursery Company, Rochester, N. Y. Illustrated and descriptive catalogue of fruit and ornamental trees and flowering plants.
- J. M. Thorburn & Co., 36 Cortlandt Street, New York. The one hundredth annual catalogue of Thorburn's seeds. Every seed-buyer should get this magnificent catalogue.

SPRAYING FRUIT TREES

The question of spraying fruit trees to prevent the depredation of insect pests and fungous diseases is no longer an experiment, but a necessity.



Our readers will do well to write Wm. Stahl, Quincy, Ill., and get his catalogue describing twenty-one styles of Spraying Outfits and full treatise on spraying the different fruit and vegetable crops, which contain much valuable information, and may be had for the asking.

SHEEP AND DOGS

There ought to be further restrictions on roving dogs, and the best thing for the farmers who want to raise sheep would be to secure the passage of a law by the legislature which shall require every person maintaining a dog weighing more than twenty pounds to pay a tax of one dollar a year for each extra pound of dog above the twenty.

We are aware that the owners of the St. Bernards and the mastiffs and the genial bulldogs that are led about with muzzles on will say that this is a preposterous proposition. But the time is coming when these big animals, some of which are as harmless as wild tigers or lions, will not be allowed to run at large in this part of the country. We would willingly see a tax assessed on the owners of all such animals, which would furnish a very effective remedy for the sheep-killing propensity of the canine race in this section. No dog that is big enough or vicious enough to worry sheep ought to be allowed to run at large in the state of Connecticut.

Even before we get a change of the dog laws that will adequately protect the sheep-raiser it may be possible to add greatly to the size of the flocks in Connecticut pastures. We believe it will prove quite as profitable to hire a farm-hand to tend a herd of sheep all day long as it is to hire the same man to work in a tobacco-field. Sheep-raising will pay those best who can begin with a flock of two hundred and fifty or more, and who have capital enough to provide an inclosure for the sheep at night in summer where they can be thoroughly protected against dogs. A few shepherds with guns would soon be able to teach the owners of vagrant dogs that the sheep is a more important animal than the dog in this state; and this lesson once learned the dog nuisance would be largely abated. To confess that we cannot raise sheep in Connecticut because we have not sense enough to get rid of our superfluous dogs would be to admit that there is a good deal of barbarism left in the Nutmeg state.—Hartford Times.

HANDLING BROOD-SOWS

Upon the handling of the brood-sows before and after farrowing depends much of the future success of the litter which she is expected to produce. If the sow has been fed an exclusive diet of corn, which should not be, but frequently is, the case, the corn ration should be gradually reduced as farrowing-time approaches and a sloppy feed of wheat, middlings or something like it should be substituted, as sows that are fed too much corn are apt to be feverish and constipated, have more trouble in farrowing and are more apt to eat their pigs.

When the time draws near for her to farrow she should be separated from the others and given a small lot and comfortable house to sleep and farrow in. I have small houses about six by seven feet, with boards six or eight inches wide all around inside about ten or twelve inches from the floor, to prevent the sow from mashing her pigs between her back and the wall. It is wonderful how quick the pigs will learn to get under them when the sow lies down.

After farrowing the sow should have little or nothing to eat for the first day, unless the weather is cold and the sow restless, when I would give her a good feed at night, and she will generally be quiet until morning. But she should have plenty of pure water to drink at will. After the first day increase the food as fast as the pigs can take the milk, until the sow herself is again on full feed.

The pigs should have plenty of exercise; and if the weather is cold will probably have to be made to take it. There are many other ideas which will present themselves to thoughtful breeders and feeders. I have had very good success with my pigs by handling them in this way, but find there is always more to learn, and I have profited much by the experience of others.—Geo. W. Jessup, in Swine Advocate.

ADVANCING PROSPERITY

In a recent interview Mr. Thomas Lowry, of Minnesota, said, "Bright as was the outlook toward the close of the year, all the expectations now are of even better things. The prosperity of the country is exceptionally substantial, and, to my mind, there is no doubt of its continuance. Everywhere you go you see the signs of the times. The farmer, the artisan, the merchant, the manufacturer, the transportation-men, all are doing well; all are confident."

# Carriages at Cost

You can buy carriages from our factory at jobber's cost price. We will make the same rates to you that we would charge a dealer who bought a hundred carriages at a time. You can get absolutely rock bottom factory cost with only a small maker's profit added.

This is our modern system of selling. We have extended our trade by it to every State in the Union. Farmers, professional men and merchants all over the land are appreciating that the

## Two Profits Saved

might just as well go in their pockets. If you are interested in buggies, phaetons, surreys, wagons or harness, write for our catalogue. Compare the prices with those you are now paying elsewhere and figure how much you can save. It will be a revelation to you. Write to-day for catalogue.

With every purchase is a written guarantee that if the goods we send you are not satisfactory, you can return them, we paying freight charges both ways.

**THE COLUMBUS CARRIAGE AND HARNESS CO.,**  
Box 772, Columbus, Ohio.

No. 6034, Concord Spring Buggy. Price \$60.00.

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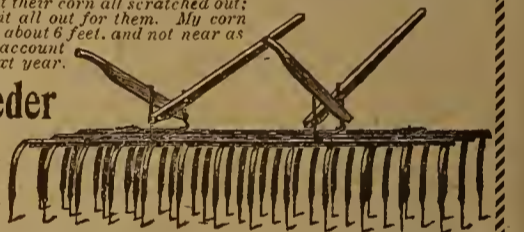
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FARM SELECTIONS

HONEY-BEES IN A LAWSUIT

"Peach Tree" Utter took no ease When he learned his brother's bees Ate the peaches on his trees, And caused them all to rot. "By," says he, "the Holy Grail I'll git upon the critters' trail, An' kitch a couple by the tail." But, b'gosh, their tails were hot.

The motto of the Orange-County farmer as he delves down deep into earth's mysteries, tilling the soil, driving the cows home or harvesting the crops is that "there must always be a cause for a reason." When William H. Utter, of Amity, N. Y., discovered that instead of ripe, luscious peaches from his orchard of four thousand trees he was producing only small, half-grown fruit that rotted rapidly and was totally unfit for market, he began to cogitate. One day knee-deep in June he stood out among the trees and soliloquized. "The ways of mystery are strange," thought he, when suddenly he made a discovery. From somewhere flew a honey-bee. It alighted upon a peach in close proximity to the watcher, and, standing upon its head, waved its hind legs in the air. Then it flew away. Investigation disclosed the fact that the peach had been punctured. Next day he watched again. The bee came back. With it came several others, each of which punctured peaches, and the fruit rotted. From it exuded a sticky substance which hardened on the branches, and ultimately forty-nine of his choicest trees died. Forty rods away was the apiary of his brother Jeffry, numbering several hundred hives. William H. Utter at once "suspected" his brother's bees.

CHAPTER II.

Further yet than eye could see, Daily o'er the verdant lee, Flew the husy little bee, Humming merrily its song. "Peach Tree" then experimented Till he had a cage invented, When his nature stern relented, And he chuckled loud and long.

William H. Utter, who had been dubbed "Peach Tree," lay awake nights sorely troubled. He knew that in order to secure damages he must fix the identity of the bees. At last he succeeded. With the aid of an apparatus, which consisted of a long-handled utensil such as housewives fasten a cloth to and shake around in the bottom of pots and kettles, "Peach Tree" Utter made a trap. Armed with his invention he sallied forth into the orchard, stealthily sneaked upon the bees as they sat at ease upon his peaches, and snared them. He took the captives home and placed them in a box in which flour had been sprinkled. After the bees had become thoroughly dust-coated Utter turned them loose, and, with his son beside him, watched them fly away. He swears they went straight to the apiary of his brother Jeffry, "Honey Bee" Utter.

"Peach Tree" brought suit against "Honey Bee" before a rural justice, and secured a verdict of twenty-five dollars. This provoked "Honey Bee," and his appeal from the judgment has been heard at Goshen.

CHAPTER III.

Jeffry Utter and his fellows Claim the peaches all had "yellows," E'en though William loudly bellows That, b'gosh, it warn't so. And all the country round about Is twixt a "holler and a shout," While they're waitin' to find out, 'Cause they're anxious fur to know.

The Beekeepers' Protective Association of the United States took up "Honey Bee" Utter's case, and spent much money to win. The star witness was Frank Benton. He had spent thirty years studying bees. He said the tongue of the bee was soft and pliable and could not puncture a peach. The inner tongue of the bee is spoon-shaped and covered with hair. It cannot become rigid. It laps its food, which is called nectar, and is fond of rotten peaches. Its feelers are soft and cannot pierce any substance that offers the least resistance. They are supposedly the organs of touch and smell, by which bees recognize each other by the odor of the body. Sometimes they will meet and wind their feelers about each other. This is their method of shaking hands.

This testimony knocked the bottom out of William H. Utter's case. After being out fifteen minutes the jury brought in a verdict of no cause for action, which was a verdict for the beekeepers.—New York Tribune.

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*Either Collection, and the Farm and Fireside One Year, for . . . . . 50 Cents*

## 5 Ever-Blooming Roses

The use of Roses is now more universal than ever. They are indispensable for vases or for fine cut flowers, while no other flower is as popular for wearing or table decoration. Every family should grow them in abundance, for never have Roses been as low in price and as beautiful. No finer plants are grown than we here offer. **All double-flowering. Order Rose Collection by Prem. No. 736.**

**THE BRIDE, The Largest White Rose** This is undoubtedly the finest white Ever-Blooming Rose ever offered to the public, and we take pleasure in recommending it to all our readers. The buds are very large and of exquisite form; the petals are of fine texture and substance, and the full flower is very double, measuring from three and one half to four inches in diameter. The color is a delicate creamy white. The bloom will last in a fresh state after being cut longer than any other known white rose.

**THE COLLECTION OF 5 ROSES INCLUDES ALL OF THE FOLLOWING COLORS:**

One Bride as described above, one clear bright rosy red, one bright pink, one pure white and one rich flesh-colored. All will bloom freely during the coming season.

## 6 Japanese Chrysanthemums

The collection here offered is made up of large, **double-flowering** Japanese Chrysanthemums, the direct offshoots of famous **prize-winning** varieties. This collection embraces all colors known to the Chrysanthemum family, and all shapes and forms, as incurved, recurved, twisted, whorled, ostrich-plumes, etc., also early and late bloomers. They are well-rooted plants and sure to grow. **Order Chrysanthemum Collection by Premium No. 558.**

**SIX DIFFERENT COLORS, AS FOLLOWS:**

One deep golden yellow, one rose-pink with soft satin finish, one fiery red, one velvet-rose with silky texture, one pure ivory-white and one creamy white showing a tinge of pink.

### Particular Notice

*Collections must be ordered entire. We cannot send parts of two or more to make up one collection.*

**ORDER NOW.** It is almost certain that we will receive orders for more plants than the florists have agreed to furnish. Do not wait until you are ready to plant. If you do not want your plants until some later date, we will have them reserved and shipped when desired. When you order state the time you wish the plants sent. When the supply of plants is exhausted money will be refunded.

## 4 Beautiful Geraniums

The Geranium has been wonderfully improved during the past few years. New colors, new styles, and profusely blooming sorts have been developed. The collection here offered includes the latest and best varieties of this popular flower. They are unusually fine year-old plants, and with proper care are sure to grow. **Order Geranium Collection by Premium No. 290.**

**FOUR DIFFERENT COLORS, AS FOLLOWS:**

One pure snow-white, one brilliant crimson-scarlet, one nankeen salmon, one beautiful pink.



Premium No. 290

## 6 Fragrant Carnations

Carnations are the delight of every one who has an eye for the beautiful in flowers. Whether for personal adornment or to decorate the home they are unsurpassed in their charming appearance. Being unrivaled in their delicately rich and refreshing fragrance, unequalled for brilliancy, richness and diversity of colors, unapproached for daintiness and beauty of outline, it is not to be wondered at that next to the Rose they have become the favorite flower among all classes. The collection we offer contains a fine variety of these exquisite plants. If the plants of this collection were bought singly they would cost the purchaser not less than fifty cents. **Order Carnation Collection by Premium No. 534.**

**SIX DIFFERENT COLORS, AS FOLLOWS:**

One yellow, one deep crimson, one rich scarlet, one white, one light pink striped with a darker shade, one bright clear pink.

**CULTURAL DIRECTIONS**—Accompanying each lot of plants there are full directions for planting, care, etc., in order that the best results may be obtained.

**GUARANTEE**—All of the plants will be large, healthy and well rooted, and will bloom the coming season. We guarantee them to be exactly as described, to arrive in perfect condition, and to give entire satisfaction or your money cheerfully refunded.

*We will send EITHER the collection of 5 Roses, 4 Geraniums, 6 Carnations, or 6 Chrysanthemums, and the Farm and Fireside One Year, for* **50 Cents**

(No more than one collection with one yearly subscription. When the above offer is accepted the club-raiser may have the regular cash commission or the name may be counted in a club)

**FREE** We will send either the collection of 5 Roses, 4 Geraniums, 6 Carnations, or 6 Chrysanthemums FREE for TWO yearly subscriptions to the Farm and Fireside; or any two collections for FOUR subscriptions; or any three collections for SIX subscriptions, and so on.



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BY-PRODUCTS OF THE JERSEY HERD

How many dairymen who keep the Jersey cow give this question the thought it deserves to be given? How often we hear a man say, "I sell so many dollars' worth of butter from each cow, my feed costs so much, which does not leave me much for my work." The by-products are not considered by him in dollars and cents. Let us consider these products that are not worthy of a place on the balance-sheet:

**THE SKIM-MILK.**—What is it worth to the dairyman? Very little, I will admit, to some dairymen—those who do not study its feeding value or know how to feed it; who feed to calves in a haphazard way, which is worse than throwing it away; who allow it to sour and freeze in the swill-barrel, which is another way of making its value very low. But to the intelligent feeder who knows how to feed it, it is of great value. It will produce better pigs, better calves (either beef or dairy), than any other food at the stockman's disposal. I have often asked this class of men to name the value a hundred they would be willing to take for their skim-milk. Nearly all of them answer that they could not do without it, so could not set a price. Setting aside the feeding value of skim-milk, it is worth as a fertilizer nine dollars a ton, being one of the richest foods we have in nitrogen.

**THE JERSEY STEER.**—Well, I think some of our Shorthorn readers will smile at this point. But all Jersey breeders who have fed a few steers for their own use will testify to the quality of the beef being superior to any other beef they have ever used from young steers. I have now in my feeding-yard a yearling steer that will dress out a larger per cent of meat a hundredweight than the beef breeds will at that age, and the quality is far superior. Our beef-breeders don't use beef from yearling steers, because, they argue, they are too valuable for killing at home; they eat salt pork and old cows, while we Jersey-men have our steers to dress, and reckon not of their value. Aside from their value for family use I find that Jersey steers are not losing me money as butchers' stuff. I make them weigh eight hundred pounds at twelve months of age, and can sell at \$3.75 and \$4 a hundredweight. The foods up-to-date dairymen feed cost less than the foods usually fed by beef-men.

**THE HEIFER CALVES.**—The dairyman and breeder of Jersey cattle gets more real comfort (and, I may say, happiness) out of this life than any man who looks to the farm for his support. In my case, with four boys to rear and give daily exercise, I could not engage in any occupation that would so interest and educate my children. With my cows and the daily milk record I know just what each member of my herd is capable of doing. If she is yielding me a good profit and has a heifer calf growing up I am reasonably sure that that calf will be as good and usually better than her mother. This interests my boys, gives them something to speculate on and hope for, makes my herd grow better from year to year, increasing the product without increasing the cost of production.—Buff Jersey, in Jersey Bulletin.

**COVER CROPS IN APPLE ORCHARD**

The articles that have recently appeared in the "Rural New-Yorker," by Professor Craig and others, lead me to say that about the best cover crop I find for my orchards is chickweed. If the land is as rich as it ought to be this weed will take care of itself; with the first fall rains it will come up quickly, a perfect mat, as it grows rapidly. Often with me it gets "knee-high," and grows all winter whenever there is an open time. It catches most of the leaves and holds them firmly until time to be plowed in spring. When the proper time comes chickweed is quickly worked into the soil, furnishes, with the retained leaves, much humus, and never grows during the dry weather of summer. But why plow the apple orchard at all? Another year's experience has more fully grounded me in the faith that constant cultivation is not the best way to treat an apple orchard. Keep it constantly in pasture and treat it properly and it will be more healthy, will grow more fruit of a higher color, better texture and flavor and that will keep longer and shrink less than it can be made by any system that involves constant cultivation; treat properly, remember that.—J. S. Woodward, in "Rural New-Yorker."

### SEND NO MONEY,

HIGH GRADE DROP-HEAD CABINET NEW QUEEN SEWING MACHINE, by freight, C. O. D., subject to examination. You can examine it at your nearest freight depot, and if found perfectly satisfactory, exactly as represented, equal to the highest grade sewing machines advertised by other houses at \$20.00 to \$30.00, and as good a machine as you can buy from your dealer at home at \$30.00 to \$40.00, the greatest bargain you ever saw or heard of; pay your railroad agent

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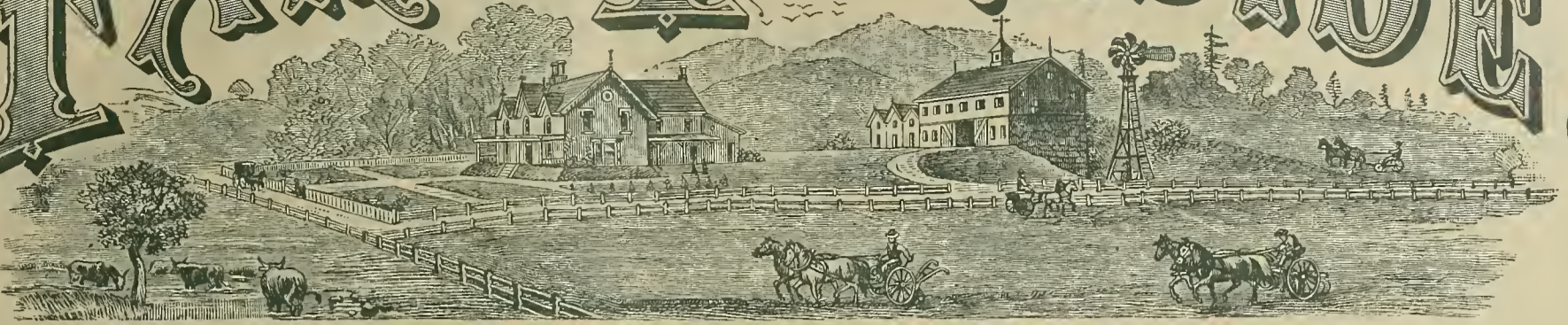
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# FARM AND FIRESIDE



VOL. XXIV. No. 11

EASTERN EDITION

MARCH 1, 1901

Entered at the Post-office at Springfield, Ohio, as second-class mail matter

TERMS { 50 CENTS A YEAR. 24 NUMBERS

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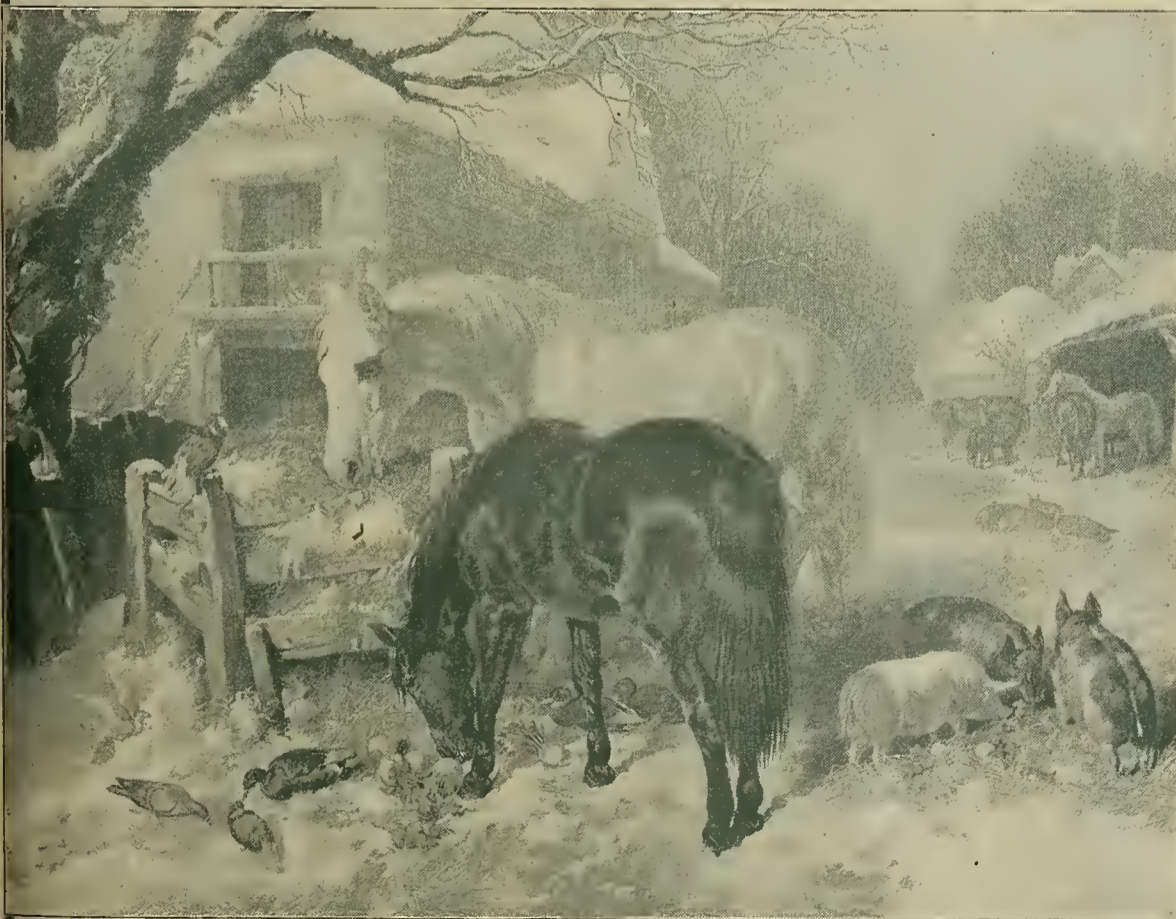


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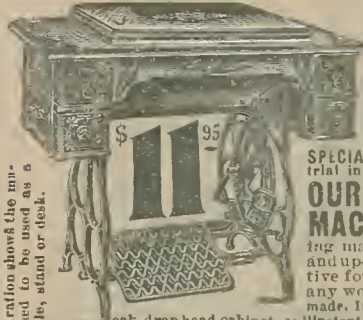
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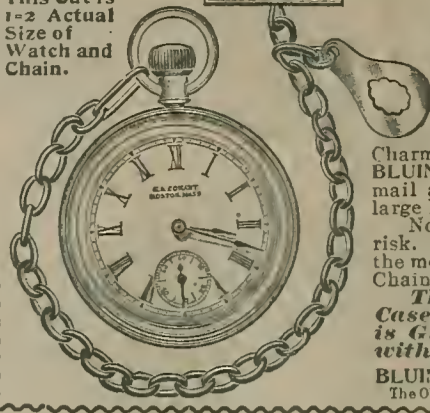
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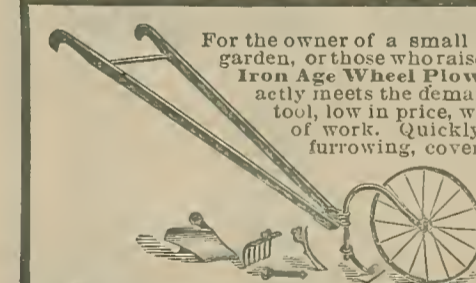
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## The Western Farmer As a Business Man

By H. A. Crafts

THE Colorado farmer, I imagine, is as resourceful as any of his class in the country. He has had a peculiar schooling. The original Colorado farmer was compelled by new conditions to learn new methods. He had to abandon nearly all of the ways of his fathers. He did not receive the moisture necessary to mature his crops from above, but from below. The land in its primitive condition was a dry, sun-baked plain. It required six stout horses or mules and a steel breaking-plow to turn over the sod. Then the irrigating-ditch had to be built, and the water taken therefrom and distributed over the land. Then there were the matters of soil, climate and markets to be taken into consideration. Crops must be raised that were adapted both to soil and climate and the market conditions. The Colorado farmer, therefore, became a reasoning and a thinking man upon broader principles than he had hitherto been accustomed to apply to his daily affairs.

The Colorado farmer is largely a land-owner, and therefore a water-owner; that is, under the larger ditches, at least, the farmer is a stockholder in the ditch from which he derives his water. Therefore, he meets with his fellow-stockholders once a year to elect a board of directors, and more than likely is at some time elected one of the directors; and being a director he is in turn likely to be elected president, vice-president or secretary of the board. Then there is a superintendent to be elected; and if the ditch is not too extensive a farmer is usually elected to that office. Ofttimes there is a special meeting of the stockholders called to consider the question of some enlargement, improvement or the construc-

tion of a storage-reservoir. These meetings not only bring the farmers together in common interest, but are in a measure primary schools in business ethics. They post him in the use of parliamentary rules and tactics, and make him a clearer and a quicker thinker. The fact that his interests are interdependent makes him a more liberal man in his views and schools him in the comity of neighboring individuals.

Again, the Colorado farmer is an omnivorous reader. Every country post-office fairly bursts with the plethora of mail matter that is continually poured into it from all parts of the country. The great bulk of this mass of mail matter is made up principally of newspapers and periodicals. Farm papers probably make up at least fifty per cent of this bulk. Now that rural free

delivery is spreading throughout the farming sections of the state the quantity of mail matter distributed promises to be increased. The influence also of the teachings of the State Agricultural College are also being felt in farming circles. Besides the valuable student instruction imparted the college authorities distribute annually throughout the state thousands of copies of bulletins, carefully written by the various heads of departments, upon practical and scientific subjects bearing upon Colorado agriculture. Then, too, a regular practice is made of detailing some member of the faculty best fitted to enlighten his hearers upon questions under consideration to attend the various farmers' institutes and other gatherings of an agricultural nature that are held annually throughout the state.

And here again the far-reaching influence of climate is observable. The Colorado farmer is blessed with so much fine weather that he is enabled to perform his farm labor in the shortest possible time, and is therefore given ample time to attend these meetings, and also to peruse to the last detail his farm papers and to digest the information therein contained. I believe, too, that so much bright sunshine, combined with a light, dry air, acts in a measure as a mental stimulus and makes the Colorado farmer a quick and facile thinker.

These theories are not lacking in good, strong proof. Look, for instance, at the great lamb-feeding interests that have sprung up in the state within the past few years. Mind you, this does not consist in the mere breeding of lambs and the fattening of the same upon the farm. It consists of what is known as the "feeding in transit" system. The farmer produces but

profitable method of disposing of his immense crops of alfalfa hay. This hay is the only part of the lamb forage that the Colorado farmer produces. The other part is corn that is shipped in from Kansas and Nebraska.

Now, in this process the farmer "runs up against" the range-man, from whom he buys his lambs; the railroad, which ships the lambs in, and then reships them to market; the veterinary sanitary officials, both state and federal; the banks, from which he frequently borrows the money to carry his enterprise through; the live-stock agents of the Eastern railroads; and finally the Eastern commission-men, who put his lambs upon the market. To be sure, every feeder does not go out to the ranges to buy lambs in person, nor go to Chicago to dispose of his lambs, doing these through a neighbor or a factor; but it will readily be seen that the process even in its simplest forms requires on the part of the feeder the skill that comes from the exercise of keen business faculties.

The feeders have shown further good business judgment in organizing local associations for the more thorough conduct of the business. The first to be organized was the Larimer County Sheep-Feeders' Association, with headquarters at Fort Collins. It has its hall, and meets regularly during the feeding season, with special meetings when matters arise requiring prompt attention. These meetings are well attended and are productive of great good. Matters of interest are discussed pro and con. Committees are appointed to confer with the state executive, the state sanitary veterinarian, the traffic managers of the railroads, to attend legislative sessions, the meetings of railroad officials, etc., while representatives of the railroads, the state and federal governments are often present, and are invited to participate in the discussions when matters appertaining to their departments come before the house. The secretary of the association is also in constant communication with individuals both public and private who may be connected with interests bearing upon the question of feeding in transit.

## Lamb-Feeding

In Colorado

By D. W. Working

The "Courier," of Fort Collins, Colorado, has published a list of the names of the lamb-feeders of Larimer County, including a few names of feeders in Weld County. A study of this list, which includes the names of two hundred and twenty-three individuals and firms, is interesting and instructive.

Nearly all the feeders are farmers, the bulk of whose feed is alfalfa hay raised on their own farms. Most of the grain is shipped from Nebraska. These feeders now have in their pens 351,200 lambs, a substantial increase over any previous feeding season, as is shown by the following table, which gives the number fed each year since the beginning:

1889.....	2,500
1890.....	3,500
1891.....	6,000
1892.....	30,000
1893.....	40,000
1894.....	60,000
1895.....	80,000
1896.....	128,000
1897.....	193,000
1898.....	198,000
1899.....	225,000
1900.....	215,000
1901.....	351,200

The largest number of lambs belonging to a single feeder is 7,200; the smallest number is 270; the average number is 1,574. These extremes are not fairly illustrative. Only five feeders have 5,000 or more lambs, and only five have 500 or under.

Twelve feeders have 3,000 or more; fifty have 2,000 or more each, but less than 3,000; ninety-two have 1,000 or more, but less than 2,000, and sixty-two have less than 1,000 each. Of the two hundred and twenty-three feeders ninety have more than the average number of lambs; one hundred and thirty-three have less than the average.

These figures make it plain that the lamb-feeding business is well distributed among those who ought to do the feeding and make the profits; namely, those who make the hay,



THREE THOUSAND LAMBS FEEDING IN TRANSIT

Does this not point to the dawn of a new era in rural life and suggest immense possibilities? It has been asserted time and again that the farm furnishes the brawn and brain that move the great affairs of commercial, professional and political life; then why cannot a portion of these vital forces be conserved at home in making farming more lucrative, less laborious, more elevating? Why should not the farmer become the ideal man? He lives among the most wholesome and ennobling influences. He has the opportunity, if he will only utilize it, to develop both body and mind to their fullest capacity. Would it not be better if we could rear our statesmen upon the farm rather than in the law-office? Yea, and rear up a race of veritable Solons—giants of intellect and towers of probity—such as should make the nation more celebrated than were ancient Greece and Rome.

which seems to be the ideal roughage for fattening lambs.

It is to be kept in mind that the feeding industry is of advantage to others than those who profit by fattening the lambs for the Eastern markets. Alfalfa hay had become a drug in the market; now it can be produced at a profit by those who raise it for the market. So the feeding business is profitable to the farmer who does not feed. The feeders are good patrons of banks, for nearly every one of them borrows part of the money he invests in lambs, and practically all he spends for feed, freight and hired help.

It is proper to mention the fact that the gains of the lamb-feeders are clean gains. The feeders buy their lambs in New Mexico, southern Colorado, Idaho, Utah and Wyoming, and pay the cash for what they buy. Their profits are clean, because no man is poorer because of those profits.

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IN AN address at the Brooklyn banquet, on the anniversary of Lincoln's birthday, Wu Ting-Fang, the Chinese minister, said:

"The occasion recalls many stirring events of the past, arouses a feeling of gratitude for the present, and inspires hope for the future. It may be doubted by some whether on an occasion like this it is proper for a representative of a foreign nation to join in the celebration. But I have no misgivings in this respect. I do not look on Lincoln as belonging to America alone. America has good reason indeed to be proud of giving birth to such a son. But the world claims him as a benefactor of mankind, and his noble deeds as the achievements of the human race. His greatness cannot be confined within the narrow limits of the United States. Therefore, I took pleasure in accepting the courteous invitation of this club, and I am here now, like the King of the East, laying gifts of gold, frankincense and myrrh at the feet of the infant Christ, to pay a tribute of veneration and gratitude to the name and memory of Lincoln. What constitutes Lincoln's chief title to fame and greatness depends in a large measure upon the point of view from which he is considered. By the Americans he will always be remembered as the preserver of the Union, who piloted the Ship of State through four years of fierce storm and tempest, which threatened to upset it at every moment, safely into the haven of peace.

"By the negroes he will ever be held in grateful reverence as the deliverer of their race, who broke the chains asunder that bound these people as slaves. By the rest of the world he will ever be known and honored as the vindicator of human rights, who by a stroke of the pen carried into effect the fundamental principle of government that all men are created equal. The great battles of the American Civil War—Chattanooga, Nashville, Gettysburg—which have given Grant, Sherman, Sheridan and other commanders their lasting renown, are all events of great historical interest which posterity will not soon forget. But the one event of that stirring period which transcends all others in importance and in human interest is, doubtless, the issuing of the

Emancipation Proclamation, on the twenty-second day of September, 1862. This was the crowning act of Lincoln's life—one for which the people of the earth, irrespective of race, nationality and religion, will honor him and revere his name to the end of time.

"In America you celebrate an important event in a great man's life by holding demonstrations or by joining in great banquets. In China we do things somewhat differently. Every national hero we have has a temple erected to his memory, and at stated intervals during the year ceremonies are performed in his honor. The purpose is the same in either case. It is fitting that the memory of a great man like Lincoln should ever be kept alive by proper observances as an inspiring example to succeeding generations. To Lincoln may be applied the words which a Chinese historian used in describing the character of Yao, the most revered and honored of the ancient rulers of China: 'His benevolence was boundless, his wisdom was profound; to any one approaching he had the genial warmth of the sun; when reviewed at a distance he seemed to have the mysterious ways of the clouds; though occupying the highest station he was not haughty, though controlling the resources of the whole nation he was not lavish; justice was the guiding principle of his motives, and nobleness was written on every lineament of his face.'"

IN AN interesting chapter on ancient civilization in the wonderful valley of the Nile Dr. John W. Draper says: "It was not without reason that the Egyptians took the lead in Mediterranean civilization. The geographical structure of their country surpasses even its hoary monuments in teaching us the conditions under which that people were placed. Nature is a surer guide than the traces of man, whose works are necessarily transitory. The aspect of Egypt has changed again and again; its structure, since man has inhabited it, never. The fields have disappeared, but the land remains.

"Why was it that civilization rose on the banks of the Nile, and not upon those of the Danube or Mississippi? Civilization depends upon climate and agriculture. In Egypt the harvests may ordinarily be foretold and controlled. Of few other parts of the world can the same be said. In most countries the cultivation of the soil is uncertain. From seed-time to harvest the meteorological variations are so numerous and great that no skill can predict the amount of yearly produce. Without any premonition the crops may be cut off by long-continued droughts, or destroyed by too much rain. Nor is it sufficient that a requisite amount of water should fall; to produce the proper effect it must fall at particular periods. The labor of the farmer is at the mercy of the winds and clouds. . . .

"In the Thebaid heavy rain is said to be a prodigy. But at the time when the dog-star rises with the sun the river begins to swell, a tranquil inundation by degrees covering the land, at once watering and enriching it. If the Nilometer, which measures the height of the flood, indicates eight cubits, the crops will be scanty; but if it reaches fourteen cubits, there will be a plentiful harvest. In the spring of the year it may be known how the fields will be in the autumn. Agriculture is certain in Egypt, and there man first became civilized. The date-tree, moreover, furnishes to Africa a food almost without expense. The climate renders it necessary to use, for the most part, vegetable diet, and but little clothing is required.

"Here agriculture was so precise that it might almost be pronounced a mathematical art. The disturbances arising from atmospheric conditions were eliminated, and the variations as connected with the supply of river-water ascertained in advance. The priests proclaimed how the flood stood on the Nilometer, and the husbandman made corresponding preparations for a scanty or an abundant harvest. . . . There followed, as a consequence of this condition of things, the establishment of a strong government, having a direct control over the agriculture of the state by undertaking and supporting artificial improvements, and sustaining itself by a tax cheerfully paid and regulated in amount by the quantity of water supplied from the river to each estate. Such, indeed, was the fundamental political system of the country. The first king of the old empire undertook to turn the river into a new channel he made for it, a task which might seem to demand very able engineer-

ing, and actually accomplished it. It is more than five thousand years since Menes lived."

Speaking of one of the most beneficent works of modern times the Boston "Herald" says: "The Nile dam has been completed, and some six hundred thousand acres of arid land will be made fertile—an area three quarters as large as the state of Rhode Island. This is the great engineering feat that greets the twentieth century—a dam more than a mile long across one of the largest rivers of the world. The Nile has always been wasteful of its waters in times of flood, and this enormous dam, at Assouan on the first cataract, will hold back the flood and allow the water to be used for irrigation. Two years have been spent in building it—remarkably quick time for a work of such magnitude—and it is estimated to have cost some ten millions of dollars.

"Two wonderful engineering feats are now contrasted in Egypt—the pyramids and the Nile dam. It is not our purpose to compare the two as engineering problems, though we feel certain that the minds that successfully planned the checking of the waters of the Nile would not find it an impossible feat to duplicate the pyramids. But the contrast between them which we shall draw is of their value to Egypt. The building of the dam was a direct outcome from English control at Cairo. The business instincts of the English people found a way to make farming in the Nile basin more certain. The irrigation which nature did to a greater or less extent from year to year, now a time of drought and then a destructive flood, is in the future to be guided to a large extent by man, for the dam will hold back and regulate the flow of water so that it may be used when most needed for the crops. What have the pyramids done for her to compare with this? The good that is sure to come to the people of Egypt from the completion of this great work would of itself, were there no other reasons, be ample justification for English control."

Telling something of the good that has already come to the people of Egypt, "The Independent" says: "An immense amount of undeserved reproach has been cast on the British government in India because of the recurrence of famine there, although never in all the history of the world has so much been done by a government to mitigate the horrors of a famine. But the world has not noticed that Egypt has, the past year, been saved from famine by the foresight and enterprise of the British government. The flood of last year was the lowest recorded during the last century. But the water was so saved by the Barrage that there was vastly less distress than on any previous occasion of a low flood. The irrigation was more carefully managed, the maize crop was up to the average, and the cotton crop very nearly the largest on record. The value of the cotton crop was sixteen million Egyptian pounds, twice as much as ten years ago. This immunity from famine was entirely due to wise and provident administration. The problem in India is much more difficult, because irrigation is not there generally available, though much has been done and more will be in this way. The first necessity was railroads to open up the country to commerce, so that food could be carried to famine-stricken regions; next is irrigation."

REVIEWING the crops of the past year the "Crop Reporter," the monthly publication of the Department of Agriculture, says: "The statistician estimates the United States wheat crop of 1900 at 522,229,505 bushels, the area actually harvested being 42,495,385 acres and the average yield an acre 12.29 bushels. The production of winter wheat is estimated at 350,025,409 bushels, and that of spring wheat at 172,204,096 bushels, the area actually harvested being 26,235,897 acres in the former case and 16,259,488 acres in the latter. The winter-wheat acreage totally abandoned in Ohio, Michigan, Indiana and Illinois is finally placed at 3,522,787 acres, and the spring-wheat acreage totally abandoned in North Dakota and South Dakota at 1,793,467 acres. The extraordinarily rapid rate at which the winter-wheat acreage of Nebraska is gaining upon the spring-wheat acreage of that state has necessitated a special investigation of the relative extent to which the two varieties were grown during the past year. The result of the investigation is that, while no change is called for in the total wheat figures of the state, 590,575 acres have been

added to the winter-wheat column at the expense of the spring variety.

"The average prices of all the eight crops reported upon were higher on December 1st last than on December 1, 1899. The average farm price of wheat was 3.5 cents a bushel higher, with the result that a crop less by 25,000,000 bushels than that of the preceding year was worth nearly \$4,000,000 more. Corn was worth 5.4 cents a bushel more than at the corresponding date in 1899, and, estimated on this basis, the total crop, although but little larger than that of the preceding year, was worth \$122,000,000 more. The average price of hay was \$8.89 a ton, as compared with \$7.27 a ton on December 1st of the preceding year, and accordingly a crop six and one half million tons less was worth \$33,600,000 more."

IN AN article on traveling libraries in "The World's Work" for February Mr. George Iles says:

"There are now about six hundred traveling libraries in circuit throughout New York. In some places they usefully piece out the struggling independent foundations of small villages. In Plattsburg and elsewhere they have led to the establishment of flourishing local concerns. Mr. Dewey (the state librarian, Albany, New York) is wishful that small home collections of five to ten books may be distributed to farm-houses, or so have been introduced in Boston and Pittsburg. Indeed, this apostle of literature would have not only every household in the state, but every individual, lay claim to proprietorship in the state library. He asks us to use the long-distance telephone whenever in emergency we may find his stores of service; and on moderate terms he proffers extracts from any book or document in his keeping at Albany, New York.

"Since 1893 the traveling library has made its way in Ohio, Michigan, Maine, Minnesota, Pennsylvania, Kansas, Iowa and Wisconsin. In Ohio, during the year ending November 15, 1900, no fewer than seven hundred and eleven boxes were sent out, aggregating 19,505 volumes. The women's clubs, schools and granges formed more than one half the demand. Proceeding upon a suggestion of Mr. C. B. Galbreath, the state librarian, traveling systems are beginning to radiate from local centers. Columbus is in this way serving the rural districts of Franklin County with forty-six itinerant libraries. So far as I am aware, Van Wert County, Ohio, is the first in the United States to levy a tax for the support of a free public library. This follows as a condition of the bequest of \$50,000 by Mr. J. S. Brumbaugh for a library building in the city of Van Wert. The trustees have under consideration the sending out of traveling libraries to the post-offices in the county, where they will be readily accessible to readers. Where a state has the large area that Ohio possesses there is evident gain in making the county the unit of a traveling system.

"Wisconsin is a community in the main agricultural and widely dispersed. Its traveling libraries are directed by Mr. F. A. Hutchins, secretary of the State Library Commission at Madison, an officer of uncommon ability and enthusiasm. He has the reward of seeing beneficence after beneficence offered in furtherance of his aims, in seeing the spirit of self-help which honors so many little communities. The village of Jacksopport contains barely a hundred inhabitants—all fisherfolk. Instead of asking the loan of a traveling library, the people raised a fund of fifty dollars and asked the commission to buy a traveling library in their name, and to make their village a traveling-library station. Mr. Hutchins' success shows the unmistakable importance of a State Library Commission—rightly manned.

"Thus it comes about that with a depository of literature at the capital of a state the best and most informing books may find their way to the boy and the girl on the lonely farm, and bring equal light to the immigrants' home in the shadow of a factory or mill. And, happily, this trusteeship of literature enlists the individual citizen not less zealously than the state official. Sagacious and scholarly men give generously of time, strength and means as commissioners, while literally by thousands must we count the unpaid servants of the people who act as its librarians throughout the villages and hamlets in the land."

# ABOUT RURAL

# AFFAIRS

**Adulterated Food Stuffs** "What can a hungry man eat and live?" That, in these days of so much talk about the adulteration of our common food stuffs, seems a pertinent question. Dr. Jordan, the director of the New York state experiment station at Geneva, one of the brightest men who ever graced a public office, addressed the Western New York Horticultural Society (assembled at Rochester in January of this year) on the subject of legislation in relation to food adulteration. The doctor started out by giving us the gratifying assurance that food adulteration is, in fact, not so extensively practised and not so sensational as often charged in print. And yet he tells us that the Connecticut station has found six hundred adulterated articles in the less than three thousand samples analyzed. In other words, fully twenty per cent of the examined food stuffs were found adulterated. This seems bad enough. Fortunately the adulterations do not often consist of admixtures of poisonous materials. In most cases there is simply an inferior substance substituted for the better article which the whole is claimed to represent. But the purpose of the adulteration is anything but humanitarian. It is done for profit pure and simple, and therefore immoral, dishonest, rascally. Our flours, especially those coming from the great mills of the West, show no adulteration. In some cases small manufacturing concerns have mixed corn-flour or other cheaper flours with wheat-flour to be sold as pure wheat-flour. Dr. Jordan is still possessed of some faith in humanity, and does not believe that millers will be found who would mix heavy mineral or other earthy substances with their flour in order to add weight to it, as has sometimes been charged.

One of the most common forms of food adulteration is the introduction of preservatives into food stuffs. Salt fish, oysters, head-cheese, imported sausages, etc., often contain chemicals to prevent fermentation. Salicylic acid, boracic acid, formalin, etc., are often introduced into milk and cream as antiseptics. Our commercial jellies, however, must be a concoction of the witch's kitchen. They consist mostly of starch paste sweetened with glucose, colored with aniline dyes, flavored with chemicals (coaltar extracts, etc), and preserved with salicylic acid. And people will put such stuff into their stomachs, perhaps even fully aware of the fact that it is adulterated, and call it good. These commercial jellies can be sold at five cents a glass with a profit when genuine fruit jellies could not be made at less than ten cents a glass. Dr. Jordan forgot to say something about the adulteration of our commercial vinegars, although he is well aware of the fact that they are vile in the extreme; but he paid his respects to the so-called soft, or summer, drinks, and doubts that they are absolutely harmless. In one glassful of soda-water flavored with the usual syrup there is aniline coloring matter enough to color a piece of woolen cloth six inches square a bright hue. In view of all the facts here mentioned there seems to be good reason for the enactment of more stringent laws against the food adulterators. As Dr. Jordan says, "Above everything else our commercial supremacy depends on our commercial integrity." For my own protection and that of my family I buy as little as is practicable of anything liable to be adulterated, and depend mostly on food materials of my own production. It is one of the greatest privileges which the American farmer can enjoy. I make my own jellies and vinegars, can my own fruits and vegetables, churn my own butter, do my own baking, make my own sausages, etc. So I am not greatly in danger of being cheated or poisoned by adulterated food stuffs.

**Colored Butter** Dr. Wiley, chemist of the United States Department of Agriculture, has recently warned the public that coal-tar or aniline dyes said to be used by certain Vermont manufacturers of butter color, if constantly taken into the system, even in the small quantities needed to color food artificially, will eventually give the complexion a sallow appearance. The coloring matter seems to accumulate in the system, and will finally come to the surface, ruining the most beautiful complexion. This revelation must strike terror into the female

heart. If there is the least likelihood of any such effect by eating artificially colored butter American women will naturally want their butter without coloring. And why not, pray? Butter churned from good cream coming from good and well-nourished cows, and handled with ordinary good care, has a pleasing, natural color. Why give it an unnaturally high tint by adding foreign and often deleterious substances? It is a foolish whim or fashion, and nothing more. Dr. Wiley says only vegetable coloring stuffs should be used. What for? I have never yet bought a penny's worth of butter color. My butter has a good color. It is first-class in every way. It pleases my own taste and gives satisfaction to those who buy it of me. You cannot make me believe that the addition of even the best vegetable coloring matter can make good butter better, and I only hope Dr. Wiley will succeed in driving colored butter and butter colors entirely out of our markets. In order to accomplish that I would gladly give him leave to indulge in some of his "scientific pleasantries."

**Nurserymen and Fruit-growers** What a meeting that was again in the common council-chamber, in the city of Rochester, New York, the last week of January of this year! Almost eight hundred fruit-growers and nurserymen had parted with their dollar (a new scheme this, to admit people to the hall only on presentation of their paid-for membership ticket), and the great hall was filled to overflowing on both meeting-days. Here, indeed, is where one can get information on fruit-growing, and get it from first hands, too—right from the experts, the experimenters and investigators, both in the laboratory and in the orchard and field. The discussions are invariably spirited and interesting. Unfortunately some friction was developed, and it was all about a very small matter. That little foreign louse, hardly visible to the naked eye, proved the justness of its claim to the name "pernicious" scale, for it came very near disrupting the old and splendid organization of western New York horticulturists. Fruit-growers on one side and nurserymen on the other could not agree on how to treat the common enemy. The nurserymen objected especially to any move in favor of drastic legislation (enforced fumigation of all nursery stock before it is shipped from the nursery). But when the nurserymen, who are in a small minority, undertook to stifle open and free debate on a perfectly legitimate question, and to suppress the report of a regularly appointed committee which had spent five hundred dollars of the society's funds, they bit off more than they could chew, or rather they offered a bigger pill than the fruit-growers were willing to swallow, and it was only by a somewhat weak compromise that an open break between the two interests could be averted. The nursery interests had just a bit overstepped the safety-line. There is no question but that the San Jose scale is a most dangerous enemy, and threatens the entire fruit interests of the state. It is the opinion of leading fruit-men that the attempted legislation, compelling the fumigation of nursery stock, will be absolutely necessary, and the sooner it is enacted the better for fruit-growers as well as nurserymen. It seems that the latter will have to face the music, and it would hardly be a wise thing for them to struggle against the inevitable. Fumigation is neither an impracticable nor an expensive treatment, and it is an effective barrier against the spread of the pest from infected nurseries (and there are such in this as well as other states). I have this scale on my premises, and I know what a terrible thing it is. But I do not propose to keep it forever. It has got to go, and that very quickly. So far as the Western New York Horticultural Society is concerned, it is to be hoped that there will be no renewal of the fight another season. Under the stimulus of strife the membership has reached a phenomenal figure—far beyond its normal status. We cannot hope to hold it there permanently without a renewal of the fight, and if such should occur even the wonderful hold which well-meaning President Barry has on the affections of the members, and the love of the latter for the old society, would prevent a

dissolution of the splendid old organization. In the opinion of many leading fruit-growers the time has come for the organization of a state fruit-growers' society—one that is entirely free from the domination of nursery interests—and the call went forth for all interested to meet in Syracuse, New York, on the last two days of February of this year.

T. GREINER.

weeds. One should be careful about what he plants on his land. A friend of mine bought seed of what was said to be the most beautiful climbing vine ever discovered, and it proved to be the wild morning-glory, one of the worst weeds known. Go slow about trying "new" discoveries and importations.

### SALIENT FARM NOTES

**Early Spring Vegetables** A friend of mine who has no greenhouse has tried every scheme he could devise or hear of to grow "spring vegetables" a little ahead of the season, and he has finally decided that it is best to wait until planting-time arrives before planting. I believe he is right. One can get a little ahead of the season by using glass-covered hotbeds if he has the time to properly attend to them; but except for starting such plants as should be large enough to set out as soon as the soil is ready for seed it rarely pays a farmer to make hotbeds. After it is made a hotbed requires considerable attention to make it a success. One "forgot" will ruin the brightest prospects. I once forgot to let down the cover of a hotbed, and the next morning found a fine lot of tomato and other plants frosted and gone. Another time I forgot, and the following morning discovered that rabbits had found my cabbage-plants and nipped most of them off. I once forgot to raise the cover, and on returning at noon found my plants baked brown. When one has about a hundred things to look after he is almost certain to forget something, and if it happens to be the hotbed he has lost the time, labor and seed.

**Starting Plants** For starting a family supply of cabbage, tomato and other like plants small window-boxes are best. I make them sixteen inches long and six inches wide. The bottom is a piece of board half an inch thick, and the sides two plastering-lath placed one above the other. This makes the boxes three inches in depth. I fill these boxes with rich, fine soil, then with a lead-pencil make shallow holes in the surface one inch apart, and in them drop two or three seeds that appear to be perfect and sound. A little fine soil is sifted over them, and then the boxes are set one upon another near the stove. In about two days the cabbage and lettuce plants begin to appear and the boxes are at once moved to shelves in a sunny window. Tomato and onion seeds are slower to start, and the boxes should not be moved until the plants begin to push through. The soil in the boxes should be kept damp, but not wet. One can buy a few iron brackets for a small sum to attach to the window-casing to place shelves upon.

It is a good plan to have a temporary shelf placed outside the window and to slide the boxes of cabbage, onions and lettuce onto that early in the morning and keep them there until night, except in stormy or freezing weather. This will prevent the plants from becoming drawn and spindling. They will stand lots of cold, and if they are made to "rough it" from the time they appear until ready to set out they will be both sturdy and hardy. A dozen such plants are worth a hundred from a greenhouse or badly tended hotbed. Tomato-plants are very tender, and should be kept inside, but close to the glass, and as the weather becomes warmer they may be set outside on warm days to harden. A large shelf outside the window is almost indispensable to the window-gardener. It saves a vast amount of lifting and carrying and makes plant-growing in the window a pleasure. It should be at least two feet wide and four feet long, and the outer edge may be supported by two legs made of scantling or poles reaching to the ground. I have grown over a thousand plants at a time by using two windows and a large outside shelf. As the plants increase in size they drain the soil in the boxes of moisture very rapidly, especially in sunny weather, and one must see that an abundance of water is supplied. Warm water is best.

**Ordering Garden Seed** A great many farmers are now making up orders for seeds. They should have been ordered in February, but most people do not think of them until they hear the blue-birds. I have often advised people to stick pretty closely to the old, well-tested sorts that we know to be good, and to try new varieties on a very small scale. Above all things, be careful of the highly lauded "new" grasses and plants that "are going to revolutionize farming." Let the experiment stations test them first. Some of them are worse than

**Forestry** The inquiries on my desk plainly indicate that tree-planting time is at hand. In the first place, let me say that I have neither trees nor tree-seeds for sale. These can be obtained at any of the leading nurseries and seed-houses advertised in the *FARM AND FIRESIDE*. Write to those nearest you for catalogues. All the inquiries are so near alike that one answer will do for all. I feel well satisfied that it will pay any farmer who owns eighty acres of land to plant at least two acres to forest-trees. If any portion of the farm is rough, I would plant the trees there. If there is no rough land on the farm, I would plant the trees where they will be useful as a wind-break. I would plant such varieties as appear to thrive best in the locality. In some sections it will pay best to plant such hardy trees as golden willow, cottonwood, etc. In others, maple, ash, catalpa, black locust, oak, etc. The greater portion of the plantings should, of course, be of trees that are of most value for posts, fire-wood and lumber. Golden willow, soft maple and cottonwood are very hardy and grow rapidly, but the wood is of little value for posts, and is useful as lumber only for inside work. If cut and stored under cover to dry, it will in three to six months make fair fire-wood for use in heating-stoves of the oak and airtight patterns. If the pieces are six to ten inches thick, so much the better. They will last longer and give a steadier heat. In no case should they be split or cut smaller than is necessary to get them into the stove. Hardy catalpa, white ash, black locust and sugar-maple do well over a large portion of the country, and they are the varieties to plant. Close along creeks and branches I would plant cottonwood and soft maple chiefly. Back a little on the hillsides and rough land I would plant the better class of woods. I feel sure that the farmer who plants one to five acres of forest-trees will, if he lives ten years, thank his stars that he was wise enough to do so. His grove will grow into usefulness and value almost before he realizes it, and he will find so many uses for the wood that he will wonder how he managed without it. Seedlings three to five feet high are best for planting. The roots should be cut back to about four inches, and a man with a sharp spade can, if he has a boy to carry and place the trees, set out five hundred to a thousand on the hillsides in a day without difficulty. If I was on a new place, I would plant two acres to forest and one to orchard, rather than three to orchard. I believe there is more to be made in most sections of the West growing posts and fire-wood than in growing—or trying to grow—apples.

**Kansas Agriculture** From my friend F. D. Coburn I have received the Twelfth Biennial Report of the Kansas State Board of Agriculture. After looking through this excellent volume one ceases to wonder at the rapid advance all branches of agriculture have made in Kansas the past few years. Every Kansas farmer may well feel proud of his state, of its board of agriculture, and especially the secretary of that board, F. D. Coburn.

FRED GRENDEY.

### ABOUT THE COLTS

I believe in rearing colts naturally, giving them freedom and exercise and feeding them on feeds noted for bone and muscle forming; or, in other words, nitrogenous foods which consist largely of protein. There are two foods—bran and oats—eminently suited to the needs of the colt, and to them may be added perhaps a very small amount of linseed-meal. I would give these young animals no other grain. Generally speaking it is best to feed the oats ground and mixed with the bran, say in equal weights, pound for pound, and fed in quantities proportionate to age and size of animal, a little at first, but growing in quantity as the age of the animal increases. As regards hay, it is needless to say that only the sweetest, brightest and best cured should be fed. We cannot afford to risk injuring the wind, digestion or kidneys of the colt by feeding poor hay. I prefer hay only medium coarse, and would rather have some blue-grass and redtop in it than straight timothy. If a little prime clover is mixed in I do not object.

—M. Sumner Perkins, in *Breeders' Gazette*.



### FARM THEORY AND PRACTICE

**FEEDING CATTLE.**—There is no section of the world where good beef can be made more economically than it is in the corn belt of the Western states. The industry was formerly a leading one of fertile valleys in the Eastern states, and some of the old feeders give it up most reluctantly, many cattle still being brought eastward for feeding, although the net profit is unsatisfactory in most years. But the market for fat cattle has been moved to the West, and the relatively cheap feed is there. Not a few feeders find it necessary to pay freight on cattle from a Western market in order to secure the stock for feeding, and then send the fattened cattle back to the same market, thus putting their land into even competition with cheaper and richer land much farther from the seaboard. The results cannot satisfy the owner of the higher-priced farm.

"But what can take its place?" asks the old cattle-feeder. In many sections dairying has done so, but there is a limit to that. Feeders remain in the localities that have not good transportation facilities for milk, and they are not accustomed to the work of the dairy, anyway, and do not like it. The dairyman is narrow who insists that others are all wrong because they do not convert all feed into high-priced dairy products. Only a small percentage of soil products can be utilized in this way, and let those do it who have the best facilities and a liking for the work. There is little of value in all this argument about the returns from feed converted into beef and into butter. If all the feeders went into dairying butter would not sell at any price anywhere.

**THE MANURE QUESTION.**—The stockman has learned to value stable manure highly, and the cattle-feeder of the Eastern valleys who does not turn to dairying clings to his old business because he believes that he must feed his crops on the farm for the sake of the fertility. There certainly is no safer scheme of maintaining fertility than through stock-feeding. But when a rich soil cannot yield net income to its owner there is little encouragement. It seems to me that the making of beef must be given over more and more exclusively to the sections of cheaper grass and corn, the meat markets being supplied directly by the big companies that control the prices in large measure. The farmers of Eastern states will continue to graze and feed a few cattle; but feeding as a business in our Eastern valleys must give way under the changed conditions, regardless of the fertility question.

**WHAT RESULT TO THE SOIL?**—I would not seem to undervalue stable manure, but it is a mistake to suppose that land must grow poor when we cease to feed everything upon the farm. It is not necessary to sacrifice all income for the sake of keeping up the soil. Now that we know more about the composition of the soil, we know that productivity depends in great degree upon the presence of organic matter in it, and not solely upon stable manure or commercial fertilizers. The ideal condition would be one in which a goodly number of live stock could be kept with profit on nearly every farm, but the cattle-feeders of most fertile Eastern valleys must give up a farm scheme that makes fat cattle and wheat the only cash products. The list of cash crops will be made longer, and clover, peas and sods must be freely used to supplement the manure.

**ALFALFA.**—There is continued interest in alfalfa as a crop for the Eastern farmer. I confess that I looked upon it for years as unworthy of the expenditure of time and money in tests outside of the areas in the West, where soil and climate make it the one great forage plant; but it produces such large quantities of rich feed wherever it thrives that the Eastern farmer can afford to go to considerable expense in getting a stand of plants if there are soil conditions at all favorable to growth. A tight, heavy sub-soil will not do, but wherever the roots can go down easily to the moisture below the surface, and surface-drainage is good, it pays to try alfalfa. If the soil is not rich, make it so with clean manure. Make the seed-bed fine, putting plenty of work upon it, and get the organic matter thoroughly mixed with the soil. Having manured heavily, if

the land is not a naturally rich loam, it is best to grow a summer crop on it to destroy weed-seeds. Then on a good seed-bed sow the alfalfa in the spring after danger of freezing weather has passed. Oftentimes the seeding appears a failure on account of the weeds and the puny appearance of the alfalfa, when two or three clippings with the mower in the summer will change the prospects, and a good stand of plants will be the outcome. The hay is rich in protein—the most valuable part of feeding stuffs—and in the three or four harvests during the year a big total yield is secured. The second summer after seeding it makes a fair yield, but should do better the third year. A small area of fine, rich soil is all that a farmer should use in testing this clover.

**SORGHUM.**—Another crop that is gaining ground in the East for stock-feeding is sorghum. It can be grown on a variety of soils, and is highly valued by many dairymen, furnishing as it does a big amount of nutritious food an acre to supplement the pastures in August and September. It is very palatable, and is eaten with relish by hogs as well as cattle. It thrives in a dry season far better than corn, and a few acres of sorghum is a sort of insurance against the effects of drought on pastures and corn. It makes a rich hay, but is not so easily cured as fodder. This is the one drawback; but our enthusiasts assure us that little feeding value is lost by exposure to rain, and probably the best way is to cure in gavel, letting them take any rain that comes before the sorghum is cured. They should be turned at least once. After curing they are bound and put into small shocks. This feed is liked by stock. DAVID.

### HOW THE OLD HOUSE WAS MADE NEW

For an old house it was in fairly good condition. The framework was sound with the exception of one or two places in the sills; and, by the way, I was informed that the reason the old couple who owned the farm wished to sell it was because those very sills were rotten! Rather than undertake the job of repairing a few pieces of timber they thought best to give up the home which had sheltered them so many, many years! Well, it shows how big a little job looks to one who has grown old! But we are all getting that way.

But after I got fairly at my task of making over the old house I came to the conclusion that it was a thing to make even a young man tremble a little. So many things had to be done which I had not anticipated. There was an old cistern under the eaves of the upright part, for instance. With the perversity of the average cistern this had refused to hold water. No amount of cementing could bring it into a condition to make it answer the purpose for which it was constructed. The result was, the water ran down into the cellar, halting on its way long enough in cold weather to push over the wall and create general havoc. This cistern I deliberated on and voted it a nuisance. I would abate it. The very first thing I did was to tear down the trough which had been the channel for supplying the cistern and fill up the hole. Then I took the cellar wall down clear to the bottom and began anew. What a sight of blocking was needed to hold the house up while I was doing this! But that was nothing compared with the rest.

The farther I went the more ambitious I became. I now determined to take the entire cellar wall down, raise the house bodily one and one half feet and lay the wall up thicker and stronger. This meant a lot of work. But my courage was good. I set the teams to drawing stones from the fields and fence-corners, where they had lain for generations before I came on the farm. I almost buried the old house with stones before the mason said stop. Then I scoured the country over for jack-screws with which to raise the heavy frame. There were twenty-six of them, of various sizes and conditions, when we began to lift.

One morning when we all felt strong and full of courage the word was given and up went the house. It must go all at once or the inside walls and ceiling would be broken and come tumbling down over the heads of the inmates. But there were not many inmates just at that moment. There was not even the traditional boy who once stood upon the burning deck. All, and he with them, had fled! Inch by inch the old house raised its head in the world. At last it was up. We drew a long breath of relief and began to build the walls below. What a time this was! I remember when we were yet in this condition of suspended animation I heard a cry one day, and hastening to

the spot, was startled to find the mistress of the Clover Leaf Farm down between two joists of the back-porch floor, which had been taken up for the benefit of the stonemason, with a big barrel-churn on top of her! Fortunately for her no serious injury was done, but it took something quite as effective as a jack-screw to elevate her from her depressed position, as you may know when I tell you that she tips the beam at one hundred and eighty. After it was over we sat down and had a laugh.

Things went on that way for some time, and then the painter had a narrow escape. Honest old Jack, the horse which was used to draw stones around from place to place about the house, had been given a few minutes in which to graze in the meadow near by. Whatever started him no one to this day knows, but suddenly he began to run toward the house at the top of his speed, the stone-boat flying behind him. Straight toward the painter's ladder he went. The artist, foreseeing trouble, darted up the ladder at a pace which would have put the most experienced fireman to shame. He had just reached the roof when old Jack struck the foot of the ladder. The painter was safe, but I had to borrow a ladder for him to come down, and then had to coax him an hour to get him started.

But when the end of it all came this is the way the old house looked: It stood well up from the ground, the earth around it being nicely graded. A fine bluestone, rock-faced wall held up the sills. The man who did this work was an artist in his line and took all possible pains to do himself proud. The cellar was eight feet high. The tallest man can carry through the hatchway a crate of apples on his shoulder. The walls are laid up in mortar three feet from the bottom, and the entire surface is cemented. The floor is also cemented. If I had gained nothing else this cellar would pay for all my trouble. Along the north end of the sitting-room runs a deep porch. On the west side is a large bay-window. The dining-room is nicely wainscoted. A door was opened out of the dining-room into an old bedroom and the apartment converted into a nice, bright sanctum sanctorum for the head of the family. I said "the head of the family;" but if you should see how we all flock to this room, where are all our books, desk and papers, you might wonder how many "heads" my family has. So do I sometimes. The floors, which were terribly uneven when I began, are now as level as when first laid. A double coat of white, with green for the blinds, and there you have the Clover Leaf Farm house as it stands to-day. They say you must do something toward earning what you have in order to really enjoy it. If that be true, we should thoroughly enjoy our home; and we do.

EDGAR L. VINCENT.

### TREATING OATS FOR SMUT

Wherever oats are grown farmers sustain a very great loss through smut, a plant which may be easily eradicated by applying proper treatment. More oats are grown in Illinois than in any other state in the Union. We have been compelled to find a successful method of ridding oats of smut. Last year we lost \$930,000 on the oat crop, which was six per cent smut, the yield for the state being valued at \$15,500,000. The method practised here consists in treating the infested seed in water heated to one hundred and thirty-three degrees Fahrenheit, allowing them to remain therein five minutes, during which they are stirred vigorously in the sack containing them. An old gunny-sack or coarse-fiber bag of any kind will answer the purpose. Place in it a bushel or two of oats, tie the loose end and attach it to the end of a pole, the center of which rests in the fork of a stake four or five feet high. A large iron kettle holding sufficient water to immerse the bulk of the seed has previously been placed over a fire, which should be carefully controlled, in order that undue elevation of temperature may not occur. The water is tested with a reliable thermometer. If the temperature is below the point indicated, or above it, satisfactory results will be impossible; if too low, the smut spores will pass through the immersion unharmed; if too high, both the spores and seeds will be killed.

The pole mentioned is used as a sort of lever with which to manipulate the bag resting in the vessel of water. This enables the person in charge to manage the operation without danger of being burned. When the seeds have been treated for five minutes they are removed and placed in a vessel of cool water, being energetically stirred during the cooling process. When cool they are ready to sow, which is ordinarily done by

hand. Seeders won't sow moistened and swelled seeds. This is where objection is raised to the method described. Most farmers dislike broadcasting by hand; but it should be remembered that one need not sow more than five or ten acres in this manner, for the next year he will have plenty of smut-free seed with which to sow one hundred acres or more. The hot-water treatment should be employed only with small quantities of oats. When once the smut is destroyed it will not again appear unless the farmer gives it every opportunity. He should thresh his oats in a machine which has been thoroughly cleaned out before coming on his farm.

Oat-smut grows up and develops with the oat-plant. It is a species of fungi. It adheres to the oat kernels on the outside and is concealed in the husks or hulls covering them. The hot-water treatment kills them outright. In addition to doing this it moistens the hard coats or hulls, and thus facilitates germination by making easier the process of fermentation. Treated oats will germinate from three to four days sooner than those not treated.

The method here described has been practised with gratifying results all over Illinois, but farmers have not yet reached concerted action in regard to it, and hence the loss last year through smut was very great indeed.

DEWITT C. WING.

### MUTUAL INSURANCE FOR FARMERS

Among the numerous ways in which farmers may fight the trusts is by learning to look more after their business affairs rather than to employ others to do this for them.

The insurance solicitor may be dispensed with if farmers unite in mutual insurance companies and carry one another's risks. This has been done in some localities for a score or more of years, yet the custom is not nearly so general as it should be. Farm insurance is costing too much in joint stock companies, and but for the influence of the mutual companies would cost much more.

Ohio has one hundred and nine of these mutual companies, which carry aggregate risks amounting to more than one hundred and forty millions of dollars. In these companies the farmer may carry insurance on his buildings, live stock, farm implements, grain, hay, etc., at actual cost. There are no princely salaries for officers; in fact, many of the officers devote the necessary time and labor gratuitously. The agents, or appraisers, perform their work in many cases as neighborly kindness, and in no case do they receive more than a nominal fee.

The writer has for some time filled the position of secretary for one of these mutual companies, and is fully acquainted with the facts, and believes that those farmers who patronize stock companies are paying two and three times as much for their insurance as they really should.

H. O. Essex, of England, who is high authority on matters pertaining to insurance, has published a statistical work in which I find that the average cost of insurance in France is only eight cents a hundred dollars for three years; in Germany the average cost is fifteen cents; in England the average cost is placed at twenty cents; in Australia at thirty-six cents; in Austria at thirty-eight; in Russia at sixty-one; while in the United States we find the average cost is one dollar and eight cents.

If one insures in a stock company, he must invariably pay in advance the premium, policy fee, etc. If he insures in a mutual, the policy fee alone is paid in advance. The premium, or assessment, is not paid until the end of the year, or until losses occur.

The company with which the writer is associated was chartered December 5, 1878, and has thus been doing business for twenty-two years. The total assessments on a policy of \$2,000 for these twenty-two years amounts to \$50.80; the membership fee is \$2, making a total cost of \$52.80. The same amount of risk carried in a stock company would have cost \$122, with the next payment due January 1, 1901. But if the sums paid in each company are calculated by annual interest up to the above date we find the cost in the mutual would be \$76.15, while the cost on investment in the stock company is \$254.58.

I trust all farmers will investigate this matter and see if I am not correct in supporting the mutual insurance companies.

JOHN L. SHAWVER.

A NEW USE for Kafir-corn has been discovered in the West. They are making whisky of it that is said to rival in meanness the famous output of the Peoria distilleries.—Farm and Ranch.

## NOTES FROM GARDEN AND FIELD

FROM THE CATALOGUES.—The new catalogues have come in quite numerous during the past few weeks. F. B. Mills' catalogue is a modest affair. As usual it offers quite a list of novelties. Mr. Mills has brought out some good things, among them one of our earliest smooth tomatoes, the "Earliest in the World" tomato. What I do not admire in Mr. Mills is his taste in selecting names for novelties, such as Mills' Earliest in the World tomato, New Astonisher potato, Mills' Giant Prize tomato, etc. Like several other seedsmen, Mr. Mills offers the Garden Lemon and Vine Peach. I used to think but little of these things, considering them of little practical usefulness. I have to confess, however, that they make very nice preserves, and I shall grow some for that purpose. A few plants are all that a family needs, as they are quite prolific. American ginseng seeds and plants are also offered in this catalogue. Mr. Mills figures out the profits in ginseng-growing on the same plan as the inventor of the game of chess is said to have figured when asked by the emperor to name his reward. He wanted the emperor to give him one kernel of wheat for the first square of chess-board, two for the second, four for the third, eight for the fourth, and so on, doubling up for every succeeding square, clear to the sixty-fourth. The emperor promised the reward, but found that there was not wheat enough in his dominions to give him a chance to live up to the agreement. If you plant a bed of ginseng this year, plant all the seed from it next year or the year after, set all these plants to raise seed from, and continue doing so for ten years, "you will surely be a millionaire." Well, if I plant a bushel of wheat this year, raise ten bushels and plant them all next year, then plant the one hundred bushels the third, and the one thousand bushels the fourth, I would soon get into big figures, too; namely, to one thousand million bushels the tenth year.

John Lewis Childs never spares color either in illustrations or descriptions. Novelties are his strong point. On one of his ten or twelve interesting colored plates he shows the fig, the guava, the Otaheite orange, the Kumquat orange and melon pear. One of my neighbors has a few fig-trees which he winters in the cellar and brings into the garden every spring. I believe he manages to get some ripe fruit. I intend to plant a tree or two in the greenhouse. The melon pear, or pepino, is a most interesting plant, and may be planted out in the garden in spring. I believe I am the first on record who succeeded in getting some ripe fruit in open ground at the East. This was in New Jersey some twelve years ago. The fruit is most beautiful, seedless, but Mr. Childs' picture of it does not do it justice. I believe it is the most beautiful fruit grown. I had it of hen's-egg size, no larger. It is claimed to grow as large as a goose-egg.

Wm. Henry Maule's catalogue for 1901 seems again an improvement over the preceding issues. On the first cover page it gives a cluster, in color, of the new tomato sent out last year under the name "1900," but now called "Success." It surely was a success with me for the past two seasons. I shall grow it largely again this year. I do wish I could grow pansies approaching in size and beautiful coloring those pictured in one of Maule's colored plates! The one dollar which he asks for the five packets of the collection would not stand in the way of my having them. This catalogue offers a New Model cantaloup as being early and of high quality; a first early cabbage with flat and extremely solid head, a rival for Jersey Wakefield; the New Rose-Ribbed Paris, Self-Blanching and Evans' Triumph celeries, the latter being the same which has given me so much satisfaction for a late celery last season. The Excelsior Tree egg-plant is claimed to make an especially strong, stiff plant and to carry its fruits sometimes from two to four feet above the ground. I have not yet had a chance to try this, but of course will do so this year. The Strawberry muskmelon is surely a good one if it is like those I had last year—large and of high quality, almost as good as the much smaller Emerald Gem.

Peter Henderson & Co.'s "Everything for the Garden" is again worthy of its name. It is one of the most complete catalogues of

its kind ever issued. Among the novelties I notice the Immensity lettuce, said to be the largest summer lettuce out, eighteen inches in diameter when full-grown, of quick growth, and therefore crisp, tender and sweet, and one of the slowest to run to seed. Reliance pea is offered as a superior main crop wrinkled pea. Years ago Henderson & Co. introduced the Ponderosa tomato. I remember that at the time I suggested the appropriate but not very elegant name "Beafsteak" tomato for this. A splendid colored picture in Henderson's catalogue represents the Crimson Cushion tomato as the latest production of the now almost seedless "Beafsteak" tomatoes. The Heart of Gold squash I think is worth trying. I had it last year, and shall plant it again, as a most interesting companion to the Hubbard. It resembles the latter in general form, solidity and usefulness, but has a very beautiful reddish-orange color.

Tasty and comparatively plain is the catalogue issued by W. W. Rawson & Co. Among the novelties are the Athlete pea, a medium early sort, of remarkable productiveness; the Prolific Giant Podded Sugar pea—one with edible pods, said to be equal to the best snap-beans for cooking pods and all. From Rawson & Co. I have Rawson's Hothouse lettuce, a most excellent plain leaf variety for forcing, also the Crumpled Leaf, which is used both for forcing and outdoor culture. I am much pleased with both.

Harris' "Rural Annual" comes from the Joseph Harris Co. Among the specially good things it offers the "Eureka," a new early cabbage which I have repeatedly mentioned in these columns as a flat-headed, extra early variety of great promise. I have grown it for three years and always with unbounded satisfaction. French's Success is a new celery. It does not come from France, but is a cross of Giant Pascal with Golden Self-Blanching, made by Mr. French, an expert celery-grower.

The Wernich Seed Co. in a plain catalogue offers a general list of vegetable and flower seeds, nursery stock, implements, etc. Among the agricultural seeds it offers I notice the Sand, or Hairy, vetch, now recommended for an orchard cover crop. At present prices of seed, however, it is a question whether we can use it for such purposes with profit. The quantity which Mr. Hale and Prof. Craig consider just about right to sow an acre is just about a bushel and a peck. The seed is grown in Europe, I believe, and not very expensive there. When this plant comes into more general use for the purposes mentioned some of our orchardists may call for seed in ten, twenty, perhaps hundred bushel lots, then prices will come down to a quarter or fifth of the present figures. This firm also offers Giant spurry, Australian salt-bush, broom-corn, saccaline, cow-peas, teosinte, velvet-bean, flat pea, lupins, lentils, etc. I tried lupins last year, but did not have much success. Shall try to grow some lentils this year.

From the Livingston Seed Co. I have a wholesale price-list. It offers a new variety of parsnip (the Zimpfer), which it claims is sweet, smooth and very white. The fact is, there is room for improvement with any of our old varieties of this important vegetable. Almost all kinds are liable to grow sprangly in some soils, and are often unfit for market. I hope this new sort will prove of more uniformly good shape. A new salsify is also brought out under the name "Wisconsin Golden." The introducers claim that for delicious flavor, richness and tenderness this excels any of the older varieties.

The M. Crawford Co. sends out a small catalogue of strawberry-plants and gladiolus bulbs. I always have a great deal of confidence in the descriptions found in Crawford's lists. He is sure to tell the weaknesses as well as the strong points in the varieties which he offers. Of Sample, for instance, which at the last meeting of the Western New York Society was named as the best all-around strawberry for market, he says: "That it is one of the greatest berries we are satisfied. . . It is a fine variety for home use or market under any kind of culture. That is our opinion, but we have found some who differ from us materially." And then he quotes a number of unfavorable comments from the columns of both horticultural papers and private reports.

We should not forget that there is not one variety which can be called "the best" for all soils and conditions. I think I have a treasure in the Brandywine. Mr. Hale wanted to strike it off the list of six best market sorts. We have to find out for ourselves by trial on our own grounds.

Johnson & Stokes' Garden and Farm Manual is especially interesting for its fine illustrations, which are wholly reproductions from photographs. Such pictures alone must inspire confidence in the integrity of the firm. Among the new things offered are the Summerlead and the Golden Gate lettuces, two new summer sorts; a number of new peas, among them the Market Master, an English sort of medium and late season. Sparks' Earliana tomato, which this firm introduced a year ago, I have already spoken of in an earlier issue of FARM AND FIRESIDE. It should be found in every garden.

T. GREINER.

## ORCHARD AND SMALL FRUITS

CONDUCTED BY SAMUEL B. GREEN

### WHAT GRAFTING IS DONE FOR

Grafting is employed for a variety of purposes, which may be divided under the following heads:

1. To perpetuate most of the named varieties of fruits and many varieties of ornamental shrubs and trees. It is seldom employed to propagate species; but in the case of some sorts that are difficult and uncertain about growing from seeds or cuttings it is so employed, as with some of the firs and spruces, which under cultivation seldom produce germinable seeds.

2. It is performed to reduce stature, as when pears are grafted on quince or alaman-chier, or on mountain-ash; the apple on the Paradise, which is a dwarf-apple stock, or the plum on the sand-cherry.

3. It is done to adapt trees to diverse soils, as the grafting of the peach on plum for clayey soils; the plum on peach for light, gravelly soils; pear on mountain-ash for chalky soils, as is practised in Sweden; peach on the almond in some chalky districts of England.

4. To correct poor habit. Some varieties that are naturally crooked, sprawling growers are grafted on straight stocks, as when the bushy, sprawling New Ulm plum is grafted on the cherry or other vigorous grower. The crooked Winter Nelis pear is grafted on some strong-growing variety for the same reason.

5. To adapt to diverse climates, as when the Wealthy apple and similar somewhat tender sorts are grafted onto Virginia to make them hardier or to overcome weakness in their trunks or elsewhere.

6. To accelerate fruitfulness. Grafting increases the tendency to early bearing. Even when trees are grafted with their own scions the tendency to early bearing is increased. In this case the flow of sap is somewhat restricted, which results in the forming of fruit-buds in the same way that girdling acts. It is also the case when pears are grafted on quinces that the pears bear very young.

7. To prevent running out of varieties. Some varieties do better on the roots of other plants than on their own, as in the case of many ornamental shrubs and trees.

8. To modify the season of ripening of the fruit. This is brought about by different habits of maturity of stock and scion. An experiment with Winter Nelis pears showed that the fruit kept longer when grown on the Bloodgood than when grown on Flemish Beauty pear stocks. The Early Harvest apple advanced the period of ripening of the Twenty-Ounce when the latter was grafted on it.

9. Grafting sometimes modifies the form of the fruit, as in some cases where the Duchess has been grafted on the Transcendent crab, where the fruit has been much modified in form and in stem.

10. Grafting on some kinds of stocks is said to sometimes affect the color of the foliage. The purple-leaved plum, known as *Prunus pissardi*, has been seen to give a higher color on *Prunus Americana* than upon *Prunus domestica*.

11. Grafting may influence the flavor of fruit. Apples grafted on crab frequently show a certain increased sprightliness, or at times even acidity, which is evidently the effect of the stock, although this is seldom very apparent. The Angouleme pear is improved in size and quality when grafted on

the quince. Downing mentions other varieties that are improved by grafting.

The scion affects the stock as well as the stock the scion. Every nurseryman knows that some varieties have roots that go especially deep, as the Hibernian, and others roots that are shallow. And Darwin says that the common variegated jasmine when worked on the common kind sometimes so affects the stock that it produces variegated foliage; and the same thing occurs in the oleander and the European ash and hazel.

Graft hybrid is a term used to denote the blending of the characters of the stock and scion, and some of the instances cited as the results of grafting may be due to this cause; but very marked blending is so seldom observed and so inconstant that in only a very few cases has it been used for commercial purposes, and then only in a small way. Among the most interesting facts in this connection is in the case of the potato. Here many records can be found where the eyes of white and red potatoes, when halved and grown together, have produced mottled tubers. The same has been done by inserting the eyes of one potato into the tuber of another, after destroying all eyes but the one inserted. Similar blending has been noticed with hyacinths when bulbs of different kinds have been inserted.

The limits of grafting can only be determined by experiment. As a rule plants of close botanical relationship, especially those of the same genus, graft upon each other with more or less ease. Yet this relationship is by no means a safe guide. A plant will often thrive better upon the species of another genus than upon some of the species of the genus to which it belongs, and species of the same genus often refuse to unite. The pear, for instance, does better upon many thorns than upon the apple. Sometimes plants of very distinct genera unite readily. Thus, among cacti the leafless *Epiphyllum* grows well on the *Pereskia*, and the lilac on the privet or the ash. It should be borne in mind that union of tissues is not a proof of affinity. Affinity can only be measured by thrift, healthfulness and longevity of scion.

### INQUIRIES ANSWERED

**Book Wanted on Osier Willows.**—L. K. M., Warrior, Ala. The best work on osier-growing in this country is Bulletin No. 19, of the Division of Forestry (Department of Agriculture, Washington, D. C.), published in 1898, by John M. Simpson. It contains much practical advice and a list of the larger osier-growers and manufacturers of willow-ware in the United States.

**Cedar Seedlings.**—L. A., Clearfield, Iowa. The blue berries that are now to be found upon our red-cedar trees generally contain one seed, and this can be made to grow quite certainly if treated in the following manner: The seed may be gathered at any time in the autumn or during the winter. It should be soaked for ten hours or more in strong lye, to break down the covering. It is then a good plan to rub it against a fine sieve or other rough surface, to take off the seed-coat. After this mix it with sand and bury it out of doors where it will be frozen. On the approach of spring work up a good seed-bed, preferably in rather sandy loam, and sow broadcast, so the seed will be about one inch apart each way, or else sow quite thick in drills six inches apart. The seed will not start the first year, or at least not much of it, and I have found it best to cover the bed soon after planting with a mulch of hay or other material, to keep out the weeds during the summer. The next year the seed will come up very early in the spring, and it is very sure to grow by this treatment. They make a very rapid growth, and may be transplanted at the end of either the first or second year. There should be a good circulation of air around the seedlings and they need the full sunlight.

**Ornamental Weeping Trees—Growing Red Cedar for Posts.**—R. L., LaColle, Canada. If you wish to set ornamental weeping trees I think you would do well to plant the Wisconsin weeping willow, the cut-leaved soft maple and the cut-leaved weeping birch, all of which are very ornamental and take on the tree form, but have pendulous branches. I understand from what you write that you do not care for trees that do not take on a typical tree form. This being the case, you will not care for the weeping mulberry, the Kilmarnock willow or the weeping mountain-ash. The Kilmarnock willow is naturally a shrub that trails on the ground, but when grafted on some strong-growing stock the branches fall from the top of it nearly directly to the ground, much as if they were strings, giving it a sort of fountain appearance, and it is also known as the fountain-willow. As for myself I do not care very much for this class of trees, as I do not see very much beauty in them, but they are of interest to many people on account of their curious form.—It would probably take twenty-five years to grow red cedars from seed to a size large enough for fence-posts. It is a slow-growing tree, and I should not select it as being the best thing to plant for this purpose, on this account, but I like it for ornament. It would be far better to plant the yellow or honey locust, which would make a good fence-post in half the time.

OATS AS A COVER CROP FOR GARDEN  
AND ORCHARD

**N**O ONE thing connected with our horticultural operations of the past two or three years has given greater satisfaction than the use of oats as a cover crop. We have tried rye, crimson clover and a number of other crops for the same purpose, and while each one has its place and under certain conditions does well, in our experience they have often proved unsatisfactory and disappointing. Oats, however, have never disappointed us.

The seed is comparatively inexpensive and germinates quite readily. Those who have been accustomed to sowing wheat after oats know that the oats that have been scattered where the crop was harvested often grow with remarkable luxuriance. The fall growth of these self-sown seeds is usually much greater than that of the wheat for which the ground has been specially prepared. As a rule, where oats are used as a cover crop, the plants cover the ground in a comparatively short time. In this latitude their growth is rarely checked until late in autumn or well into winter. Even when the plants are killed by frost they still cover the soil with a sufficient mulch to hold the rains and snows until they have time to soak away into the land. At the same time they prevent our heavier soils from cementing or puddling.

We sow oats for a cover crop any time from the middle of August to the middle of October, using seed at about the rate of two bushels to the acre.

Under our conditions oats are preferable to rye, because they shade the ground and keep down the weeds better. Again, we run no risk in using oats of depleting or robbing the soil of needed moisture in spring.

The exact relation of cover crop to moisture is not well understood. It is thought by some that any crop that shades the ground will conserve moisture and keep the surface moist. We should not forget, however, that growing plants exhale great quantities of water in the form of invisible vapor. A crop sown late in the season upon land that has been well cultivated during the spring and up to midsummer is not likely to receive any great injury in the way of depleting the moisture in the soil. At this season, especially when the soil is rich in nitrates, our orchard-trees and fruit-plants need to have their growth checked rather than stimulated. In spring, however, when even a slight drought may effect serious injury, a vigorous-growing cover crop like rye may do much harm before it is removed or turned under. Cover crops are not intended to take the place of thorough cultivation, but to supplement it. A combination of both is probably the best rule for the average fruit plantation. Ordinarily, however, tillage alone for orchards would be better than cover crops or green manuring alone, but a judicious use of both will generally give the best results.

While we have secured excellent results from the use of oats as a cover crop, and find them more satisfactory than anything else we have tried, the fact still remains that under other conditions some different crop might give far better results. There is no one cover crop that is best for all situations. Each gardener and fruit-grower must study the needs of his own soil and the condition of his fruit-plants. Much has been expected of crimson clover, but with us it often fails to "catch," and we cannot leave it long enough upon the land to make it profitable or to get its full value. We have not succeeded very well with other leguminous crops, although many regard them as the only ones that are worthy of growing. Next to oats, millet has given the best satisfaction, although turnips and rape have each done well.

What is needed upon our rather fertile river-bottom land is some surely germinating, quick-growing crop that will soon cover the ground, keep down the weeds and prevent the soil from compacting. Although the crops above mentioned are tender, and pass the winter in a dead state, they are exceedingly useful, and we could not get along very well without them. So far we like oats the best, but further experience may bring to light something better.

If crimson clover would start more surely and make a heavier growth in a shorter time it would be the ideal cover crop for orchards, and would come rapidly into use. Rye, oats and millet are coarser crops, but they will grow where more delicate and better plants will not. They demand little in the way of preparation, and thrive upon a wide variety of soils. They can be sown early or late in the season, and where plenty of seed is used rarely fail to grow a good cover.

O. S. U. WILLIAM R. LAZENBY.

## GERM-LIFE IN MILK

With the development of the science of dairy bacteriology new light has been thrown on the composition of milk and how this may be affected by the growth and development of germ-life in the same. The present status of science recognizes in milk an extremely sensitive fluid, one that is susceptible to manifold changes produced through the introduction of living organisms that are foreign to the milk. These forms of germ-life come in the main from the outside rather than the inside of the animal. They may, of course, be derived directly from the animal in case the cow is affected with some malady, the seeds of which are more or less thoroughly generalized throughout the system. But in the great majority of cases the major portion of bacteria present in milk find their way into the same during and subsequent to the milking process.

Practical experience has probably shown for centuries that dirt was incompatible with the best quality of milk, but it has remained for modern dairy bacteriology to point out why dirt was so inimical to the keeping of milk. It has been shown that it is not simply because dirt is present, for if one adds, for experimental purposes, dirt which has been thoroughly boiled or baked, no ill effects are to be noted. It is not the dirt itself, but it is what this material contains. Under ordinary, normal conditions the microbes of fermentation are so widely spread throughout the earth that it is practically impossible to expose milk to the influence of dust-laden air, or bring it in any way in contact with dirt without seeding it with forms of life that are capable of transforming the otherwise nutritious food into a fermenting, often foul-smelling liquid.

The lessons of cleanliness, bacteriologically applied, have been of the greatest service to the milkman. Enterprising dairymen are now paying more and more attention to the rules and regulations that are necessary to follow to prevent bacteria from gaining access to milk. Public sentiment on these matters is growing so much stronger that throughout the length and breadth of the land, especially in the cities, there are to be found dairies whose motto is "cleanliness" intelligently and persistently applied. These sanitary or certified dairies are growing in favor, for people are coming to recognize the fact that milk may so frequently serve as a vehicle for the transportation of not merely fermentative bacteria, but disease-breeding forms as well, that they are willing and glad to pay the extra price if they can be assured of an improvement not merely in the amount of butter-fat or milk solids, but in the sanitary character of the milk.

The danger from the introduction of specific diseases, as tuberculosis, diphtheria, typhoid fever and the like, while it is not to be ignored, is, however, small when compared with the danger that threatens the life of the suckling infant that is brought up on the bottle. The breast-fed infant draws its nourishment directly from practically a germ-free source. The bottle-fed baby is given a fluid that may be anywhere from a few hours to a day or so old, and in which innumerable organisms have been thriving, often under conditions that favor a most rapid development. Is it any wonder that the mortality of the latter class increases to a frightful extent, especially during the heated summer months? Ignorance on the part of many of the proper methods of milk handling, and lack of suitable facilities for storing, are fruitful aids to further rapid deterioration in the quality of the milk used by the young infant.

**STERILIZED MILK.**—It is in connection with this phase of the subject that we note one of the most important and most practical results of bacteriological investigation; namely, pasteurization and sterilization. Five years ago these words, particularly the former, were scarcely known even by many of the medical profession. To-day scattered throughout the country are dairy plants that make a special point to supply the public with milk products that have been treated in a way so as to not merely enhance their keeping quality, but also to eliminate any possible disease organisms that they might contain.

The results of the introduction of this system of preservation are difficult to measure, owing to the diffusion of the product handled, but the philanthropic efforts of Nathan Strauss, in New York City, to supply the children in the tenement districts with pasteurized milk have greatly lowered the death-rate from diarrhea and other intestinal disorders among this class, and are an index of the value of such methods. —Professor H. L. Russell, in American Agriculturist.

## CORRESPONDENCE

**FROM KANSAS.**—A reader of the FARM AND FIRESIDE asks me what I think of this state for a poor man to move to. I have been in this beautiful valley twenty-eight years, and I have done well. All who came to this country when I did, and "stayed with it," are doing well. Those who came to make a fortune in a few years, and then go back home and enjoy it, made a miserable failure and left the country; and we are glad they did. Intelligence and industry will insure success.  
Rush Centre, Kan. — G. B.

**FROM ARKANSAS.**—Northwest Arkansas is known as the "Land of Big Red Apples." No finer fruit country can be found anywhere. The country is mountainous, abounds in fine springs, good timber—pine and oak—and has a perfect climate, neither hot nor cold. Lead and zinc mines are being opened wherever railroad facilities are offered. Farming will pay as well here as anywhere when followed with good judgment. Limestone, marble and other building-stone of the highest quality are found in most parts of Carroll County. Our native people are not so progressive as they might be, but with the building of the Northwestern Arkansas railroad, now nearly completed, many progressive people are coming in. There is room for profitable investment both in land and manufacturing.  
Berryville, Ark. — W. D. C.

**FROM TEXAS.**—Wise County is situated in the northern part of the state. It is mostly a timbered country. It has a deep, sandy soil adapted to all kinds of grain, but the main crop is cotton, which makes from one fourth to one half to the acre. Corn and oats yield from twenty to fifty bushels to the acre, according to the season. Fruit and vegetables of all kinds do well here. Our timber is post-oak, burr-oak, pecan, cottonwood, etc. This is entirely a farming country, thickly settled with farmers from nearly all the states—good, clever people. There are plenty of churches and schools. Land is cheap. Good farms can be had at from \$10 to \$20 an acre. The past year was a prosperous one with us. Cotton alone more than doubled the value of the land it grew on, averaging about \$25 an acre. I think this one of the best counties in the state. Alvord is a small town twelve miles north of Decatur, the county-seat, and has about eight hundred inhabitants. It has a canning-factory with capacity for canning fourteen thousand cans a day, which gives employment to about seventy-five hands.  
Alvord, Tex. — L. A. C.

**FROM FLORIDA.**—That point from which I write is on the line of the Louisville & Nashville railroad, one hundred and fifty miles east from Pensacola, in Jackson County, in what is known as "West Florida." Our soil is a "gray sand," with a greater quantity of humus than obtains in most of the state. The subsoil is composed of fine sand and clay so finely mixed as to stand up in our wells of water without any curbing or walling except two feet of the surface. The water is found at a distance of twenty to thirty feet from the surface, and may be called "filtered rain-water." It is soft and free from any alkali, and its filtration could not be more perfect if passing through a soft-burned brick. Surface water for stock purposes is found mainly in lakes, of larger or smaller size, and remains perfectly clear and pure in the driest times. There are several rivers also in West Florida, which rise in Alabama and find their final outlet in our bays that empty into the Gulf of Mexico. As a stock country it cannot be excelled when the right kind of men take charge and the right kind of stock are brought out of our timber scrubbs. I do not favor a wholesale importation to make the change; just an improvement of stock now on hand. Our own people will improve as soon as they have the means and the example; and nothing better as a base for large and successful breeding of cattle and sheep can be had than our native stock. I would bring no females of pure blood in either cattle or sheep except to keep up pure stock for crossing purposes, and in hogs a small taint of "razor-hack" preserves a healthy, hardy, rustling stock. Western horses can be safely brought to this country; in fact, three fourths of the horses in use in this county at this time have been brought from Texas or the Northwestern states within the past seven years. Prior to that time I think five farmers plowed and cultivated their lands with a single ox to one who had a horse; to-day I think the condition is exactly reversed. I would advise that no one should bring an overgrown Norman horse or large Shorthorn cow to this country. A horse of nine hundred to one thousand pounds and a cow of seven hundred to nine hundred pounds will do well. They may shrink somewhat the first year, before acclimation, but I have seen no trouble "because of the warm climate," as is so often suggested. It is a white man's country. The negro population is confined to some of the old centers, not one of which is on the railroad. There are now a large number of colored men working turpentine who are of a migrating disposition, and move on as fast as that business is done, which will last only a year longer in this section and a few years all over West Florida. But it is a "white man's country" in a better sense, in that it is the place for a white man of any nationality to live and labor. The thermometer never reaches as high as in the Northern states, and as a general thing when your "hot wave" becomes intolerable we are five to ten degrees cooler, so you need not expend any sympathy on us when you get to your hottest, but just sigh for a whiff of our "Gulf breeze." Unlike the North and West, we have no long, hot harvesting-time in July and August, that bring our rest-time.  
Grand Ridge, Fla. — J. T. P.

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TOO MUCH FOOD

WHEN fowls do not lay, and are apparently well, the difficulty is probably due to heavy feeding, mostly on grain, extending over several months, the old fowls being affected more than the pullets. The heavy males should be removed and the birds compelled to take exercise by seeking their food. The result of overfeeding is liver disease, which in turn induces other ailments. When fowls reach such a condition it is almost useless to attempt the giving of medicines. The best remedy is a change of diet and feeding sparingly. The best food in summer is grass and insects, and as the season is then warm no other food is necessary. In winter less grain should be allowed, its place being supplied by about a pound of lean meat to twenty hens at night. If range food is scarce, and the hens are laying, they may be allowed also a pint of wheat to twenty fowls, well scattered, so as to compel the fowls to search over a wide space to secure it. In winter the fowls cannot forage, hence they should be fed with great care.

is limited and the supply is, and always will be, inadequate to the demand. The writer canvassed the state more or less for two years to find the most appropriate combination of climate and transportation for poultry of all kinds, and located a poultry-farm two hundred and forty miles south from San Francisco, in Toro Valley, a small valley located between the sea and the hot valley on the east, thus finding the appropriate medium between the damp sea and the parching valleys, where poultry thrives equal to the quail of the woods. The valley is surrounded with lofty mountains, which shield it from any and all winds, humid or dry. No place in this vast commonwealth can there be found a location where water, climate and everything is so conducive to the health, growth and happiness of fowls as in this vicinity, and in no place in the state can be found land which can be had so cheaply which is supplied with reasonable transportation as in this valley. A. B. Cayucas, Cal.

SAVING EGGS FOR HATCHING.—Now is the time to begin saving eggs for hatching. Only those that are known to be freshly laid and gathered the same day should be used. An egg will stand a temperature of about twenty degrees and still retain its fertility if protected from draft, for who has not frequently seen the hen that has stolen her nest away under the barn or other building, perhaps in January, when the temperature is changeable from one existence to the other, and brought out as promising a brood as if everything favorable had attended her period of incubation. Eggs intended for hatching should be kept in a cool place, and should be turned at least every third day to prevent settling, and none kept over three weeks should be presumed to be good. Those who are provided with incubators and brooders of the commercial kind, with warm and well-planned houses, might as well begin setting their eggs in January; but the average farmer's wife, who depends on the old-fashioned way—on Biddy—will find that eggs set the second week in February will hatch about March the first, which is early enough, as the chicks even then require a good deal of coddling to grow as fast as those hatched later, when warmer weather prevails, for it is obvious that the chick that gets winter-stinted will have to hustle to hold his own with his first-of-April brother. It is necessary to give special attention to the general health of the flock before the breeding season begins, as the germs of cholera, roup, etc., are transmissible and have much to do with producing degeneracy in the young brood. While it is little past the season for cholera, yet catarrh, diphtheria and roup are usually prevalent during the winter months, and fowls which have been subjected to disease and recovered are scarcely fit for breeders. Cleanliness, freedom from vermin and a varied diet do much to enhance the conditions toward healthy hatches. Frequently fumigating the quarters with coal-tar, not too dense, while the flock is roosting, and a drink of warm, fresh water each morning, render diseases less epidemic. Another thing important is to see that the hens do not become fat, which produces weakness in chicks. Chopped feeds, oats, barley and bran, well scalded and fed hot in the mornings, with a generous amount of shelled corn in the evenings, and plenty of exercise, are necessary preliminaries to the hatching season, which is close at hand. H. P. H. Lewistown, Ohio.

WARMING THE POULTRY-HOUSE

On damp days, when the house is chilly and uncomfortable, hang up a stable-lantern at night with wire, and do not have the flame too high. It will not only warm the house some, but dries the air therein. Do not be afraid of carbonic-acid gas, or have any fears about the entrance of fresh air, for even one lantern may not be sufficient to warm the house on a cold night, as more fresh air (that is, cold air) will get in than can be kept out, even if one so desires. Another point—when you build a poultry-house have your windows large. Do not be afraid of glass. The sunlight on the floor and walls dries the house, makes the fowls cheerful and happy, and renders the interior of the house as bright as the outside. True, glass radiates heat, but it also permits the wood to absorb heat during the day. The heat of night can be retained with a hanging-lamp, but glass should let in heat during the day.

CORRESPONDENCE

POULTRY IN CALIFORNIA.—I have been a reader of THE FARM AND FIRESIDE for some time. During the course of my perusal thereof I have found matter both instructive and interesting; particularly interesting are those communications which teach us the poultry business. In a recent issue one correspondent wrote on dieting chickens, and recommended a great variety of food, and gave his reasons for the use of foods and its utility in some cases. His prescription may be the very best in the climate of Wisconsin, but does not apply to the climate of California. During twenty-five years' experience in poultry-raising and egg production I have fed oats, corn, barley, rye, wheat, bran, corn-seed, millet, and soft food consisting of bran and shorts, and with experimental views, and as yet I have been unable to discover different results from the different foods mentioned, except in the use of the soft food, which is good occasionally, but as a diet to the older fowls is too relaxing; to the younger chicks I have fed it without stint and with the best results. Nowhere on earth does it pay the poultry-raiser so well to become proficient in the business as in California, and nowhere does poultry pay so well as in parts of this state; roosters always command from \$4 to \$7.50 a dozen in this market. Eggs seldom get below twenty cents a dozen. To the Eastern farmer or poultry-raiser such prices seem fabulous, to come from a country where poultry thrives on every kind of food, and at once he inquires why there is such a vast difference in price between his and the California market, and why the country is not flooded with poultry and eggs. The answer is, first, it takes the whole world to make up the great variety of climate found in this state of one thousand miles in length and two hundred and fifty miles in width. No place immediately on the coast or sea-shore, or so far back as the extreme humidity of the sea impregnates the atmosphere, can poultry be grown successfully, on account of the roup, a very fatal disease prevalent in many localities of California. Second, in the valleys of the interior, where the climate is hot, lice infest every nook and corner of your chicken-house summer and winter, and no matter whether high or low, large or small houses, lice are as disastrous to the flock as roup or any other disease. Third, the railroad company of this state stands between the producer of the remote parts of the state and the consumer of the popular cities and towns with an unreasonable rate for transportation. Hence, you see, while the state is large, and notwithstanding its grandeur, etc., there are only certain localities in the state which are well adapted to poultry-raising, therefore its business

INQUIRIES ANSWERED
Temperature for Incubation.—M. F., Conneaut, Ohio, writes: "At what temperature should eggs be kept in an incubator?"
REPLY:—About one hundred and three degrees is the temperature generally used.

Red Caps.—A. L. B., Lynden, Wash., writes: "How does the Red Cap breed compare with the Leghorns?"
REPLY:—The Red Caps fully equal the Leghorns as layers, but are perhaps not quite as hardy in some climates.

Layers and Brooders.—G. W. S., Aurora, Mo., writes: "Which breed of fowls is considered the best for laying and brooding?"
REPLY:—The Plymouth Rocks, Games, Wyandottes, Langshans, Brahmas or Cochins should answer. It is difficult to decide which breed is the best.

Swollen Eyes.—C. C., Delaware, Ohio, writes: "My hens have sore mouths and swollen eyes; the breed is Leghorn."
REPLY:—It is probably contagious catarrh. Disinfect the premises and separate the sick birds from the others. Dissolve twenty grains of boric acid in an ounce of water, and bathe the eyes; also inject a few drops of the solution into each nostril once a day. Be careful of overhead drafts of air at night.

Ground Grain.—E. H. N., Downer's Grove, Ill., writes: "Will corn ground cob and all, with ground oats, clover-meal and animal-meal, make a good food for laying hens? If so, what proportion of each should be used? Will the cob take the place of bran?"

REPLY:—It is a good combination; use about equal parts of each. There is no rule for feeding, as flocks differ. The cob will serve a mechanical purpose, but is not a substitute for bran.

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## QUERIES READ THIS NOTICE

Questions from regular subscribers of FARM AND FIRESIDE relating to matters of general interest will be answered in these columns free of charge. Querists desiring immediate replies, or asking information upon matters of personal interest only, should inclose stamps for return postage. The full name and post-office address of the inquirer should accompany each query, in order that we may answer by mail if necessary. Queries must be received at least two WEEKS before the date of the issue in which the answer is expected. Queries should not be written on paper containing matters of business, and should be written on one side of the paper only.

**Poultry Droppings—Worms in Timber.**—H. W., Milo, Cal., writes: "I have a quantity of old hen droppings. What had I better mix them with to obtain the best results?—What time of year is best to cut oak timber to prevent worms from eating it?"

REPLY:—Simply scatter the old droppings broadcast over your garden. Hereafter in collecting and saving poultry droppings use dry earth and land-plaster as absorbents.—Since some kinds of worms work in growing timber, and other kinds work in dry wood, they cannot be avoided by cutting at any special time.

**Tanning Skins.**—M. A. E., Alexandria, Ky. In "Farm and Home" (Loudon), Pateley Bridge writes humorously on this subject, as follows: "Some years ago a correspondent sent me the skin of a tabby and white cat as a sample of his method of curing and of his handiwork and as a refutation of the oft-reiterated statement that amateur-cured skins were always hard and practically useless. The sample was fairly soft; it did not crackle like a piece of glazed calico when handled, but it was unspeakably greasy, and communicated this to everything with which it came in contact. It lay about for some time, saturated the paper in which it was wrapped with the grease absorbed from it, and finally was thrown out onto the muck-heap. The groom rescued it from this ignominious fate and carried it into the stable, where it was long used in the process of grooming, and declared to be 'the finest thing out' for polishing horses' coats when used as a rubber after wiping. I have tried a good many methods and receipts for tawing and tanning small skins, but the least troublesome and most effective is the following: Stretch the freshly removed skin on a stout board, and tack the edges. The skin must not be strained too tightly or the fur will look thin and poor. Next scrape off all fat and tissue, being careful to avoid cutting the skin. Then clean, remove the tacks and sprinkle with a good coating of a mixture of one part of nitrate of potash and two parts each of common salt and powdered alum, afterward doubling the skin and putting a piece of board on it and weighting it, to keep the skin together; or if two skins are being cured they may be placed in pairs—flesh sides together. In about ten days the skin will be sufficiently 'tawed,' when it should be shaken out, stretched on the board again and rubbed well with a lump of chalk and then with a piece of pumice-stone until quite dry. The degree of softness obtained will depend on the amount of labor put into the work. I have spent as much time in curing a rabbit's skin as would, if properly remunerated, buy a suit of sables, and then it is only 'a rabbit skin,' and not even fit to 'wrap poor baby Bunting in.'"

## VETERINARY

CONDUCTED BY DR. H. J. DETMERS

To regular subscribers of the FARM AND FIRESIDE answers will be given through these columns free of charge. Where an immediate reply by mail is desired the applicant should inclose a fee of one dollar, otherwise no attention will be paid to such a request. Inquiries should always contain the writer's full address. Queries must be received at least TWO WEEKS before the date of the issue in which the answer is expected. Veterinary queries should be sent directly to DR. H. J. DETMERS, 1315 Neil Avenue, Columbus, Ohio.

NOTE.—Parties who desire an answer to their inquiries in this column must give their name and address, not necessarily for publication, but for other good reasons. Anonymous inquiries are not answered.

**Tuberculosis.**—M. L., Dickinson, N. D. The symptoms you describe are such as are common in bovine tuberculosis.

**Warts.**—S. C. M., Calla, Ohio. Please see reply to J. L., Lake Wilson, Minn., in present issue. There is no essential difference between warts on a dog and warts on other animals.

**Abnormal Milk.**—W. D. C., Berryville, Ark. The cause of the trouble probably consists in the fact that you milk your cow too long and do not allow her to go dry a sufficient length of time before calving. Make her dry at least two months before she becomes fresh again.

**"Lost its Cud."**—F. N. M., Pomomkey, Md. There is no such disease as "losing the cud." All ruminating animals stop ruminating when suffering from any digestive disorder, and also in other diseases. Consequently, the simple information that your sheep lost its cud is by itself alone of no diagnostic value whatever.

**Heredity of Curb.**—A. F., East Liverpool, Ohio. Curb is hereditary in so far as it never makes its appearance unless the formation of the hock-joint is such as to predispose to its production; in other words, unless the hock-joint has too much angle, or is absolutely too weak, curb will not make its appearance. Such a defective formation may be, and very often is, transmitted by either sire or dam upon the offspring.

**Probably Garget.**—H. M., Florence, Ala. It seems to me that your cow unquestionably requires more frequent milking. See answer to M. A. N., Blue Creek, Ohio, and consult the numerous answers given in recent numbers to similar questions.

**Probably a Sequence of Dog Distemper.**—N. M., Felchville, Vt. The spasms and paralytic symptoms of your dog are probably a sequence of dog distemper, and if so, incurable, especially as they have existed nearly a year, and therefore are chronic.

**Warts.**—J. L., Lake Wilson, Minn. If you have a little patience, the warts on your cattle, especially if not irritated, will disappear in time without any treatment; but if you have not, please consult the numerous answers to "wart" questions recently published in these columns—November 1 and 15, 1900, December 1, 1900, and February 15, 1901.

**Fleas on a Dog.**—H. H., Leesburg, Florida. Dogs can be freed from fleas with Persian insect-powder, but it will be for only a very short time unless the sleeping-place of the dog is also freed from the fleas and the dog is kept away from all places where fleas are plenty and where they breed and multiply. They breed in the ground, but preferably in sandy soil.

**Bad Milk—Red Sediment in the Milk.**—M. C. H., Cabool, Mo., and A. K. S., Lamoin, Iowa. Since the milk of your cows is normal (looks all right and smells and tastes all right) when drawn from the cows, the cows are not at fault, and the cause must be looked for somewhere outside of the cows, and be something that affects the milk after it has been drawn.

**Probably Navicular Disease.**—T. R., Dungeness, Wash. What you describe appears to be a case of navicular disease. You may ease the mare somewhat by shoeing her in a way that will throw more weight upon the toe and less upon the heels, as this will relieve the flexor tendons and the navicular bone. A restoration to a normal condition is out of the question.

**Probably Garget.**—M. A. N., Blue Creek, Ohio. What you describe is probably nothing but a case of garget. Since the cow is now dry nothing can be done; but when she comes in again see to it that she is often enough milked, and if it is nothing more than garget there will probably be no trouble. If a cow is a good milker three or even four times a day will not be too often to milk her.

**An Actinomycom Has no Effect Upon the Milk.**—H. G. D., East Cornwall, Conn. An actinomycom on the jaw-bone of a cow (so-called lumpy-jaw) has no effect whatever upon the milk, unless it should become so extensive as to seriously interfere with the eating and the mastication of the food, for then the milk will be apt to decrease in both quantity and quality. An actinomycom is merely a local ailment.

**So-called Rattail—About Wheat—Medical Books.**—P. S., Gaskill, Mich. A so-called rattail, for that appears to be what you describe, is incurable, because where the roots of the hair have once been destroyed no new hair can be produced.—Wheat fed in large quantities to sheep is injurious, while in small quantities it may do no harm, provided the wheat is free from fungi and not otherwise spoiled.—If you desire medical books apply to a bookseller, who will get them for you.

**Prolapsus of the Rectum.**—W. M., Organ Cave, W. Va. Your pig suffers from a prolapsus of the rectum. When the prolapsus first-occurred a reposition would have been possible, and if at the same time soft food had been fed, a little oil had been injected into the rectum, or a mild physic had been given, all would have been well. But as it is now, provided your pig is yet alive, an amputation of the prolapsed rectum—an operation to be performed by a veterinarian—is the only thing that can be done.

**Lousy Sheep.**—D. S. W., Glasgow Junction, Ky. If you have a large flock of sheep, the best way to rid them of their lice would be to dip them in the same way that scabby sheep are dipped, and to do this as soon as the weather will be warm enough to make it safe to shear them. Any experienced flock-master will instruct you how to proceed in the best and most economical way. At the same time it will be necessary to thoroughly clean and perhaps disinfest your sheep-pens. Meanwhile, or so long as the weather is too cold to allow the dipping, feed your sheep well.

**About Sulphur.**—J. H. M., Hildreth, Neb. Neither sulphur nor any other drug or chemical should ever be given to a healthy animal, no matter whether the animal is a horse, cow, sheep, hog or dog. Besides this, sulphur is insoluble, and its effect, therefore, exceedingly uncertain. The only thing that will make a healthy animal thrifty is good, nutritious food in sufficient quantities, and good hygienic conditions in general. Nobody can cheat his live stock and fatten them with drugs instead of food. It reminds me of the man who put a pair of green spectacles on his cow and fed her with shavings.

**So-called Founder.**—A. D., Beacon, Iowa. Laminitis, or so-called founder, unless present in a very mild form, will terminate in recovery only if rationally treated within seventy-two hours. If not, it becomes chronic and results in an irreparable degeneration of the hoofs, known as pumiced hoofs. Then a restoration to a normal condition is impossible, but the unfortunate horse may be made to suffer less pain, and therefore receive some relief, if properly shod with a pair of bar-shoes with a broad web and sufficiently concave inside of the nail-holes on the upper surface, because such shoes will protect the very sensitive and more or less convex soles and will throw considerable weight upon the usually healthy frog.

**Heaves.**—E. C. S., Simpsonville, Md. What you describe appears to be a case of heaves, or, in other words, a case of chronic, feverless and incurable difficulty of breathing. Whether it is the sequence of an attack of influenza sustained five years ago, which is not at all impossible, or whether it was gradually brought about by eating too much dusty hay, as is so frequently the case, is now immaterial. Although heaves is incurable, a little improvement (unless the difficulty of breathing is too great) can be effected if no hay is fed; if the loss of nutrient material thus caused is made up by feeding more grain or other nutritious food easy of digestion; if the animal is never allowed to become costive, and if it has always fresh and pure air for breathing, and is never kept in a crowded or illy ventilated stable.

**A Fistula.**—B. F., Toulon, Ill. A fistula may be defined as a rather long and frequently more or less sinuous canal constituting the outlet of a more or less deep-seated abscess or source of pus-production, always extending lower down or situated lower than the external opening of the outlet. The pus and exudates, therefore, cannot be freely discharged, constantly fill the abscess and outlet from bottom to opening, infiltrate into the walls of the same, and even deeper into the surrounding tissues, act like foreign bodies, and not only prevent a healing, but also effect an extension of the morbid process. Consequently, in order to bring a fistula to healing, the first thing necessary is to either enlarge the existing opening in a downward direction, or to make a new lower opening, so that all pus and exudates may be freely discharged from every part of the fistula without any let or hindrance. Secondly, since the walls and more or less of the surrounding tissues of the fistula have their vitality impaired by an infiltration with pus, exudates and pus-producing bacteria, these walls, in order to effect a healing, must either be destroyed, perhaps by means of suitable caustics, or be removed by means of the surgical knife. These surgical operations are, under all circumstances, best entrusted to a competent veterinarian, because if any mistakes or blunders are made the whole treatment will be in vain; but if these operations have been properly performed the fistula is changed to a common open wound, and may be treated as such. If an abscess makes its appearance, which, if neglected, is apt to break at the wrong place (too high), and thus to change into a fistula, it should be lanced at the proper time and at the lowest possible place, so that the contents can at once be discharged from every part, and then no fistula will be formed, and only a common abscess will require treatment. Such an abscess, as a rule, is easily brought to healing by keeping it clean and dressing it twice a day by filling the cavity with absorbent cotton saturated with a four-per-cent solution of either creolin or pure carbolic acid in water. As to a fistula, no matter where situated, a farmer will save much time, disappointment and money if he does not endeavor to treat it himself, but employs at once a competent veterinarian.

**So-called Warbles—Mange.**—E. E. B., Atchison, Kan. So-called warbles are cysts beneath the skin of cattle, which contain the larvae of the gadfly of cattle, and are at this season of the year already provided with a more or less conspicuous opening of a roundish form. So-called warbles occur most frequently on young cattle, partially because their skin is more tender, and partially because their coat of hair is, during the summer, less sleek than that of older cattle. Besides this, young cattle are more apt to run, and thus cause their hair to stand on end when the gadflies are endeavoring to deposit their eggs. This, of course, facilitates the latter, and the tender skin makes it easier for the newly hatched larvae to penetrate into the subcutaneous tissue, in which they develop and remain until they are ready to leave and to burrow into the ground, there to be changed into a pupa, from which, several weeks later, a new gadfly will come forth. The best means to prevent these so-called warbles is to make it impossible for the gadflies to deposit their eggs, either by keeping the calves and young cattle indoors when the flies are swarming, or by keeping them covered with thin blankets when in the pasture. It will also be more difficult for them to deposit their eggs between the hair of the cattle if the young cattle are kept in a first-class condition, for then their coat of hair is apt to be smooth and sleek. As each warble contains the larva of a gadfly, it is advisable to press out every larva before it has sufficiently matured to be able to be changed into a pupa; but to make assurance doubly sure it is also advisable to kill every larva as soon as it drops to the ground by stepping on it with the foot. If this were done everywhere the gadflies would soon be a thing of the past, and cattle would remain free from warbles. To make an attempt to kill the larvae with poison or with drugs or oil while within the warbles is not advisable, because doing so will produce a festering abscess, while when pressed out the warble will heal without any trouble and disappear in a short time. If the existing hole in the skin should be a trifle too small it may be slightly enlarged with the point of a penknife.—If your cattle are mangy (mange is not a frequent disease among cattle) the best you can do will be to employ a veterinarian to direct and to superintend the washing and the cleaning of the same. But whatever you may do, it will be in vain unless at the same time the premises in which the cattle are kept are also thoroughly cleaned and disinfested. A creolin solution, a good tobacco decoction and many other things will do for the washing, to be repeated in about five days; but whatever may be chosen, the application must be a thorough one, and must be preceded by a good cleaning either with a stiff brush or by means of a good wash with soap and warm water.

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THE GRANGE  
 Conducted by MRS. MARY E. LEE, New  
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ONE of the hardest tasks of the lecturer is to find topics for discussion that will be of interest to the majority of the members. There are many questions which she would like to have discussed, but she is met with this vexing thought, "We have no books of reference." To vary the program she presents old topics in new forms. The ruse answers not, for the old, familiar thoughts, clothed in the same set forms of speech, greet her at each meeting. No wonder she sighs in despair! No wonder the younger members quit in disgust! They can measure just how long each person will talk, just as they, when children in an old-fashioned prayer-meeting, knew to a certainty who would speak and how long. To the child it served the purpose of an hour-glass. He watched the sands trickle slowly through the glass, counted the number of "pillars," and was glad when one by strange chance was absent. The older child is freer from restraint. No compelling hand holds him to a disagreeable seat. If he is not interested, he goes where he can find amusement. The law of his life is activity, change. He will not long be hampered or deceived. He must supply as well as be supplied with matter that will engage his attention and hold his interest.

Why not set these active young minds to some serious work? Teach them habits of observation. Give them subjects to investigate that will employ the mind's best efforts. It will take from them the frisky feeling that they are to make no conscious effort to gain instruction. It will make them self-reliant and certainly more intelligent persons. Ask one how the soil is formed and he will promptly tell you that all soil is formed by the disintegration of rock. Do not accept such an answer. It is true, but in all probability the reply is merely a textbook answer. Ask him to study the rocks of his neighborhood; trace the history of a square inch of soil from the time it leaves the parent rock until it becomes a plant-producer. The easiest way is to go to a railroad cutting and note the series of transformations. In level countries the soil may be found "in situ," that is, upon the parent rock. In hilly regions the best soil is often found far removed from the parent rock to the valley below. Lead him to observe all phenomena connected with rock and soil formation until he can intelligently answer many questions the now interested and observant members will ask.

Another member could trace the journey of a drop of water from its first precipitation through its varied careers until it falls again as water to begin its ceaseless round of duties. And so with all the various phases of nature, until those things which seem trivial and commonplace by the light of knowledge will glow with a heavenly luster. For the commonest things about us—the pebble at our feet, the tiny flower by the wayside, the little trickling rivulet—hold locked in their inmost recesses secrets that wise men would give a king's ransom to fathom. Verily, the man or woman who can lead the mind into these entrancing pathways will merit and receive the gratitude of the enlightened ones.

The grange should make an effort to supply the lecturer with helpful literature, and should in every way possible lighten her labor. She is a teacher serving without pay. Upon her depends the life and interest of the grange. As her methods must be those of a teacher, why not supply her with a good educational journal—one that concerns itself with methods and devices? She should keep abreast of the times. She should be conversant with the most successful methods, surrounding every object with such a halo of interest that people will become interested in spite of themselves. Aid her in doing this. It will richly repay you. Is she not capable of being helped? Then why did you not elect one who was? The matter was in your hands. Elect a suitable lecturer, and then uphold her hands.

Did you ever notice the expression of a congregation of people? Did you ever read the life-history of the brainless coxcomb of twenty in the disgusting conceit of sixty? Or see in the light, frivolous smile of the girl a prototype of the dull, sodden gray of age? With what a sickening sensation do you turn from these manifestations of life's unalterable laws! How one bright, inquir-

ing face holds and charms you! With what feelings of keenest respect do you watch the aged face, lighted with the light of intelligence and softened by the expression of intellectual repose! No matter how rough and furrowed the face, how seamed it is with care, if it is softened and lightened by thought it becomes noble and serene and an object of veneration and reverence.

Young man, young woman, and you of middle age, stop and consider what your present habits will inevitably bring to you. Nature is infallible; she is awfully just; she renders to you what you have honestly earned. You cannot spend the golden moments of youth frivolously and reap an age of diamonds. You cannot trip thoughtlessly along the pathway of life and find an old age full of sweetness and beauty and light. You will as surely have to earn your right to mental and spiritual enjoyment as you earn bread by your daily labor.

I would not have youth morose or sullen, or old before its time. I would have it joyous with a joy that the ignorant can never know; glad with a gladness born not of earth; serene with a calm serenity that cometh only to him who struggles and overcomes. I would have it laugh, but the sound should carry a note of deep gladness. I would have it trip lightly, buoyed by the exhilaration of the spirit. I would have its heart swell to bursting with the pure pleasure of a higher, rarer kind that comes as the recompense of diligent, watchful labor. I would have you command the respect and admiration of the highest and noblest of our race. I would have you a light, shining in darkness, that would lighten all about you. I would have you distinct from the great black mass of humanity—so distinct that the light will be reflected from you to it until it, too, becomes radiant and sublime. I would have you mount higher and higher in your course, never swerving to this side or that, until you drew all men unto you. The history of the world is the biography of one man's mind. I would have that unwritten history enacted by your daily life. I would not have you halt until you had obtained the choicest blessings bestowed on mortals. It is in the power of every son of Adam to make of himself a powerful factor. Each can carve out the destiny he is sent here for if he but wills to do it. What a man can do lies largely in his own hands.

The fruits of our labor inquiries are ripening. Nearly every mail brings letters from farmers wanting help, and farm-laborers wanting places. So far the inquiries for help exceed the supply. While we had no intention of acting as a labor bureau, yet having so many communications at hand I have used them the best I could. If those desiring places will inclose recommendations, instead of promising to send them, it will be to their advantage.

Whenever the subject of school-teaching is brought up one is sure to hear the remark that scholarship is a secondary matter; that the art of teaching is of supreme importance. Just how one is to teach what he is ignorant of is not made plain. If we ask the high and wise authority this question, our presumption is met with a supercilious stare or a contemptuous answer. Superciliousness does not satisfy our curiosity. Just how this fallacious idea gained such credence is shrouded in mystery. But it is earnestly urged by the less competent teachers and a certain type of school that panders to the cheap intellects. Unfortunately for ourselves we harbor the idea until we are rudely awakened from our complacent chimeras by some earnest, educated, level-headed teacher. 'Tis then we envy the mule his heel activity.

Why people who show an intelligent desire to surround themselves with the best tools, knowing that poor ones are dear at any price, and stock their farms with good stock, do not carry the same line of reasoning to the school-room is one of the unsolved riddles of the human mind. We have long been of the opinion, and experience and observation confirm the belief, that to the child should be given the very best scholarship obtainable. It is the early years that stamp the future of the man. The first impressions he gains are lasting. Every process of nature possesses an interest for him. He is eager, inquiring. How essential it is that these inquiries should be answered! That instead of an impatient "Go away and stop asking such foolish questions!" the child should be told fully and explicitly the reason for the existence of all matter. The time soon comes when he asks no questions; when he is urged to study—plead with to do and be something in the world. The golden moment with the great majority has passed by.

It is too much to hope for now, but the light the twentieth century will bring us will enable us to see school matters in their true relation. We will then give to the child the masters, and if any must endure mediocrity it will be those of maturer years who have learned from the masters the art of study. Let us begin this year by demanding teachers who are scholars; teachers who are constant students. We would not employ a physician who did not keep pace with scientific achievements, nor a lawyer who contented himself with the lore the law-school taught him. But we do employ as trainers of the young not only those who do not keep up with modern school thought, but even take the kindergarten product—the one who teaches not in a professional way, but for money enough to buy some coveted article or purchase a wedding outfit. And then we expect our boys and girls to grow into men and women able to hold their own in the world! We condemn them as lacking in spirit when they fail. What a colossal blunder it is!

Let us put men and women on our school-boards who will content themselves with nothing short of the best to be procured. If the opposition is too strong, then let us work earnestly to secure through the board that is elected the best talent possible. Having obtained it, then aid the teacher. If he is of the right sort, he will appreciate it and strive to improve. If he is not, public sentiment will be aroused, and his tenure of office in that school will not continue for any definite length of time.

If Theodore Roosevelt accomplished nothing else, he certainly rendered the nation a valued service by bringing into use one new phrase, "A strenuous life." There is scarcely a writer who does not employ it, and nearly every newspaper finds room for it in one or more columns.

We have a rich language, yet the average newspaper uses a range of not more than two hundred words to express the daily "going in and coming out" of seventy-six millions of people in this nation, and of many other millions beyond the seas. "The strenuous life" is a distinct gain, even though it is played upon in many and various keys. It is certainly expressive of the genius of our race and time.

What a catastrophe it would be if "I Said," "You Said" and "He Said" should die. What a paucity of conversation there would be! "I Said" is the hero of the trio; he it is that always says the pat thing. He is never worsted in an argument. "He Said," poor fellow, is always stumbling, always striving after the sublime example of "I Said." A few weeks ago it was my misfortune to sit directly in front of a specimen of "I Said." For two long, weary hours I was compelled to listen to the heroic tale of "I Said." I left the train and entered the waiting-room. Another "I Said" was excitedly regaling a silent listener with a story of "I Said" and "He Said." Go where you will, in city, town or country, and you will meet these interesting personages. In fact, at some period of our life we each play the part of the three heroes. Each at some time will feign an interested expression, that we in turn may have a wondering listener to our heroic tale of "I said," "I Did" is an equally successful and praiseworthy character, and sure to be interesting to one person, notably the speaker. It is a curious fact that the most successful "I Said" has the least patience with the doings of the rest of the world; they are so common and trivial by the side of his mighty achievements.

When a young female wears a flat, circular side-curl gummed on each temple; when she walks with a male, not arm in arm, but his arm against the back of hers, and when she says "yes" with the note of interrogation, you are generally safe in asking her what wages she gets, and who the "feller" was you saw her with.—Oliver Wendell Holmes, in "Autocrat of the Breakfast-Table."

The influence of the forms and actions in nature is so needful to man that, in its lowest functions, it seems to lie on the confines of commodity and beauty. To the body and mind which have been cramped by noxious work or company nature is medicinal and restores their tone. The tradesman, the attorney, comes out of the din and craft of the street, and sees the sky and the woods, and is a man again. In their eternal calm he finds himself. The health of the eye seems to demand a horizon. We are never tired so long as we can see far enough.—Emerson.

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**TRAINED WIVES AND UNTRAINED HUSBANDS**

By Lizzie Clarke-Hardy

**E**re constantly being admonished of the necessity of training our daughters to proficiency in household economics; and it is right and proper that they should be so trained. But thanks to the practical teachings of the modern school and college and to the wise training of mothers not many young women enter upon the duties of domestic life without some practical knowledge of its requirements. But how many young men do we find who understand the first rudiments of household economy? And what of the trained wives of untrained husbands? Quite often their position is a trying one, as many a young wife can testify.

If every school and college in the land was endowed with a chair of domestic economy, and young men were compelled to take a thorough course of training in the science of household economics before they were allowed to marry, it would be an unmitigated blessing to humanity, especially feminine humanity. For let me tell you that all the domestic discord and discontent that has its origin in the one item of the expense of the household is not entirely due to the incapacity or mismanagement of wives, but quite as often may be charged up to the total ignorance of husbands with regard to the cost of living and the expense of maintaining a home and a family.

But this ignorance is not to be wondered at when we remember the limited opportunity of the average young man to know or understand very much of the domestic economy of even the parental household. The father is engrossed in his business, and in his capacity as bread-winner somehow manages to keep the household ship afloat; the mother is equally engrossed with her household affairs and the training of her daughters; and the young man, if he is of the right sort, also has his own aims in life, and in fitting himself for his chosen profession has little time or taste for household economics, and prefers to believe that such knowledge will come to him by some sort of intuition or masculine instinct. And so when he elects to take to himself a wife he is not one tenth as well prepared as the girl of his choice, who has had the advantage of a home training and the practical experience of assisting her mother in household duties, and soon the trouble begins.

The young husband has no idea of the actual cost of supporting a household, and stands aghast at the expense, and in his ignorance and perplexity he soon begins to preach economy and hint at extravagance and mismanagement. The young wife, accustomed as she is to the abundance of her parental home, which is the fruit of long years of labor and of her father's confidence in, and placid acceptance of, her mother's regime, grows resentful and discouraged, and soon there is a rift in the lute, and domestic discord is the result, not so much of mismanagement on the part of the wife as of the husband's ignorance of the actual expense of maintaining a family.

"When we were first married," said a young wife, "my husband made me an allowance for household expenses; but when by hard work and the strictest economy in everything except my table, which would not have been fair to him, I had managed to save a little sum with which to purchase a few things which I really needed, he immediately cut down my allowance, saying that he needed every dollar that could be saved from household expenses in his business, and I had to resort to the shameful expedient of scrimping my table to bring him to his senses. A man seems to think that the cost of fuel, provisions and rent covers the entire expenses of the whole household."

"How long does a dollar's worth of sugar last you, mother?" asked a young husband when he and his wife were dining at the parental board.

The mother was wise in her generation; perhaps her wits had been sharpened by personal experience, and taking her cue from the troubled look on the face of the young wife she replied:

"A dollar's worth of sugar? Well, that would depend. I remember you were always a great lover of sweets, my boy, but I long ago decided to insure myself against answering such questions by buying my supplies in larger quantities; I always get my sugar in fifty-pound sacks."

"And is that good economy?" asked the young man.

"I think it is; and your father leaves the management of household affairs entirely to me. You know women understand these things and are usually much more economical than men." And the look of gratitude in the eyes of the young wife told its own story of domestic perplexity.

Then, too, the young husband—and some who are not so young—is prone to forget that he has other responsibilities in the home than that of mere bread-winner. The maintaining of a comfortable and congenial home means vastly more to both husband



and wife than simply housekeeping and paying of bills. To the wife it should mean an interest in her husband's business affairs, a knowledge of his financial resources, and a determination to keep the household expenses within the income, with a possible margin for the proverbial rainy day. To the husband it should mean a conscientious desire to provide, so far as in him lies, for the comfort and well-being of his family, and a reasonable confidence in his wife's ability to manage her domestic affairs with wisdom and discretion.

But unhappily this is not always the case. It is useless to point out an evil unless one can offer a remedy, and the only remedy in this case would seem to be that mothers should take their sons more into their confidence while they are still under the parental roof, give them the same insight into household economics, and especially the expense of maintaining the household, that she gives to her daughters, and impress their minds with the fact that a man must either understand those things by practical knowledge or must be willing to trust to his wife's judgment and good sense in the management of domestic affairs and the expending of the household allowance. Such knowledge and such confidence are sure safeguards against domestic discord of any kind.

**A CONVENIENT TOILET**

Where there are growing children it is often inconvenient to have all the bathing done in the bedrooms, or to have them constantly running to your wash-stand for occasions betweentimes, as very few children are thoughtful enough or careful enough to pour out water without spilling it.

The illustration gives a very conveniently arranged affair that will commend itself to all mothers. It is made of two boxes—one long and one square. These should be covered with white oil-cloth, having the curtains of a light material of good washable stuff, and also easily adjustable, so they can be

removed for laundering. Inside the square box is a shelf, which can hold a plentiful supply of good, small-sized towels and wash-rags. The pitcher, bowl and furnishings should be of white granite-ware, and the floor should be covered with linoleum, with a rubber mat in front.

There is no use having things children are sure to spoil, and then scold or punish them for spoiling them. On the shelf above should be placed common, harmless remedies that are needed often and should be in plain sight, but nothing whatever that would be at all dangerous. A small closet or one end of a room could be devoted to this. With this you could always keep your own toilet in order.

CHRISTIE IRVING.

**CHILD'S CROCHETED CAP**

**ABBREVIATIONS.**—Ch, chain; c, crochet; s c, single crochet; d c, double crochet; tr c, treble crochet; d tr c, double treble crochet; sl st, slip stitch; st, stitch; l, loop; p, picot.

Material required, two spools of No. 300 knitting-silk.

Chain 8, and join to form a ring.

First row—Make 21 tr c over the ring; join.

Second row—S c 2 into each tr c, taking up both l's.

Third row—D c 1 into each s c, taking up both l's.

Fourth row—S c alternately 1 and 2 into each d c, taking up both l's.

Fifth row—D c 1 into each s c. This gives 64 st in all.

Sixth row—\* D tr c 3 into 1 d c of fifth row, taking up both l's. Hold the last st of each d tr c on hook until all three are made, then draw off all at one time; ch 8, s c to fourth st, \*\* turn, make 8 s c, \*\*; repeat from \*\* to \*\* seven times, making eight rows in all, taking up both l's of each st, \*; repeat from \* to \*, joining the last square by sl st to first group of d tr c, making in all eight squares and 8 d tr c groups.

Seventh row—\* 3 d tr c over 3 d tr c of sixth row, holding last st on hook and drawing all three off at one time; ch 8, s c to loose corner of square, ch 8; repeat from \* all around.

Eighth row—1 s c into each st of seventh row.

Ninth row—1 tr c into each s c of eighth row, taking up back l and adding an extra tr c over each square and each group of d tr c.

Tenth row—Having joined ninth row, \* ch 5, s c to third st, \*; repeat from \* to \* all around.

Eleventh row—Bring the thread to middle st of first 5 ch of tenth row; into this st group 4 tr c; repeat the 4 tr c into middle st of each 5 ch all around.

Twelfth row—\* 1 tr c over each of 4 tr c, holding last st on hook until four are made, then draw off all at one time, ch 4; repeat from \*.

Thirteenth row—From middle of first 4 ch of twelfth row \* ch 7, s c under next 4 ch; repeat from \* all around. The crown is now complete, having been kept perfectly flat. From now on we will add no more extra stitches.

Fourteenth row—From middle st of 7 ch \* ch 4, s c to middle st of next 7 ch; repeat from \*.

Fifteenth row—1 tr c around each st of fourteenth row, leaving two inches for the back, making 1 p to every 4 tr c as follows: Ch 5, sl st through the two l of the last st of previous tr c; hold this sl st and the last st of 5 ch on hook until another tr c is made, then draw off the three at one time.

Sixteenth row—We are now at the left corner of the hood. \* Turn, ch 3, s c to p; repeat from \* back to right corner.

Seventeenth row—3 tr c under each 3 ch of sixteenth row, with 1 tr c over each p.

Eighteenth row—Turn, s c 1 in each tr c of previous row, taking up back l—that is, the

one next to you—as you are now working from the wrong side.

Nineteenth row—Turn, repeat sixth row except to have the d tr c and 8 ch five st apart instead of three. When you reach the left corner s c 1 into each st across the back, taking up the back l.

Twentieth row—From the right corner repeat seventh row except to ch 5 instead of 8 between d tr c and squares; s c as before around the back.

Twenty-first row—Tr c 5 under each 5 ch, with 1 tr c over each group of d tr c and over each square.

Twenty-second row—Turn, and from the wrong side s c 1 into each tr c, taking up 1 next to you.

Twenty-third row—Turn, \* ch 7, s c to fourth st; repeat from \* to left side, s c around the back.

Twenty-fourth row—Repeat eleventh row, grouping the four tr c in middle st of 7 ch; s c around the back.

Twenty-fifth row—Repeat twelfth row except to ch 3 instead of 4 between the groups of tr c; s c around the back.

Twenty-sixth row—\* Ch 7, s c \* to 3 ch; repeat from \* to left side.

Twenty-seventh row—Turn, \* ch 3, s c to 7 ch; repeat from \*.

Twenty-eighth row—Turn, 3 tr c under each 3 ch, and 1 tr c over each s c of previous row, making one p to every 4 tr c.

Twenty-ninth row—Turn, \* ch 3, s c to next p; repeat from \*.

Thirtieth row—Turn, repeat twenty-eighth row. From left corner s c around back, making 1 p to every 4 s c.

Thirty-first row—Ch 3, s c to p; repeat all around.

Thirty-second row—Ch 3, d c to s c over p; repeat all around.

Thirty-third row—\* D c under 3 ch of thirty-first row; d tr c 12 under second 3 ch from where you begin, making 3 p to each scallop; repeat from \*.

Thirty-fourth row—Repeat thirty-third row on thirty-second row, making the scallop right under the d c of thirty-third row.

MRS. J. F. ORR.

**KITCHEN COMFORTS**

While good meals may be served from a poor kitchen, yet it will be at the expense of much unnecessary strength and patience on the part of the cook. My experience has convinced me that a small kitchen is to be preferred to a large one. If the kitchen is large one is tempted to use it for kitchen, dining-room and general living-room and live constantly among the odors of cooking. Housework is monotonous at best, and even the small variety afforded by working a part of the day in a different room is a restful change. It is much better, also, to have a small kitchen and a separate room for laundry-work than to have one large room do duty for both.

The two most important kitchen comforts are an abundant supply of water and fuel close at hand. The houses in which our grandmothers and mothers lived and worked were surely not built for convenience. I do not recall a single farm-house of thirty

years ago where the water from the well was piped into the house, and they are the exceptions even now. No matter what the weather, some one must go out of doors, almost always down steps, and at least a rod or two away, laboriously draw with a windlass or pump and carry every drop of water used in the house. Where the well-water is hard cisterns are sometimes made, the pump for which is in the kitchen. The first farm-house I ever knew where the well-

water was brought into the house was arranged as follows: The well was a few feet from the kitchen door. Into this was put a force-pump with a detachable pipe leading to a large cask, which was set on a platform close to the kitchen wall and high enough to bring the bottom about the height of the sink inside the kitchen. A pipe from near the bottom of the cask came through the wall and had a faucet over the sink. Every morning the hired man with a few strokes of the pump-handle filled this cask, which



supplied the house for the day. A piece of rubber hose could be attached to the faucet and the reservoir on the range filled with no trouble. This was a very simple arrangement, cost but a trifle after the pump was in, and yet was of untold value to the housewife.

If the water of the well is soft, and one can have a windmill with large tank, the question of water supply for the house is easily settled; if not, a cistern is needed to supply the laundry, bath-room, etc., with soft water. Instead of putting a cistern in the ground or cellar some farmers are having a galvanized-iron cistern put in the attic, preferably over the kitchen, conducting the water from the roof into it and piping it to any part of the house where needed. No pump is needed, and with proper fittings to the range either hot or cold water is had by simply turning a faucet.

Carrying coal for fires is too heavy work for a woman. If coal is the fuel used, let its place of storage be adjoining the kitchen, with a small door, from which it may be shoveled direct to the range. If this is not possible, let there be at least the day's supply placed at hand every morning. If wood is used, let me beg the good man to have it cut a year ahead, so there will be no green wood to burn. Do this for both economy and comfort. Live in a small house, if necessary, never mind if you do not have a parlor, but have a wood-house adjoining the kitchen; then a wood-box can be built in the partition, opening on both sides, so it can be filled from the wood-house side and the wood taken out in the kitchen.

There are a good many other comforts which the one who must spend so much of her time in the kitchen ought to have—comforts which do not require much money to provide, only a little planning and forethought. A dumb-waiter into the cellar is one of these, and how many weary footsteps it will save! Stationary tubs in the laundry, with a good drain properly trapped to carry the water from these and the kitchen sink to a safe distance from the house, save much hard labor. Not one kitchen in twenty is properly supplied with utensils; namely, measuring-cups, egg-whips, strainers, vegetable-slicers, cake-pans, etc., which may be found on the five-cent and ten-cent tables of house-furnishing stores.

Husbands are not so much to blame for the lack of kitchen comforts. They are more thoughtless than selfish, and it is the wife's place to plan the best and easiest methods for her work, and urge the need of added conveniences within the limits of the family purse. There is no merit in patiently plodding along in the old ways of mother and grandmother when by using one's brains better and easier ways can be attained.

MAIDA MCL.

WHEN WOMEN GROW YOUNG INSTEAD OF OLD

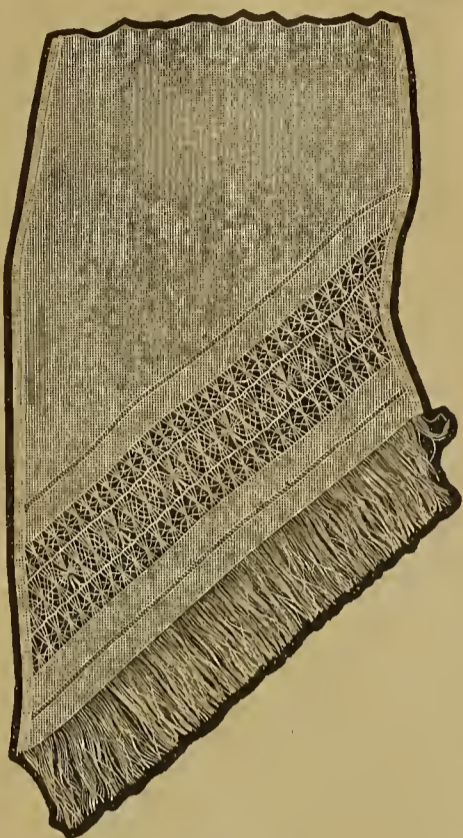
How often nowadays some lady friend will laughingly own to her thirty-five, forty or mayhap fifty years of life and then reflectively add, "How strange it is! When I was a young girl I considered any one who had reached my present age an old, old woman. I dreaded the thought of passing out of the twenties. But now I do not feel old at all. I enjoy life as well as ever. I do not think now that it is a misfortune to accumulate years. Have times changed, or is the change in me?"

Yes, dear madam, you have changed, but times have also changed. Old-time prejudices are relegated to the past or modified to conform with more modern ideas. Here and there an antiquated specimen remains of the old type of womanhood, but they are fast passing away. Mature women of to-day remember when every woman of forty was spoken of as an old woman. The woman of forty once really deserved to be called old. She persisted in making a guy of herself in dress. Her dresses were of the soberest and dullest of colors. Her severely plain bonnet was about somber enough to be appropriate for a ninety-year-old dyspeptic who was sick of this world and all of its vanities. Her hair was combed primly back in the tightest, most trying manner, and twisted back in a little hard knot that was fastened to her head with an ugly tuck-comb. Not a ribbon or a ruffle or an ornament appeared upon her. If she saw a becoming thing on another woman she sighed and said she herself was "too old for that."

If she lived in the country, the woman of forty wore a slat-sunbonnet to church and school exhibitions, the only places of instruction or amusement she did not feel too old to attend. If in town, she saw to it that her plain black bonnet was of the most unbecoming shape possible. How often have we seen dear, thin-featured women wear

immense poke-bonnets till the withered face behind the wide rim reminded one of a pea-pod with one shriveled pea sticking to it! Or how often have we seen a rotund face topped off by a skin-tight silk bonnet about big enough for a two-year-old child! Cleopatra herself would have looked like a fright in such a rig.

And her mind was as unprogressive as her dress. From "A to Izzard" her cares, ambitions, thoughts and wishes were upon her children and household. Her only relax-

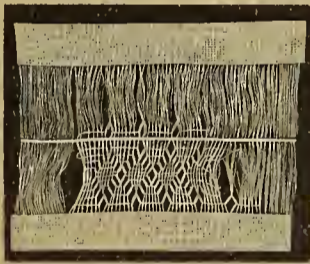


IMPERIAL TIE

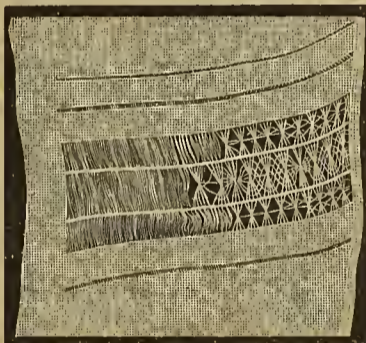
ations or outside interests were a certain interest in the affairs of her neighbors, a more or less regular attendance at preaching and prayer-meetings, and an occasional dinner-giving or quilt-tacking.

Absolutely not the slightest real mental stimulus came to her after her marriage. Politics, reforms, arts, science, history, were all dead letters to her. Brains unused grow rusty and dull; sympathies not exerted react, leaving prejudices and narrow-mindedness enthroned; faculties not cultivated grow torpid. No wonder the average woman of the generation beyond us was "too old" to learn a new embroidery-stitch at thirty-five, or too advanced in years to "be out nights" to an opera or lecture after she was forty! No wonder, also, that she considered an "advanced" woman or a woman doctor or lawyer as a monstrosity and libel on her sex!

Women are yet more listless mentally than they ought to be. Nevertheless there is a marked change for the better, and this change is full of promise of better things to come. Take my own town as an example. It is a mere backwoods hamlet, in a slow, conservative neighborhood. It is a community where nearly every woman does her own work. Here, if anywhere, we would see the old regime in force. But we do not. Instead of that we surprise one neighbor as she is practising at the organ. She is fifty, and has raised a large family. Now, in the leisure days of late middle life, she has taken up the study of music, "to employ her time," as she says. Another neighbor, for fifteen years a mother, wrote a play for our young people's amateur club, trained each one, and acted as stage-manager besides. A second play was written by another townswoman—a wife, mother and middle-aged woman—and both plays were considered a success. A grandmother is the best-posted politician in our town; a woman of fifty-seven is at the head of the Sunday-school work in the county, and a rustling one at that; a woman of fifty is at the head of our missionary affairs; one housewife writes for magazines, and gets her pay for it; two women of fifty paint in oil and water colors, and several women over thirty are experts in various kinds of art-work. Put a dozen energetic women like these in a town that do not intend to rust out, and that do intend to keep young, and their influence directly influences every other woman of their acquaintance. Multiply what is taking place in this little town by the influence going on in a hundred thousand places like it and we begin to see the dynamic force of this uprising.



IMPERIAL TIE—DETAIL OF INSERTION



IMPERIAL TIE—DETAIL OF INSERTION

the "knot-stitch" four times, these "knottings" forming a small diamond of "knot-stitches." The threads for the bunches of four are carried across the center. The wings of the butterfly are woven from these threads, the fancy edges to the wings being made with "knot-stitch," the head and tail being woven with the drawn threads. Above this insertion comes another row of dainty herring-bone. One yard of lawn cut on the bias will make this tie, piecing it at the back in the middle. It is finished off with a bias piping of the goods.

Mrs. J. R. BINFORD.

WELL-TRIED DISHES

**SANDWICHES.**—From being invariably filled with some sort of a meat preparation and considered a special dish for picnics and lunches generally there has come to be almost no limit to the variety of fillings for sandwiches, and they are one of the most favored accompaniments of a salad, as well as a popular course for luncheon or afternoon tea. All the different kinds of bread are used, and are cut round with a biscuit-cutter, square, oblong, diamond or triangular with a sharp knife, or rolls of bread are baked for the purpose in one-pound baking-powder cans. Butter the cans well,

And, therefore, strange as the paradox may seem, as the world grows old the women grow young, and keep young. As Oliver Wendell Holmes said to Julia Ward Howe upon her seventieth birthday, "It is better to be seventy years young than forty years old."

LORA S. LA MANCE.

ZWIEBACK

Many people who are troubled with indigestion have found relief from eating zwieback instead of bread. This, as its name implies, is twice-baked bread, and instead of buying the imported variety a good substitute may be made at home. Cut a loaf of bread into slices a little thicker than for the table, lay them on a pan and set them in the warming-oven, or in the baking-oven when the fire is low. The object is to have the slices thoroughly dried through without being browned. I usually put mine in the warming-oven and shut the door while the dinner is being cooked, and leave them in until morning. They are then thoroughly dried, crisp and delicious. As they must be eaten slowly and thoroughly masticated a less quantity satisfies the appetite than of fresh bread, and perhaps herein lies a part of the merit. This zwieback is said to be the only form of bread that should be eaten by those who wish to reduce their flesh, the diet for which must not contain any sweets or starchy food.

MAIDA MCL.

DRESS ACCESSORIES

We here illustrate an imperial tie with fringed ends. Next to the fringe is a row of herring-bone. For this eight threads are drawn. The drawn threads are hemstitched on one side, and on the other half of one division of hemstitched threads is caught to half of the next. Above this come three rows of insertion, the middle row being deeper than the outside rows, which are of the same depth. A small space of the goods is between each insertion, and is covered with herring-bone stitch. No. 1,000 lace-thread is used in this tie. The top and bottom rows are identical. The threads are tied in divisions of four twice through the middle. One row of "knot-stitch" ties the top divisions, twisting through the top row of the middle fastening-thread, and a row of the same at the bottom, twisting through the bottom middle fastening-thread. The middle insertion is more tedious. This pattern is known as the "butterfly." Only one thread is carried through the center to catch the divisions into groups. Three divisions are caught into groups of five, every fourth group being caught into a bunch of four. Three threads are carried top and bottom, and are "knotted" where they cross each other with

fill half full with dough, and when taken from the oven lay on the side on the table for five minutes, and they will readily slip out.

**PEACHES AND CREAM.**—So many delicious desserts can easily be made with whipped cream that it has come to be the one thing of all others that the town housewife most envies her country friends. Whip two thirds of a cupful of cream to a stiff froth, add two tablespoonfuls of powdered sugar and one half teaspoonful of almond or vanilla extract, heap over canned peaches, and serve either with or without some delicate cake.

**WHIPPED JELLY.**—Currant or other tart jelly is far more dainty whipped. With an egg-whip or fork beat a glassful of jelly until light and foamy, then fold in the stiffly beaten white of one egg, heap on a low glass dish, and serve.

KATHERINE B. JOHNSON.

SCHOOL CLOAKS

Recently I made two long cloaks for school wear out of the plain, or body, part of colored cotton blankets, lined with drab-colored outing-cloth. The blankets were seventy-five cents a pair (each cloak required a pair), the lining for each cloak was forty cents, thread five cents, and a good cloak-pattern ten cents. Two short days' work completed one cloak, and at a money cost of one dollar and twenty-five cents a nice-looking and warm cloak was produced. The blanket-borders were used for skirts for children and for a baby-blanket. Two borders were sewn together lengthwise for the blanket. The outside and lining of the cloaks were fitted separately and sewn up separately, then turned together, seams being turned in on both, so no raw seams were shown. The bottoms of both were turned in and stitched, the sleeves fastened together at the cuff, and the collar fastened to both lining and cloak. The cape was made separate. No allowance was made for buttons, as they were taken off old ones. One cloak was a drab, the other a dark cream-color, and unless you have seen garments made of this you've no idea how warm and presentable they are.

EMMA CLEARWATERS.

NEW TOUCHES FOR OLD-TIME DISHES

**MACARONI AND OYSTER SCALLOP.**—Boil the macaroni twenty minutes in salted water, drain through a colander, and turn cold water over at once to prevent it being pasty. Fill a baking-dish with alternate layers of oysters and macaroni, seasoning each layer of the former with salt and pepper and a little minced celery; pour one cupful of cream over, scatter buttered breadcrumb crumbs over the top, and bake twenty minutes. Serve hot.

**GLAZED TURNIPS.**—Pare, cut in thin slices, and boil in salted water ten minutes. Put one tablespoonful of butter over the fire with one half teaspoonful each of salt and sugar, one pint of cinnamon and a dusting of pepper and one cupful of boiling water. Drain the turnips, lay in a baking-dish, pour the sauce over, and bake half an hour, basting often. Melt one tablespoonful of butter, stir in one tablespoonful of flour, and make a sauce with the liquor from the turnips. Pour the sauce in a serving-dish, lay the turnips over the top, and serve.

KATHERINE B. JOHNSON.

ILLINGWORTH PUDDING

Cream together four ounces each of butter, sugar and the yolks of two well-beaten large eggs, and beat well together, stirring in alternately stiffly whipped whites of the eggs and four ounces of sifted flour. Mix in quickly one third of a preserved pineapple cut into dice, and at once fill a well-buttered mold with the mixture; cover with a buttered paper, steam an hour, and serve with the following: Cut up the rest of the pineapple and stew it in its own syrup until tender, then rub it all through a sieve, reheat this puree in the bain-marie, add a squeeze of lemon-juice and a liqueur-glassful of rum, and it is ready for use.

ICELAND PUDDING

Dissolve one half ounce of best leaf gelatin with two ounces of loaf-sugar in rather more than one pint of single cream or new milk, then let it cool, and mix in the whites of two eggs whipped to a stiff froth and one wine-glassful of sherry; whisk it all till stiff, and then mold. Turn out when set, and garnish with whipped cream and either blackberry or cranberry-jelly.

[HOUSEHOLD CONCLUDED ON PAGE 19]

## NIP AND TUCK—A FARM STORY

*By Dora Read Goodale*

### CHAPTER III.—CONTINUED

Now all this time the subject of Uncle Peter's mysterious find had been in the background of Hugh's thoughts, and when the Croziers took leave he was vexed to see Hobart linger behind with Emily and to catch the words "a big strike," "anything peculiar" and "a great secret, remember." The truth was, he himself had what he believed was a clue, derived from a little incident which had taken place some weeks before. A party of hoarders from a neighboring town had stopped and asked permission to picnic by the cold spring. They had driven in down the lane, huilt a fire, roasted corn, and otherwise disported themselves after the manner of their kind. Among the rest was a gentleman who proved to be an old acquaintance of Uncle Peter's—a former professor in the State Agricultural College. This ex-professor roamed about freely, picking up specimens and tapping cliffs with his cane, and before the party left he came up to the house and had a chat with Uncle Peter in the front parlor. Hobart was away, but Hugh chanced to be passing just then, and a sentence or two floated out through the open window.

"Yes, sir, nature drops them like—like hot cakes," the professor had said, with a laugh.

"That's a curious thing!" Uncle Peter exclaimed, with deep interest.

"It is curious. Now, I know a gentleman who has a large private museum—"

Hugh passed on out of hearing, wondering idly what it might be that nature treated so cavalierly. He had not thought of it since, until his uncle's words suggested that the professor referred to some valuable mineral deposit—garnets, for instance—crystallized by the action of heat in some mysterious way, and only waiting to be brought to light and transferred to the "large private museum." His knowledge of geology was exceedingly vague, but he determined to study up the subject and examine the cliffs and rocks thoroughly, leaving Hobart to dig muck undisturbed. Such a find as he hoped for would be a feather in his cap and reverse their usual roles of the hare and the tortoise. It did occur to him that perhaps, in strict fairness, he ought to share this chance-gained clue with his brother, but he dismissed the idea as Quixotic; and meanwhile Hobart, after a few plunges into the swamp, concluded that, to use Uncle Peter's expression, he was "harking up the wrong tree," and so literally and metaphorically washed his hands of the matter. This left the field free to Hugh, who from that time on kept his pockets loaded with specimens of sandstone and quartz, and cherished a helief that he should soon put his finger on "something val'ahle."

Meanwhile the impending husking-bee took up a good share of our young men's thoughts, and caused quite a flutter among their acquaintances, entertainments being rare enough to be thoroughly appreciated. Emily's rhyme, which Hugh had pocketed, "to keep it from blowing away," was copied in his best hand and pretty generally distributed, for it was to be a neighborhood gathering, and there were no lines of fashionable exclusiveness in Rockham. It was whispered that all the girls were coming in quaint gowns and kerchiefs, and even Phebe was hired to adorn her towering head with an antique comb. In the log kitchen strings of peppers, ropes of dried apples and braids of seed-corn hung from the dark oak beams, while the old brick oven was heated to bake the pies, and a fire of cord-wood laid in the cavernous chimney. The day came at last—perfect Indian-summer weather, as mild as June—and every one except Hobart was in a temper to match the season. He was unaccountably touchy and queer, and at the very last moment, after the huskers were fairly on their way, the reason came out like a bursting bomb, shaking the very ground under the feet of our principal actors.

It happened in this way: Hugh was standing in the great barn, privately wondering whether the moon and three lanterns would give light enough to see a red ear by, when his elder brother strolled up with his hands in his pockets, and remarked in the slightly hectoring tone which he sometimes adopted of late:

"See here, Hugh, I suppose you intend to be impartial in your attentions to-night—heh?"

"What do you mean by that?" demanded Hugh, with some spirit.

"Well, you ought to, you know, in your position—one of the hosts, and all that."

"I will, then, though I shall hate to take Laura away from you," answered Hugh, with a laugh. "She'll have to be sacrificed to what Leon calls 'kitticat.'"

"By the way, you know girls like Laura won't stand any fooling about red ears and that sort of nonsense," observed Hobart.

"Who mentioned red ears?" returned Hugh, feeling the blood mount to his face.

"Nobody, I believe, though I notice you're displaying two fine ones already. But what I wanted to tell you is, I don't like your way of pairing off with Emily Crozier."

Hugh was conscious of a distinct shock. His irritation vanished, giving place to a deeper emotion, and after an instant he replied, in a low voice, "Really, Hobart, I don't see what business it is of yours."

"It's my business because I like her myself!" answered Hobart, decisively.

The tone implied more than the words. It hardly needed that Hugh should exclaim, "Like her! You don't mean—" or that Hobart should answer, emphatically, "Yes, sir, I do!" A cricket chirped, and a mouse was heard rustling under the corn-heap in the long moment before the reply came:

"In that case it's for her to choose."

"Of course it is—if it ever comes to a choice. Meantime I don't intend that you shall monopolize her, so I thought we'd better understand each other, that's all! Ha-ha! how solemn the boy looks! I dare say we shall change our minds or some other chap will carry her off, anyhow, so I wouldn't be savage."

"I'm not savage," said Hugh, his face clearing. Hobart was joking, as usual—he couldn't be serious and speak in that bantering way.

"You see," the elder went on, "if I—that is, whichever one beats will be quite a—a—"

"Croesus?" suggested Hugh, with mild irony.

and see the world, for she told me she did," cried Hobart, triumphantly.

Hugh bit his lip, feeling checkmated. "Well, that isn't for us to decide," he observed, curtly, after a moment. "The question is, 'What do you propose to do?'"

He could not utter what was in his mind—the mingled hoish dismay and passionate resolution, the strange pang of tenderness over Hobart's confidence, the half-ludicrous sense that he had been surprised out of a secret never confessed even to himself; all these were too novel and too chaotic for words. He could only repeat, impatiently:

"What do you propose to do?"

"Well, simply this: To hold our tongues and take turns in beaving her round; be pleasant and friendly, of course, but not commit ourselves nor ask her for an answer until our time is up. Then, if we're still of the same mind, the one who gets the plum shall have the first chance to plead his cause. Oh, yes, I know it's hard waiting, but we're all young, and that will be the fairest way for us, and for her, too." Hobart hesitated, then added, "It's hard to be real rivals, old fellow; but if we are, at least there's no one to blame, and we can trust each other not to take any mean advantage."

"That's so," said Hugh, briefly; and in an instant he put out his hand, which met his brother's in a grip full of affection and confidence. For a moment they stood so; then by a common im-

power in his keen, bright eye, which still sparkles restlessly whenever he pauses to look ahead to a more ambitious field of action than the old place affords. To be a civil engineer and help lay out some great railroad in the midst of excitement and adventures is still his chosen career; trigonometry and the school of mines haunt his dreams, and it is well understood in the family that if the farm falls to him it will soon be in the market, with Hugh for a probable buyer.

And Hobart, much as he dislikes being beaten, has made up his mind that he is likely to have only the "consolation prize," after all. He has turned his wits to good account, succeeded fairly in many risky experiments, and regained and slowly increased his original "lead" until it amounts to nearly two hundred dollars; but his resources now are pretty thoroughly squeezed, while Hugh's orchard, which for two seasons has produced a scattering foretaste of peaches and plums, promises this year to carry all before it in a magnificent yield.

Hugh has changed less outwardly than his brother. He is the same muscular, serious-faced young fellow, hard-working, obstinate, and withal a trifle inclined to "let things slide." But the prospect of new responsibilities is much in his thoughts, and under his quiet manner he has his own ambitions and dreams, not the less cherished, perhaps, for being little talked about.

And now to your oars, boys! Keep a stout heart, a clear eye and a steady hand, for there are breakers ahead!

"Why, where's uncle?" exclaimed Hugh, as he opened the dining-room door on coming from the farm and found nobody there.

"Your uncle's sick this morning," replied Phebe, stalking in with the coffee-pot; "he caught more cold going to meeting last night and ain't fit to stir out of bed, though I expect he'll do so and get his death of lung fever like as not, for that's al'ays the way with men-folks."

"Oh, come now, Phebe, don't stand and croak, but bake us some buckwheat-cakes; there's a good soul! We're half frozen and hungry as wolves," broke in Hobart, persuasively.

"Too bad uncle's sick. Do you know, I've thought he didn't look as well as usual lately," remarked Hugh, as the grim-visaged spinster obediently quitted the room.

"Nothing serious, I guess; this weather is enough to upset anybody," replied Hobart, helping himself to a large plate of hashed mutton.

Hugh felt an uncomfortable presentiment of impending trouble, and to turn the conversation he said:

"It's funny how you've got around Phebe! I do believe she'd lie down and let you walk over her."

"Yes, she always liked me best; she owns she did," returned his brother, complacently.

"Well, you didn't treat her very well when we first came here. Don't you remember how you two were everlastingly sparring at each other like a couple of game-cocks?" laughed Hugh.

"So we were, and I never supposed she had a soft spot in her till that time I sprained my knee, and then she waited on me and fussed over me as if I'd been a baby, and I found that her freckles were only skin deep, after all. I never felt so mean in my life as I did when she told me she used to cry because I called her the Griffin! Who'd ever suspect that there were any tear-ducts in her anatomy?" asked Hobart, comically.

"All women like to have folks act fond of them and treat 'em gently, I guess. You know, mother was always that way," said Hugh, in a low voice.

"It's just five years this month since uncle made us his offer," observed Hobart, briskly, breaking a pause filled with tender memories.

"So it is, and it's been up-hill work a good share of the time. I hope life isn't all such a grind or I don't know who'd want to tackle it," said Hugh, who felt unaccountably low-spirited.

"Nonsense, youngster; follow your grandfather's example, and don't hang your harp on the weeping-willow tree yet awhile," advised Hobart, in his usual airy, bantering tone.

Hugh was silent, but he thought bitterly, "Hobart doesn't mind things as I do, and he'll go through the world easier and always get what he wants."

"It was stiff work burning my charcoal job," the elder began again. "That was the worst piece of business I ever tried; but, after all, I made a good thing out of it. Yes, sir; if you hadn't been smart enough to set out a big orchard when you did and kept it growing I should have heaten, I guess; but you're safe now, unless there should come a late frost and spoil your crop, and that's what may happen, you know."

"Late frosts don't trouble me any, for I should build smudge fires all around, just as they do in the California orange-groves," explained Hugh.

"All right; go in and win, old man; it's no more than you deserve, for you've worked like a mule from first to last," returned Hobart, delivering this equivocal compliment with a kind of careless good-will.

Breakfast over the brothers wandered about rather disconsolately, going from window to window and exclaiming over the increasing violence of the storm. Neither of them knew much about sickness, but as the day wore on and their uncle kept to his bed, while Phebe, busy with poultices and hot drinks, would hardly vouchsafe a word in response to their inquiries, a sense of growing uneasiness settled over the house. Toward nightfall Hugh sought out his brother with a very sober face.

"Hobart," he said, abruptly, "I'm worried about uncle. He looks so queer, and doesn't breathe naturally, and his skin is as hot as fire. I don't know but it really is what Phebe calls lung fever. What do you suppose we ought to do?"

"Get a doctor, I should think," answered Hobart, promptly.



"He tore out of the yard on the back of the bay mare"

"No; hang it, you know very well what I mean! Quite a—"

"A belle?" proposed Hugh.

"Confound you! What I mean is, he'll cut quite a dash—be run after, and all that—parti, there, that's the word! In that case he may find that a countrified little thing like Emily isn't in keeping with his prospects, and then, of course—" Hobart broke off and looked at his brother out of the tail of his eye.

"He may find he's a sneaking cad, but he won't if it's me, thank you! No, sir!" burst out Hugh, his hand clenching involuntarily.

"There, there, youngster, don't excite yourself; I mean to win, though it's really the glory I care about more than the shekels."

"Perhaps I care for glory just as much as you do," returned Hugh, reddening again.

"Oh, pray, don't you begin in that strain—glory isn't your metier."

Hugh felt the note of contempt, and showed that he did by saying, irritably:

"Can't you manage to express yourself in your native tongue without interlarding it with French words all the time?"

"Emily reads French, and speaks it, too," said Hobart, laughing.

"In spite of which fact you think she isn't elegant enough to suit you."

"I didn't say that, and you know it."

"You implied as much, anyhow."

"I only wanted to see how you'd take it. I think she would do credit to any position; she's much too pretty and clever to be buried alive on a farm."

"She's domestic if she is clever, and civil engineers never have any home or stay in the same place for six months."

"Well, she's not too domestic to want to travel

pulse they started apart and left the barn by opposite doors just as Uncle Peter's voice was heard calling:

"Boys! boys! where are you? I see Elphalets' team coming down the big hill!"

### CHAPTER IV.

#### THREE YEARS AFTERWARD

All night it had rained, the rain turning to ice as fast as it fell, and morning broke with the same sour, lead-colored sky and piercing east wind—as Uncle Peter would say, a "sort of combination of an aquarium and a refrigerator." Already the twigs of the maple-trees were beginning to snap off and larger branches to bend under their glassy burden; a solid cataract poured from the eavespout, and icicles a foot long fringed the wood-house roof, when the back door of the Clapp homestead was thrown open at the cheerless hour of 6:02 A. M. on Monday, the twenty-sixth day of February.

"Well, this ought to just suit you," declared Hobart, emphasizing the pronoun and jamming his old felt hat over his eyes as he spoke.

"Suit me? Why so?" asked Hugh, rather testily, with a flitting recollection of something about slipperiness and the way of the ungodly.

"Why, don't you know the old saying that if the trees are loaded with ice they'll be loaded with fruit?" and Hobart picked up his milk-pail and started for the barn, his jacket stiffening rapidly under the freezing storm.

Hugh followed, carefully choosing his steps. More than three years have gone by since we saw the brothers on the night of the husking-bee, and the nameless change from boyhood to manhood has passed over them both. Our friend Hobart will never be handsomer than now, with

"Well, you know what uncle would say—that M.D. stands for Medical Donkey; he doesn't believe in 'em, and, besides, it's a terrific time to take a horse out."

Hobart for reply opened his uncle's door and made a critical survey of the patient. Ten minutes later he tore out of the yard on the back of the bay mare, the wind and rain beating fiercely on his bent head and the ice crackling like glass under the animal's hoofs.

Hugh did the chores. The excitement of the hour had taken full possession of him and sent an unusual glow and tingle along his veins. Like all people of somewhat phlegmatic temperament he felt the better for a little outside stimulus. As he was milking old Whiteface he was startled by a loud noise like ripping thunder, followed by a crash. He jumped up, knocking over the milking-stool, and opened the stable door. The big butter-nut-tree which stood near the corner of the barn had split from crown to root, and half of it lay flat, while the driving sleet was already glazing over the raw, splintered wood.

A sudden idea, which almost took away his breath, now struck Hugh. If other trees were going to pieces, why not his precious fruit-trees? He hurried through his work, mechanically feeding the animals and making them comfortable for the night, without a thought for anything but the disaster that threatened him. As soon as he had brought in the milk he started on a run for the hillside, which was not far distant, but cut off from observation by the slope of the land. As he crossed the yard he was frightened to see how thickly the ground was strewn with small branches and how the trees bent in great arches under their load. And the sleet was still falling and the ice growing heavier! When he came out on the top of the hill Hugh could hardly repress the groan that rose to his lips at the spectacle before him. The hundreds of bearing trees, whose symmetrical, rounded tops he had pruned into shape with such pride, were bowed nearly double and writhing and groaning like conscious things, while numberless broken but still hanging limbs clashed mournfully to and fro; others were severed entirely and skimmed mockingly over the crust until glued fast by the rain. At the lower corner the orchard touched on a piece of woods, and here the cracking and splitting were almost continuous, and the roaring advance of the wind through the tree-tops was like the noise of an army. Hugh picked up a fallen branch and found its cylinder of ice at least three inches thick; he believed that a good-sized tree would carry three to four tons, weight. In the midst of this calculation the thought of his uncle's illness rushed over him, and he reproached himself that he could forget that for anything else. It was almost dark; perhaps by this time the doctor had come. He retraced his steps at his best speed, and before he reached the house Hobart joined him on his way in from the barn.

"Well, isn't this great!" he exclaimed, excitedly. "Every one says it's the biggest ice-storm for thirty years! I counted eleven trees down between here and the corners, and the wind is getting worse every minute. One big elm fell right across the road not six rods ahead of me, and the branches and litter are just piled up everywhere, like so much brushwood. I never saw anything so grand in my life as the view from Deer Hill. It's a regular Arabian Nights—"

"Where's the doctor?" interrupted Hugh. "Oh, he's coming. He looked pretty sober, too, when I told him about uncle. Say, Hugh, I'm afraid your fruit-trees will get knocked pretty well to pieces if this goes on, heh?"

"Yes; they are already," said Hugh; "I've just been down. But it's no use talking," he added, impatiently.

The young men went in without further words and got off their clothes, which felt like so much plate-armor. Phebe was cooking supper and did not scold about the streaming coats and boots—a sure sign that matters were growing desperate. The meal was only half eaten when Dr. Bennet's buggy whirled into the yard. Hobart ran to take the horse, and Hugh also left the table precipitately and hovered nervously around, while Phebe detailed the symptoms.

When the doctor came out of the sick-room he fixed his dark eyes on him with a grave, compassionate look that struck a chill to his soul.

"Well, what is it?" he asked, with a dry throat. "Your uncle has pneumonia—" answered the doctor.

Of the rest of the sentence Hugh heard not a syllable. The vague foreboding which had haunted him all day had all at once changed to reality and seemed familiar and inevitable, as troubles have a queer way of doing. At the same time he felt that he must pull himself together and show what sort of stuff he was made of. Dr. Bennet, quietly watching him, noted the tightening of his lip, and decided that he, rather than Phebe, should assist in the case.

Uncle Peter's illness ran a rapid course. The next morning he was much worse, and nothing would do for him but to see Emily; he didn't want any lawyers, he said. The young girl, after staying with him half an hour, came out with traces of tears on her cheeks and eyes shining like stars. Twice the doctor came, leaving minute instructions, and Hugh hardly quitted the sick-chamber, where the big lad performed his duties with all of a woman's gentleness. It had cleared off at last—cold, windy and indescribably dazzling; no more beautiful sight could be imagined than the crystalline world flashing into jewels under the wintry sun. But there was as yet no abatement in the damage done by the ice. The trees knocked together with a noise like the clashing of castanets, and the course of the wind was everywhere marked by large and small boughs twisted off and tossed aside with gigantic sportiveness by an invisible hand. Hugh resolutely kept away from

the windows, left the chores to Hobart and tried not to think. But toward noon Dave Lamson's grandson, a little seven-year-old scamp, frustrated his efforts by waylaying him as he was leaving the room.

"Hi, there, mister! seen them peach-trees of yours to-day?" he piped in a whisper as shrill as a catbird's.

"No! Keep still, will you?" Hugh whispered back wrathfully, trying to close the door; but small David had inserted a prohibitive toe.

"The 'er ain't nothin' but stumps no longer; the wind's broke 'em off till some of 'em ain't two feet high, an' I bet you're cleaned out this time," reported the boy, all in a breath and with unconcealed elation, for Hugh had once locked him up in the tool-house for stealing strawberries.

Hugh slammed the door this time, almost pinching the inquisitive nose which expressed its owner's malicious triumph, and then he turned anxiously to see if Uncle Peter had stirred; but the old man lay with closed eyes and gave no sign of consciousness.

The following hour was a bitter one for our poor Hugh. He would have said that he "expected the worst," but at twenty-three we never really expect the worst for ourselves—other people's misfortunes are so evidently the result of bad management. His orchard had been his idol, and he had neglected his other work to give it unlimited care, believing that foresight and perseverance would be rewarded in the end; and now to lose all by a mere wanton freak of the elements! He had set his heart on building, but that was out of the question, of course. No matter; the old shabby house would do for him, and there would be no bride to bring to it. Emily would marry Hobart and never know that he cared for her, and they would be happy and successful and he a poor, obscure failure. It was fortunate that at this point Uncle Peter claimed his attention, since work is the best medicine for a troubled mind, and only in ministering to another's need can we live down the sharpness of our own disappointments.

"You won't forget the old man after he's gone?" his uncle said, with a feeble smile, when he was made comfortable.

"Oh, uncle, don't talk so! Only keep quiet and do as the doctor says and we'll pull you through yet."

"No, my boy; I feel that something's given out here, and you can't mend a machine when it's broken by pouring in oil. Well, I've done my best for Libby's sons, as I told her I would. See here, lad, you'll buy back the old place and stay on it—promise me that."

"I will, uncle—that is—you know it may come to me, anyway."

"No, I guess you're safe for the money. Hobart will get the farm, but he'll sell it for a fair price. . . . You're both good boys. . . . Everything is in the Lord's hands—" And closing his eyes he sank once more into quiet slumber.

"You can watch with your uncle again, can't you?" said Dr. Bennet that night.

"Yes, sir; I had a good two-hours' rest this afternoon."

"Don't oppose him in any fancy he takes. Delirium is apt to be worse at night, but I hardly think he'll show any violence." And after giving some further directions the doctor left the room, promising to call early the next morning.

[TO BE CONTINUED]

## THE CHOICE OF TOM THE DRUDGE

By Jo Hathaway



Tom rose wearily from milking the last of his seventeen cows, and carried his foaming bucket to the row of large tin cans. The milking-stool, strapped around his body, sagged ludicrously as he walked. His clothes were stiff with grime and grease and odorous with the smell of soured milk. He emptied his bucket, lifted the heavy cans into the cart and wheeled them to the dairy, while his Chinese co-worker, chanting a shrill, weird psalm of thanksgiving at labors finished, closed up the barn and trotted away to his cabin.

The dairy was very sweet and clean. It required much washing to keep it so. Outside a pot was sending up clouds of steam over a fire of logs. In the small anteroom Tom exchanged his soiled garments for a clean suit of jeans. The change was superficial. He felt hot and damp and wearied to the bone. His hands were stiff and sore. Mornings they were worse. He had to soak them in hot water before he could open them.

He strained the milk into rows of shining pans and set them up on shelves. Some of the shelves were higher than his head, and his arms trembled. As he lifted up the last full vessel a shadow darkened the doorway. He half turned. The milk splashed turbulently, and then with a crash the pan fell from his grasp and emptied its contents on the floor.

"Well, I'll be blamed!"

Tom lifted his head to confront his father's angry face. "Hi!" Walters did not look as if he would be blamed. His beard trembled with rage and impatience. He was a hard-featured man, of a type common among farmers who have earned their substance by dogged faithfulness to the one maxim—save. He was gaunt and muscular. His shaggy brows beetled out over deep-set eyes. A wart served to locate the starting-point of a nose that was sharp and prominent. If his smile was ever tender no one ever knew it. It was hidden in a thick growth of beard beginning to turn gray. He was wealthy, as wealth went in that

community, but the sight of the spilled milk seemed to infuriate him.

"Of all the fool carelessness, I'll be blamed! A whole pan of milk, and no tiffin' how many more! Spilled every drop of it! The place would go for taxes, for all your savin'! A boy that's that fool careless ain't worth his salt! Well, why don't you get the mop? Goin' to leave it there to spoil the rest, I s'pose!"

His anger flared higher at the sound of his own voice. "Hi!" Walters was not a man of extensive vocabulary, but, like the rest of him, it was hard-worked. At times like these he was likely to throw his words together in combinations which he had not planned.

"That's right, go at it, hobbledehoy, and spill the other pans! Ain't you got sense enough to use a mop? Land's sake, it's time you had begun to earn your salt!"

He turned abruptly and made his way out of the dairy with the slight limp that had marked his gait ever since he had stopped that terrible runaway, years before, when Tom was a baby just big enough to climb up into the buggy and shake the lines.

Tom went on with his work. Washing cans was to him a tedious and irksome task. He scalded them carefully at last and set them out in the air to drain.

Supper was over when he reached the house. There was to be company that night. His sister Flossy, who had been known as Florence before she went away to school, appeared in a calico wrapper, with her hair elaborately curled. She set out cold beans and bread and lukewarm tea. She forgot the butter, and Tom did without. He was not in a humor to talk.

"Tom, you'll freeze the ice-cream? That's a darling!"

Tom grunted. Terms of endearment were imported articles in the Walters' household, and he regarded them with suspicion and disrelish. They embarrassed him; they seemed so superfluous and insincere.

"And you'll put on your nice clothes? And your lawn tie? That's a good boy! These clothes are—ah!" She sniffed delicately and smiled. The action was to indicate that dairy perfumes might be pastoral and poetic, but were scarcely in harmony with lawn ties.

"I sha'n't come down." Tom filled his mouth with beans to preclude explanation, but the measure was hardly necessary. Flossy smiled amiably, even sympathetically, and adjusted her hair-pins.

"You must be frightfully tired with those awful cows! Dreadfully sorry you won't be down! But we'll save you some ice-cream—that is, if you'll freeze it? That's a dear!"

Tom scowled and pushed back his chair. His heavy boots scraped across the floor as he stalked out to the kitchen. He was willing enough to freeze the cream—he did everything that fell to his lot, as a matter of course—but his sister's flourishes annoyed him. He was unable to respond in kind, and he did not like to feel a churl.

When he came back the beans and tea were removed and the table was resplendent in shining linen and embroidered centerpiece. He felt no regret in absenting himself from the festivities—he would study his geology up-stairs.

He felt gingerly along the shelf where he always kept it. The place was loaded down with pink and white gift-books, which no one ever read. Ordinarily they were stored away in trunks. His geology was not there. It would look like an elephant among white rabbits on that dainty shelf, he realized. His sisters must have put it away. He would hunt them up.

At the half-open doorway of their room he paused. Inside he caught a glimpse of airy white curtains, and a white bed with pictures behind it, and a strip of bright matting pearl-colored and green. His sisters were talking.

"Heavens, honey, not that—wear the other ribbon!"

"Which, the pink?"

"Yes; that's lovely!" It was Flossy's ecstatic voice. "You'll match the pink in the parlor—how charming! And the ice-cream and berries—they're pink, too! What do you think? Tom said he wasn't coming down."

"What?"

"Aren't boys the queerest? I didn't urge him. He's such a—a, well, you know, all elbows and hands—and so glum! I try my best to jolly him up, but he just sits and glowers—at his beans."

"Flossy, why isn't he coming down?"

"There, see my sweet-peas—um! Why isn't he coming down? I really—don't—know. If I had time I'd try to find out, but he haffes me. He's different from the boys at school. They're dears! I suppose milking makes his hands bigger—snilax or maiden-hair, which goes best? Pin them, won't you? That's a dar—"

Tom stumbled up-stairs out of hearing of the rippling voice and shut himself into his own room. It wasn't a pleasant place to spend an evening in even for a boy like Tom, and Tom was not sensitive to environment. It had been made a sort of junk-shop for all the pieces of stray and broken furniture in the house. There is a popular persuasion that boys delight in such things. The chair he sat in had no back, and one of its legs was fractured. Flossy, whose decorative instinct transcended everything, had mended it one day with a knot of scarlet ribbon. A hit of wire might have held it more securely, but ordinarily it did not matter.

A room to Tom meant a place to sleep in. He did not remember ever having examined the furnishings of his chamber before. His bed was narrow and hard and covered with a somber patchwork quilt. The varnish was cracked into sections, like the surface of alligator-skins. The floor was carpeted with threadbare Brussels that might have had a pattern some time—exactly

what it was impossible to speculate. It was faded to a sad and unambitious gray. The old-fashioned mahogany bureau would have delighted a collector. In the eyes of the family it was simply dingy, discolored and out of date. Above it was a cracked mirror in an oval frame.

Tom pulled down the window-shade and lit his lamp. There was absolutely nothing to do. If he only had his beloved geology! But it was heavy and cumbersome, like himself. The girls had put it out of sight.

He fell to studying his own image in the looking-glass. Tom was not a bad-looking lad, although awkward and loose-jointed, from too rapid growing. His eyes were good, and his forehead broad and intelligent. He had the framework of a powerful man and a breadth of shoulders that would have been the envy of many a college athlete. But he saw only the high cheek-bones, the muscular jaw, the patient bovine cast of cheeks and nostrils—and a great abhorrence of himself seized him. He was getting to look like the cows he worked with!

There are times when the handsomest person feels a disgust of his own countenance. His features seem to sag in stupid masses, his eyes sink back into dull inertness. Sometimes he sees in them a sluggish resemblance to some familiar beast—a horse, or a sheep, perhaps. Oftentimes the disgust sinks deeper and encompasses his whole ego. It was so with Tom. It is a morbid distemper, bred of too much introspection. The cure for Tom would have been to put on his best clothes, go down and mingle with the gay company whose laughter broke so harshly into his solitude, and forget himself.

Instead he sat down sullenly in the broken chair and told himself he would think his situation out. He had been misunderstood, mistreated and ignored. He had been his sister's cat's-paw and his father's drudge. And what was his reward? A junk-man's chair tied with a milliner's bow and the assurance that he was not worth his salt!

A sound of laughter, louder than the rest, struck discordantly upon his ear. He got up with a sudden resolution. He was sick to the heart with it all—why should he stay? He would leave—no one wanted him. He would get out of the stifling atmosphere and get out of himself. He would shape a new career of his own, be it for better or for worse.

Tom was not a person who made many resolutions, nor did he fail in many he had made. He had that simple, direct force of character which knows not vacillation. He began without delay his preparations for leaving. The gloom of self-loathing cleared away from his mind. Here was a time for action, not for thinking.

On the bed was his Sunday suit and fresh linen Flossy had laid out in tacit announcement that none but the finest would do for her party. He brushed them aside with a grim smile. He did not expect to tread the flowery path of dalliance. In his top bureau drawer his hand struck suddenly against his geology, and he crowded it in joyfully with his working-clothes. The study was his one passion. He was glad to think he would not have to give it up.

Mary must have brought the volume to his room. At the thought of her he felt a little pang. She was the elder of the sisters, and she understood him in a way. She never troubled him with "dears" and "darlings," but talked with him sensibly and was kind. His mother had been like that. He remembered her, too, and her picture down-stairs in the back parlor—a big, cold-looking crayon in a wide gilt frame. They had bought it from a traveling artist one year when the rhubarb crop was good, and to Tom it was a wonderful piece of art. Her lips seemed almost to speak to him at times. He thought he should like to see it once more. He would wait till the guests were gone and then slip down. He would spare himself the ordeal of seeing his father. It stood to reason he would be glad enough to have him go, but something in Tom's heart shrank from having him tell him so.

Country visitors did not stay long evenings. Most of them lived on dairy-farms, where people are forced to observe early hours. After awhile he heard a pushing back of chairs and opening of doors and merry good-nights, and finally the rumble of wheels. He waited a little while longer and then started down—not on tiptoes, as he had meant to at first. It seemed too much like sneaking, and Tom was not a sneak.

The back parlor was yet faintly illumined. Some one must still be up. He need meet no one. He could pass right through, to the little hop-vine arbor beyond the side porch, and out—out into the world.

He paused in the secluded room before his mother's picture—a patient, care-worn face another might have failed to see the beauty in, but which stood with him for the type of all that was lovely. A feeling he had not counted on took possession of him. For the first time he understood the seriousness of the step he was to take. He was about to break into a habit of living—and the Walters were quiet people, into whose habits of living little short of death had ever broken. His father had lived here all his life, and his father's father; and he himself had looked forward with unconscious pleasure to a life here, under the blue sky that he loved. What would she have said to him, this sweet, submissive woman whose face looked down at him? Something very much like tears burned in Tom's eyes as he picked up his satchel and turned away.

Some one called his name. It was Mary. She touched his shoulder and looked up anxiously into his face. His mother's gesture!

"Tom, what are you going to do?"

"Clear out, I guess." Tom laughed harshly. "Pull stakes and skedaddle."

His slangy speech and his laugh did not mislead

her. She saw the quiver of his eyelids, and her hand slipped down into his. Again his mother's gesture!

"Tom, does father know?"  
 "No. He'll be glad enough, you bet."  
 "Oh, Tom, if you only knew—Tom, listen!"  
 She drew him hastily into the shadow beside the outer door. Voices approaching through the arbor sounded outside and paused at the threshold. One was his father's, the other Tom recognized as that of his Uncle Crandell, his mother's brother, a kindly, gray-haired bachelor who had always been his friend. He was the one man in the community more prosperous than his father, but he had lately sold his farm and was about to move into the city, where he had large commercial interests. It was his voice that was speaking.  
 "Well, it's just as I've told you. It's been in my mind ever since Nancy died that I'd like to do something for one of her children. There'll be the position in the shipping-house that some one will have to fill, and all I'd ask would be that I'd be allowed to treat him the same as if he were my own."

"Tom ain't any hand to like to be under roofs."  
 "I know he's not the kind that takes by nature to ledgers and bill-books, but he's got ability."  
 "Yes—he's got ability."  
 "And he's faithful."  
 "Yes—he's faithful."  
 "That's the great thing, to get some one that would be faithful. Tom's the kind that's bound to make a success of whatever he undertakes. Half the young men to-day expect to ring the bell and go to the top in an elevator. If they find they're expected to climb they throw up the job and go to agitating something or other in a labor union. Tom, now—if you set Tom to a task he'll do it, and he won't expect an increase of salary for doing it his best, either. Any boy with his brains that'll milk seventeen cows morning and night all season, and fill in the time between as he does, without complaining, is worth helping, say I. Why, he doesn't even know you've been laying by his wages all this time, does he?"

"No. He ain't any hand to spend money, and I calculate he'd like it best to go to school on by and by. He's set on science—never seen such a lot of books as he's picked up."  
 "Of course, I shall want to send him through college. The more a business man knows of science and mathematics the better. I've been writing 'for value received' on my notes too long to go into anything now for pure sentiment. I expect to get my profit out of this deal, and I will. Tom's a good investment for any one. But aside from that I want the boy. He's Nancy's child, and I want him. Well, what do you say?"

There was a silence for some moments, and when his father spoke at last it was so low Tom could scarcely hear his words.  
 "It would be like losing Nancy over again."  
 "Of course; I understand that." His uncle's kind voice was lowered, too, and there was something in it which helped Tom to realize that there were parts of his father's inner life of which he had never dreamed. "A father's claims are first. I do want the boy, and I would do my best by him, but it is for you to decide."

"No, I dunno as I have any right to say. You'll have to see the boy. If he wants to go I sha'n't say a word. I s'pose it would be the best thing for him. I—I never thought about his leavin' home."  
 There was another intermission, and Tom heard his father twisting the door-knob back and forth. He half started forward, but Mary held his hand tight in mute entreaty of silence. Then his father went on speaking.

"I dunno. He hasn't had an easy time, and I haven't tried to make it any easier. Tain't my way. I ain't encouraged him as much as I might, and I've been stricter than there was any call for, I s'pose. He's been a faithful boy, as you say, and an uncomplaining boy, but it's a little late in the day to tell him so. Don't s'pose I could do it if I tried. I don't know how I'll do along without him, but I sha'n't stand in his way. Well—"  
 Once more there was a pause, and then the door was pushed slowly open. "So long as you want your answer to-night I'll wake him up. He was clean petered out, milking them seventeen cows. Reckon he'll be glad enough to stop. If he wants to go I won't hinder him. He's old enough to choose for himself."

Mr. Walters limped into the lamp-light—his limp was always worse when he had been standing still—and Tom could not but see how troubled his harsh face seemed, and how old. A sudden sense of his own strength and youth pulsed through him with his quickened heart-beats—he on the verge of manhood, his father in the decline. Mary's hand was on his arm. He stepped forward without the least hesitancy or indirection, and his voice was strong and unwavering.  
 "Father, I do choose for myself, and I choose to stay!"

"Hi!" Walters was not a man of theatrical attainments. For a moment a look trembled on his sharp face, and then he passed on across the space of the room unceremoniously, as he would have passed at any other time, with the only difference that the limp was gone out of his walk.  
 "Get to bed, then!" he said, gruffly. "Breakfast at half-past five!"  
 But Mary kept her hand in his, and went with him up the stairs, and made him let her unpack his satchel, and turned back the covers of his bed for him motherwise. And then she put both arms around his neck and looked quietly into his eyes. It was the one time he had ever heard her call him "dear."

"Dear," she said, "I am glad you are going to stay. I never thought about your leaving, either. None of us did, I think. And, Tom—"  
 The sentence was not finished. There was no need.

A ROCK WITH A HISTORY

The rock Gibraltar is a name which is familiar to every school-boy. It is noted not alone for its huge form, which resembles a couchant lion, rising nearly 1,500 feet from the sea, but its history is replete with adventures, romance and events that have influenced the destiny of the human race.  
 It was here the Moslem was offered the opportunity of rearing the crescent in the bloody march of his faith, and to plant in western Europe a civilization that would have changed the destiny of the whole of western Europe.  
 For more than seven centuries his power remained, and when at last he was pushed across the strait, he took his stand on the shores of Africa, where he yet lingers, his present home being only a reminder of his former glory.  
 It was here that Lord Nelson, in the year 1807, routed the allied naval forces and established British supremacy on the seas. Gibraltar is the tower of British supremacy, the citadel of the Mediterranean.  
 Not far from here was the old Moorish village Tarifa, on a point of land which projects into the ocean, where a fort and high circular tower are located. It was from this circular tower the Moors sent forth their thundering edicts commanding vessels to heave to and pay a tax for sailing through the strait.

The rock itself is now used and occupied by the British as a sort of military fort. It is full of subterranean passages. To enter these passages a pass is necessary, and even then there are places within the rock no one is allowed to enter. The examination of these subterranean chambers is a most tedious and tiresome undertaking, as one goes on and on, not realizing how far he is traveling. In these passages cannons are placed, commanding every point on the eastern side of the mountain. Looking out from the port-holes a thousand feet high one gets an inspiring view.  
 On the west side of the rock, nestled up alongside Gibraltar, lies a city of 20,000 inhabitants—a conglomerate mixture of all the races God ever created. There one can see the Turk, the Moor, the Spaniard, the Arab, characteristic specimens of the races, each preserving his racial ideality in dress and manner. Just north of the rock Gibraltar is the "neutral ground," which extends from bay to sea. The "neutral ground" is a half mile wide by three in length. On one side are the sentinels of England, on the other the pickets of Spain. The main street of Gibraltar extends northward through the "neutral ground" to Lania, a Spanish town.

The street is constantly thronged. In company with three others I took a carriage and crossed the "neutral ground" to Lania. There we passed on foot through the line of revenue officers, and started through the narrow streets of one of the oldest, most wretched, dreary towns I ever was in. Indolence, beggary, wretchedness held equal sway. No mill, no factory, no industry of any kind to arouse the people to health or hope. All under the shadow of the rock Gibraltar.—The Watchword.

IN MOSES' TIME

As archaeologists continue to uncover long-buried cities, monuments and tombs in Egypt, and students of picture-writing and hieroglyphics become more familiar with what these uncovered treasures contain of history and philosophy, we get a more and more exalted idea of that wondrous people in the time of Moses. Even then there were "men of great curiosity, anxious to discover the hidden secrets of the earth, fond of literary and scientific methods, admirable in their delineations of nature, skilled surveyors, with a fair idea of map-making and economical and methodical administrators of domestic and foreign affairs," as Sir J. W. Dawson tells us. It has long been understood that their knowledge of the heavenly bodies and of astronomy was far in advance of that of other lands many centuries after their day of power; "even before the time of Moses they had ascertained the movements of the moon and planets, established the signs of the zodiac, discriminated the poles and the equator, ascertained the law of eclipses and the procession of the equinoxes, and, in fact, had well worked out the astronomical problems possible to the eye, unaided by the telescope. Their architectural skill, the temples and the mighty pyramids speak for, in metallurgy, knife-hardened copper and certain qualities of glass (lost arts to us) prove their ability; the wonderfully fine and durable cloths round their mummies tell of their weaver's art; and the skill with which they managed the waters of the erratic and now almost unmanageable Nile, so that a mighty population was fed, and their granaries filled, under the management of Joseph, during the seven years of plenty, from which the nations round about were fed, tell of a degree of agricultural knowledge far beyond that found even to-day in many civilized lands.

"Rich in historic records, made under governmental control during the times recorded, with a poetic and imaginative literature in abundance, it is easy to understand that their universities, even in those far-away days of 'mystery teachers,' had their chairs of astronomy, geography, mining, history, theology, languages and the higher technical branches. Yes, three thousand years before the Reformation, in nearly all material things Egypt was quite as far advanced as was Europe in the time of Luther; and in that day she seems to have but needed the application of the rules of life, individual and national, afterward given us in the Sermon on the Mount, to have held her supremacy as long as those rulers should be obeyed by her. May her lesson be taken to heart in our day and land!"—Dr. Eugene Murray-Aaron, in Cram's Magazine.

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Address MACBETH, Pittsburgh, Pa.

Vapo-Cresolene advertisement featuring an illustration of a person sleeping and text describing its uses for various ailments like whooping cough and croup.



TRUSTING

O heart, be brave! And though thy dearest, fairest hopes decay, Hopes all fulfilled shall crown another day.

O heart, be strong! Be valiant to do battle for the right; Hold high Truth's stainless flag; walk in the light

O heart, be still! If clouds arise, keep in the pathway straight; If that seems hedged, be patient still and wait

O heart, be calm! The fiercest storm hath always peaceful end; Dark clouds a background to the sunset lend;

O heart, be wise! Forget thy disappointments, loss and pain; Put by thy restlessness and longings vain.

O heart, be glad! For thou art heir unto a kingdom fair, Thy joys here lost are safely gathered there.

O heart, be brave, be strong and calm and glad! -Lillian Grey, in Self-Reliance.

HE WENT OUT

IN HIS recent address at Philadelphia Bishop Potter made the striking statement, "A conviction has come to pass that there does not exist a man who is not a purchasable man."

"About a year ago there came into my study, in New York, some one whom I had never seen, a stranger, whose name upon his card I did not recognize, and whose errand I could not divine.

"Sir," he said, "I am from such and such a part of the country. In that part of the country a fierce political campaign is now in progress. One of your clergy (it was in a territory, and not in a city) is attacking from the pulpit the moral character and moral standards of a gentleman, a candidate there for a very high office, whom I represent."

"I said, 'I have not any clergymen out in that part of the world. I have no more jurisdiction there than you have.'

"He said, 'Perhaps not in the sense you mean, but it is one of your men.'

"What do you want me to do?" said I. "I want you to stop it," said he; "and I am authorized by the distinguished gentleman whom I represent to say that if you will stop it he will make it worth your while."

"I felt like saying, 'It will come high.' I got up and walked to the door. I opened it and stood there. He looked there a moment in some perplexity. I said, 'Does it not occur to you, sir, that this interview is at an end? He went out.'" -Christian Endeavor World.

AN UNRULY MEMBER

In a certain village in Kent there lives an old lady known as "Talkative Sal." The parson showed too much linen at his wrist for her liking, so one day, meeting him in a lane, she said:

"Excuse me, parson, but would you mind my cutting about an inch off your wristbands, as I think it very unbecoming to a clerical man."

"Certainly," said the parson. And she took from her pocket a pair of scissors and cut them to her satisfaction. Having finished, the parson said:

"Now, madam, there is something about you that I should like to see about an inch shorter."

"Then," said the old dame, handing him the scissors, "cut it to your liking."

"Come, then, good woman," said the parson, "put out your tongue!" -Milwaukee Sentinel.

THE OLDEST BOOK

The question is not infrequently asked, "What is the oldest book in existence?"

With certainty we can answer that known as the "Papyrus Prisse," now one of the great treasures of the Bibliotheque Nationale, or National Library, at Paris. This papyrus was discovered in a tomb of one of the Entews, of the first Theban dynasty, at Thebes, by M. Prisse, who presented it to the library and from whom the book takes its name. The work has been translated from the hieratic into French by M. Virey, and retranslated into English by Professor

Osgood. Its full title is "Precepts of the Prefect Ptah-hotep, under the King of the South and North, Assa." Now, King Assa was last but one of the fifth dynasty, and Ptah-hotep, who flourished as his prefect, an office equal to Secretary of the Treasury and Chief Justice of the Supreme Court in one, must have compiled his work about 3350 B.C., eighteen hundred years before the time of Moses and near the time given in our Bible chronology as that of the birth of Methuselah. Preceding or attached to these precepts are a few leaves of a still earlier work, written by Kakimna, prefect to King Seneferu, of the third dynasty. Were this a complete work we could boast of a book older than the Pyramids, and dating from 3760 B.C.—a book fifty-six hundred and sixty years old.—From "Forward," by Dr. Eugene Murray-Aaron.

HOW GENERAL GRANT STARTED

When General Grant was a boy his mother one morning found herself without butter for breakfast, and sent him to borrow some from a neighbor. Going, without knocking, into the house of his neighbor, whose son was then at West Point, young Grant overheard a letter read from the son stating that he had failed in examination and was coming home. He got the butter, took it home, and without waiting for breakfast ran down to the office of the congressman from that district.

"Mr. Hamar," he said, "will you appoint me to West Point?"

"No; So-and-So is there, and has three years to serve."

"But suppose he should fail, will you send me?"

Mr. Hamar laughed. "If he don't go through, no use for you to try."

"Promise you'll give me a chance, Mr. Hamar, anyhow."

Mr. Hamar promised.

The next day the defeated lad came home, and the congressman, laughing at Uly's sharpness, gave him the appointment.

"Now," said Grant, "it was my mother's being out of butter that made me general and president." But it was his own shrewdness to see the chance, and promptness to seize it, that gave him his start on the road to success and fame.—Young People's Paper.

WHEN WE FACE THE PAST

A rich landlord cruelly oppressed a poor widow. Her son, then a little boy of eight years, witnessed it. He afterward became a painter, and painted a lifelikeness of the dark scene.

Years afterward he placed it where the man saw it. The man turned pale, trembled in every joint, and offered a large sum to purchase it, that he might put it out of sight.

Thus there is an invisible painter drawing on the canvas of the soul a lifelikeness, reflecting correctly all the passions and actions of our spiritual history on earth. Eternity will reveal them to every man. We must meet our earth-life again, whether it has been good or evil.—Episcopal Recorder.

MANNERS

There is always a best way of doing everything, if it be to boil an egg. Manners are the happy ways of doing things; each one a stroke of genius or of love—now repeated and hardened into usage. They form at last a rich varnish with which the routine of life is washed and its details adorned. If they are superficial, so are the dew-drops which give such a depth to the morning meadows.—Emerson.

HELPFUL THOUGHTS

A brave, resolute, Christian life is not always smooth sailing; but the inward power becomes an overmatch for headwinds. Sometimes the gales of adversity sweep away a Christian's possessions, but there is an undisturbed treasure down in the hold—a glorious consciousness that One is with him that the world can neither give nor take away.—Theodore L. Cuyler, D.D.

Understand what it means to trust God. Be not overcareful for what is to come.—Brooke.

Elgin Watches advertisement featuring an illustration of a watch and text describing their accuracy and reliability.

American School of Correspondence advertisement offering scholarships and courses in mechanical and electrical engineering.

TERRIFF'S PERFECT WASHER advertisement featuring an illustration of the washer and text describing its efficiency.

Send Us 50 Cents advertisement for a Stradivarius Model Violin, including a price tag of \$315.

RIDER AGENTS WANTED advertisement for Mead Cycle Co., offering bicycles for sale and recruitment of agents.

GUITAR, MANDOLIN, BANJO VIOLIN, PIANO & ORGAN advertisement for E. C. Howe, manufacturer of musical instruments.

OLD RAGS advertisement for Thompson's Eye Water, describing the benefits of the eye medicine.

NOT A PIG advertisement featuring an illustration of a pig and text describing a musical instrument.

Reversible LINENE Collars and Cuffs advertisement featuring an illustration of a man in a suit and text describing the product.

6 PRIZES FREE advertisement for a contest involving various prizes like gold shell gem and chalo bracelet.

BROWN'S BRONCHIAL TROCHES advertisement featuring an illustration of a person and text describing the medicine.

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Silk Remnants, enough for quilt, 50c. Large bags headed "JERSEY" SILK MILL, Box 32, JERSEY CITY, N. J.



### ADMIRAL COLUMBUS PROTESTS

"What's this I hear," cries Christopher, "About these fool Chinese, Who claim that in Four-ninety-nine They crossed the Western seas? I'll not believe," says Christopher, "A tale so overripe; It strikes me as a flagrant case Of too much dreamy pipe."

"I'll hold my ground," says Christopher; "I do not mean to flunk. That Chinese fleet compared to mine Was but a lot of junk. It buoys me up," says Christopher, "And lifts my spirits high. To think this silly tale may be The latest Shanghai lie!"

—Cleveland Plain Dealer.

### MISTAKEN IDENTITY

The late General John M. Palmer used to enjoy telling of being mistaken for a person of greater dignity than the president of the United States.

"When I was military governor of Kentucky," said he, "a disturbance occurred in some town in the interior. I was at a distance, but was needed at the scene. There was no train, no carriage, no buggy to be had. The only vehicle available was a big gilded circus chariot left by some stranded show company. I didn't like it, but there was nothing else to do, so I got in. You may imagine I cut a great dash as I drove through a small town. People turned out in droves to see me pass. When I left the town behind me and reached the plantations the negroes saw me and stared with open mouths. They followed me at a respectful distance, until presently they were joined by an old, white-haired preacher, who, on seeing me in my magnificent chariot, raised his eyes and his arms on high, and in a voice that stirred all within hearing, cried:

"Bress de Lord, de day ob judgment am cum, an' dis gemman am de Angel Gabriel hisself. Bredren, down on yo' knees and pray, fo' yo' hour am hyar!"—Chicago Chronicle.

### NOW BUYS ELSEWHERE

"If you please, sir, father says he's going to kill a pig, and can you do with a side of bacon?" "Yes, my boy," said the schoolmaster. "Tell him to send it as soon as he likes."

A week passed away, and as the bacon had not arrived the teacher reminded the boy of his order.

"I expect you forgot to tell your father, you young rascal!" said the schoolmaster, good-humoredly.

"Oh, no, sir, I didn't," said the youngster. "My father hasn't killed the pig."

"How's that, Tommy?"

"Please, sir, it's got better."—London Answers.

### GOT THEIR FEES, ANYWAY

McJigger—"Young Dr. Downs recently made fifty dollars in a guessing contest."

Thingumbob—"The only one who guessed correctly, eh?"

McJigger—"Oh, no. Two other doctors got the same, and all three of them guessed wrong. You see, they were called in consultation over a patient."—Philadelphia Press.

### HARDENED TO IT

"If any people call, Norah, be sure to tell them I am out. What are you waiting for? It doesn't disturb your conscience, does it?"

"Oh, no, ma'am. I'm hardened to it. I've worked for society liars before, ma'am."—Cleveland Plain Dealer.

### A DRAWN CONCLUSION

"If you are a bad boy," said the father, "you will turn papa's hair gray from sorrow."

"What a naughty boy you must have been," remarked the son, gazing at his grandma's whitened locks.—Philadelphia North American.

### DICKENS' CHARM

"Do you enjoy reading Dickens?"

"Very much," answered Miss Cayenne. "His works contain so many odd and villainous characters to whom it is a pleasure to compare those we dislike."—Washington Star.

### BAD TO SPLICE

"I see that golf-sticks will be worn shorter this season."

"Shorter? Say, it's a good thing it isn't longer!"—Cleveland Plain Dealer.

### SOMETHING WRONG

Cora—"But all actresses claim to be wedded to their art."

Merritt—"That is why it's funny divorce is so prevalent among them."—Types.

### THIS BOER WAR

Miss Budde—"Are you coming to our charity cake-truck this evening?"

Mr. Clubber—"Can't—awfully sorry! Have a smoker on at the laager."—New York Press.

### IN CHICAGO

"Hello!" said Benny, catching sight of a drift of snow on the edge of a roof, "there's some smoke that got frozen!"—Judge.

### THEN THE OTHER GIRL UNDERSTOOD

"Poor, dear Jack! I had to refuse him."

"Why so much sympathy?"

"I know he will marry that Jenkins girl."—Life.

### SALT RIVER DISCUSSED IN THE HOUSE

A LITTLE skit about Salt River was over-looked during the rambling debate on the River and Harbor Bill. Representative David Highbough Smith, of Kentucky, whose district comprises the birthplace of Abraham Lincoln, offered an amendment for the survey of "Salt River from its mouth to Sheppardsville."

Chairman Burton, alert to any changes in his bill, was on his feet in an instant. "Is not this the river that Mr. Carlisle said the only way to improve it was to pave it?" he inquired.

The House scented the fun in the proposed legislation and there was wild laughter.

"I do not remember, but I suspect he would say that now," retorted Mr. Smith, readily, at which there was a further titter.

"Is it not true that numerous people who go up that river do not get down again?" persisted Mr. Burton, with mock solemnity.

"Well, I think that would be a very favorable recommendation for the amendment I have suggested," said Mr. Smith. "I hope it will be adopted."

Mr. Burton concluded not to object, and as the matter stands now Salt River will be surveyed.—Washington Post.

### "YOURS NOT TO REASON WHY"

President Patton, of Princeton University, recently delivered a sermon at the Fifth Avenue Collegiate Church, his subject being "Faith." Dr. Patton spoke of the blind faith of the client who puts himself at the mercy of a lawyer in preparing an action for trial, and of the confidence of the sick in intrusting themselves to the physician.

"A case of blind faith," said the clergyman. "The doctor writes out a prescription. Oftener than not you cannot read it; you don't know what it is. He tells you to take it. 'Yours not to reason why, yours but to do and die.'"

Whether or not Dr. Patton meant it, there was a distinct ripple throughout the congregation.—New York Evening Sun.

### CAUTIOUS

An old Scotch woman who came to this city many years ago has always expressed a great desire to return to her old home for a visit. Recently her two sons, who had prospered exceedingly in the new land, told her that her wish could now be gratified. They asked her when she wanted to go. "Well," was the reply, "it's been a verra wet winter, and I have nae doot the sea's unusual deep. I'll just bide me till summer."—Philadelphia Call.

### A PRECOCIOUS BABE

Brother John—"And so the baby is four days old, is it? 'Pears like it's a pretty bright little thing for its age."

Sister Mary (pitifully)—"Bright! That's not the word; it's a wonder! Why, the little precious breathes as natural and regular as an adult fifty years old."—Puck.

### A SHIELD AND BUCKLE

"Men are such frauds." "Any new developments?" "Yes; I've just learned that when John wants to get out of doing anything or going anywhere with his friends down town he tells them his wife won't let him."—Chicago Record.

### TRUE ENOUGH

"DeKanter's a funny fellow. He says even the smallest drink of whisky always goes to his head."

"Well, that's the truth."

"What? An old toper like he is?"

"Certainly. He couldn't drink it through his feet."—Philadelphia Press.

### THE AUTHORITY

"Isn't it so, lieutenant, that you are going to marry my sister Rose?"

"How do you know that?"

"I saw it in her diary."—Fliegende Blaetter.

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Through tourist sleepers and chair-cars.

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For all who have Weak Lungs

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SEND NO MONEY. Put out and return this ad, and we will send you this GEM ROLLER ORGAN complete with one roll of music, by express, C. O. D., subject to examination. You can examine it at your express office, and if found perfectly satisfactory, exactly as represented, equal to such instruments sold by others at double the money, pay the SPECIAL OFFER PRICE \$2.95 and express charges, which average 50 to 75 cents. The GEM ROLLER ORGAN plays any tune arranged for it. Extremely simple, a child can operate it, made of especially selected materials, given a handsome walnut finish, is 16 inches long, 14 inches wide and 9 inches high; weighs, boxed 15 pounds. Has hard steel keys, steel gearing, very finest mechanism throughout. Operates on the same principle as the finest Swiss Music Boxes. The reeds are organ size and give out a volume of tone as full and sweet as a big organ. We furnish ONE ROLL OF MUSIC FREE with every organ. \$2.95 is the lowest price ever attempted for a fine ROLLER ORGAN, the greatest value ever furnished in a mechanical musical instrument. ORDER AT ONCE. Write for FREE Music Catalogue. Address, SEARS, ROEBUCK & CO., CHICAGO.

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neck, arms, etc. It instantly kills the growth forever without injuring the skin. IT CANNOT FAIL. The regular price is \$1.00 per bottle. TRIAL TREATMENT but we will send a for 25c. We charge 25c for the trial treatment because in most cases it is sufficient for a permanent cure. Booklet and testimonials sent free. THE DERMATINO CO., Dept. C22, St. Louis, Mo.

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Head expelled alive. TAPE-WORM EXPULSED ALIVE. Head expelled alive. Byron Field & Co. 182 State St. Chicago

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#### A Remedy Which Has Revolutionized the Treatment of Stomach Troubles

The remedy is not heralded as a wonderful discovery nor yet a secret patent medicine, neither is it claimed to cure anything except dyspepsia, indigestion and stomach troubles with which nine out of ten suffer.

The remedy is in the form of pleasant-tasting tablets or lozenges, containing vegetable and fruit essences, pure aseptic pepsin (government test), golden seal and diastase. The tablets are sold by druggists under the name of Stuart's Dyspepsia Tablets. Many interesting experiments to test the digestive power of Stuart's Tablets show that one grain of the active principle contained in them is sufficient to thoroughly digest 3,000 grains of raw meat, eggs and other wholesome food.

Stuart's Tablets do not act upon the bowels like after-dinner pills and cheap cathartics, which simply irritate and inflame the intestines without having any effect whatever in digesting food or curing indigestion.

If the stomach can be rested and assisted in the work of digestion it will very soon recover its normal vigor, as no organ is so much abused and overworked as the stomach.

This is the secret, if there is any secret, of the remarkable success of Stuart's Dyspepsia Tablets, a remedy practically unknown a few years ago and now the most widely known of any treatment for stomach weakness.

This success has been secured entirely upon its merits as a digestive pure and simple, because there can be no stomach trouble if the food is promptly digested.

Stuart's Dyspepsia Tablets act entirely on the food eaten, digesting it completely, so that it can be assimilated into blood, nerve and tissue. They cure dyspepsia, water brash, sour stomach, gas and bloating after meals, because they furnish the digestive power which weak stomachs lack, and unless that lack is supplied it is useless to attempt to cure by the use of "tonics," "pills" and cathartics which have absolutely no digestive power.

Stuart's Dyspepsia Tablets can be found at all drug-stores, and the regular use of one or two of them after meals will demonstrate their merit better than any other argument.

## WATCH

With CHATELAINE or CHAIN

# FREE



Boys and Girls can get this beautiful watch, with a gold plated chain for boys, and a gold plated chatelaine for girls, for selling only eight boxes of our Great Cold and Headache Tablets at 25 cents a box. This watch has a finely finished case, with American movement & is warranted to keep correct time, the equal in this respect to many watches costing twenty-five dollars or more. If you want to own this handsome watch, write to-day, and we will send the Tablets by mail post-paid. When sold send us the money, \$2.00, and we will send you the watch, with either gentleman's chain or lady's chatelaine, as you prefer, same day money is received. REMEMBER, WE WANT YOU TO SELL EIGHT BOXES AND NO MORE, to get both the watch & chain, or watch & chatelaine. This is a grand opportunity to get a good watch & chain for a very little work. Address, NATIONAL MEDICINE CO., Watch Dept. 17C, New Haven, Ct.

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SEND NO MONEY cut this ad. out and send to us, Neuton No. 103L, state your height and weight, number of inches around body at breast, taken over regular coat, close up under arms, and we will send you this coat by express C. O. D. subject to examination. Examine it and try it on at your express office, and if found exactly as represented, the most wonderful value you ever saw or heard of, equal to any waterproof coat you can buy for \$6.00 to \$8.00, pay the express agent our \$2.95 and express Special Offer Price, \$2.95 and express charges.

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## HOUSEHOLD

[CONTINUED FROM PAGE 13]

### SLEEP

While children sleep  
They know not that their father toils;  
They know not that their mother prays—  
Bending in blessing o'er their beds,  
Imploring grace for after-days.

While children sleep  
They never dream that others work  
That they may have their daily bread;  
When morning comes they rise and eat,  
And never ask how they are fed.

While children sleep  
They do not see the shining sun—  
They do not see the gracious dew,  
In daily miracle of love,  
Is ever making all things new.

Do we not sleep  
And know not that our Father works  
With watchful care about our way?  
He bends in blessing from above—  
His love broods o'er us day by day.

Do we not sleep  
And never dream that others work,  
Reaping the sheaves that might be ours?  
We see not how the shadows fall  
Which mark the swift departing hours.

Ah, still we sleep!  
Our drowsy eyes see not the light—  
See not the hands stretched out to bless;  
See not that waiting for us stands  
God's kingdom and his righteousness.

—Good Words.

### WAYS OF COOKING EGGS

In the spring, when eggs are plentiful and cheap, it often happens that the farmer's wife has recourse to the egg-basket frequently, in order to supply her table with a variety of food.

One woman complained to me that her family would not eat eggs, they tired of them so quickly. I was not in the least surprised, for she served them with eggs fried for breakfast, eggs fried for dinner, fried eggs for supper, and the next day it was the same thing over again. There are numerous ways in which eggs may be cooked besides frying, which is usually the last method used in my family, and when used at all they are prepared as follows:

#### FRIED EGGS.—

Butter a frying-pan well and break into it the required number of eggs; when partly cooked turn quickly with a pancake-turner. These are light and are not soggy with grease like those fried in hot lard.

#### BAKED EGGS.—

Into a well-buttered tin drop a number of eggs. Sprinkle with pepper and salt, put a small piece of butter on each one, set in a hot oven and let remain until the whites are set. These are very dainty and much nicer than fried eggs.

#### SCRAMBLED EGGS.—

Put a good-sized piece of butter into a frying-pan; when hot break in the eggs, and stir quickly with a fork. If the fire is hot and they are stirred constantly they will be light and nice.

#### BOILED EGGS.—

To be good the water must be boiling when the eggs are put in, and unless they are wanted hard they must not be left in long. These are good for a change.

#### POACHED EGGS.—

The nicest way to poach eggs is not to drop them in hot water at all, but to cook them in one of the double cookers used so much for oatmeal and other things of the kind. Most of these are provided with little cups; into these drop the eggs, have boiling water in the cooker, cover, and let stand but a few moments. These are especially fine for invalids.

#### OMELET.—

For an omelet beat the yolks and whites separately. Pour the yolks into a well-buttered dish with the whites, and top, and cook on the stove or set in a hot oven for a few minutes.

IRMA B. MATTHEWS.

### A LONG, DEEP BREATH

So many children have the tendency to droop and be round-shouldered, and are consequently being admonished to "straighten" their shoulders. This squaring of the shoulders is considered by gymnasium instructors to be quite injurious and to have no tendency to straighten the shoulders.

"Take a long, deep breath, allowing (not forcing) your head to be thrown during the breath as far back as possible, chin in." This is the instruction invariably given to the junior classes in place of the other order.

A simple personal trial of the long, deep breath will show the efficacy of the performance. EMMA LOUISE HAUCK ROWE.

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depends upon the accuracy of the  
movement and not upon the price of  
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SEND NO MONEY. Then pay the express agent OUR SPECIAL OFFER PRICE \$2.50 and express charges. The express charges will average from 25 to 50 cents. By ordering two or more dress patterns at once the charges per pattern will be much reduced. If more than seven yards are wanted, 36 cents per yard extra.

THIS IS A GENUINE NORTON BLACK MERCERIZED CREPON DRESS GOODS, an elegant strictly up-to-date fabric for suits or skirts, good weight for winter wear, a firm cloth we can guarantee for service, fancy raised crepon effect, goods that we have bought direct from one of the largest mills under a positive guarantee for quality.

OUR SPECIAL \$2.50 PRICE for seven yards of this 33-inch goods (a full dress pattern), is a price based on the actual cost to produce, is less than dealers can buy in 100 piece lots, is such value as was never before offered by any house. We make this heretofore unheard of offer of \$2.50 for a full 7-yard dress pattern to advertise our Dress Goods Department, and get people everywhere to send for catalogue. WRITE FOR FREE DRY GOODS CATALOGUE. ORDER TODAY! DON'T DELAY! When these goods are gone they never again can be offered at the price. Order two, four or six dress patterns at our special \$2.50 price, by getting your friends to order with you, and in this way the express charges for each one will be almost nothing. Address, SEARS, ROEBUCK & CO., CHICAGO, ILL.

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We will give \$500.00 in Gold to any person who will arrange the 16 letters printed in the square to the left into three names denoting three well-known Generals of the United States Army during the late Spanish War. Remember, we do not want one cent of your money. There is only one condition, which should take less than one hour of your time, which we will write you as soon as your answer is received. In making the three names, the letters can only be used as many times as they appear, and no letter can be used which does not appear. After you have found the three correct names, you will have used every letter in the sixteen exactly as many times as it appears. We make this liberal offer to people with whom we have never before done business will take an interest in whatever future offers we may make. We wish to make a friend of every reader of this paper in the United States and Canada. Try and Win. If you make the three names and send them to us at once on a postal card, who knows but what you will get the gold? Anyway, we do not want any money from you, and a contest like this is very interesting. As soon as we receive your answer we will at once write and notify you. We hope you will try, as we shall give the \$500.00 away anyway. Do not delay. Write at once.

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The above grand Novelties only offered to introduce my good New Seed and Bargain in Plants. Write for Catalog now.

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SEND US \$1.17 with this ad. and we will send you this 50-POUND BELL. If you do not find it the greatest value you ever saw and equal to bells that retail as high as \$5.00, say so and we will return your \$1.17. This bell is 15 inches in diameter, it is made of fine genuine Osborn Crystalline Metal, full bronzed, has a loud, clear ring, fine tone, well finished, a very handsome bell.

Comes complete with all mountings and hangings to go on post. Order today and save more than one-half in price. Write for free Catalogue of Farm, Church, School and Factory Bells. Address,

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That unsightly sign will not be needed if you have the **HARTMAN STEEL ROD LAWN FENCE.** Keeps off everything but sunshine and rain. Best for Lawns, Schools, Churches, Cemeteries, etc. Steel Posts and Gates. Catalogue free.

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Get our prices on a DeLoach Variable Friction Feed Saw Mill, Edger, Planer, Shingle or Lath Mill, Corn or Flour Mill; the DeLoach Horse Power Saw Mill; latest thing out; four horses cut 1500 feet lumber per day; six horses cut 2500 feet per day. Address Box 300 for handsome illustrated catalogue.

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Also Ornamental, Shade and Forest Trees, Tree Seeds, Etc.

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Waukegan, Ill.

**450,000 TREES**

200 varieties. Also Grapes, Small Fruits, etc. Best rooted stock. Genuine, cheap. 2 sample currants mailed for 10c. Desc. price-list free. **LEWIS ROBCHELL, Fredonia, N. Y.**

WANTED a Tenant for my truck and fruit farm in mild climate near Washington, D. C. W. W. GILES, Occoquan, Va.

**FARM SELECTIONS**

**ARTICHOKES**

**A**RTICHOKES should be planted in the early spring. The land best suited to their growth is a sandy loam, but they may be successfully grown on any kind of land except a heavy, stiff clay. The land should be deeply broken and harrowed fine, and the tubers planted in furrows like Irish potatoes—say furrows three feet apart, and the tubers two feet apart in the rows. The sets may be cut like Irish potatoes, with two or three good eyes left on each piece. The crop should be cultivated once or twice and the land kept level. On good land the stalks will grow to a height of six feet or more, and they will thus shade the land and keep down weeds.

The crop suffers very little from drought, and can be relied on to make from three hundred to six hundred bushels to the acre on land that will make twenty-five to fifty bushels of corn to the acre. If the land is poor, and a fertilizer is used, it should be one having a high percentage of potash—say from six to eight per cent—with six or seven per cent of phosphoric acid and two or three per cent of nitrogen.

If more of the tubers are grown than are needed for the hogs, they will be found an excellent feed for milking-cows, for which purpose they must be dug or plowed out of the ground and stored in pits or kilns like Irish potatoes. Seed should be saved in the same way, by plowing up a few rows before turning in the hogs. The hogs should not be turned into the crop too early, as the tubers continue to grow and increase in size and quantity until late in the fall. They are not easily hurt by frost when left in the ground, and in the South the hogs can usually root out the crop all the winter. Some growers write us that they use the tops as long feed for stock, but we hear from other growers that stock will not eat them readily.

There is no fear of the crop becoming a troublesome weed, as some have suggested, as it is easily killed out by plowing the land after the tubers have begun to grow in the spring. Let them make a growth of six or eight inches of stalk, then plow the land and seed to some other crop, and there will be no further trouble with it.—*Southern Planter.*

**SUPERIORITY OF LIMESTONE SOILS**

T. D. H., Kimball, Kansas, writes: "I notice in Mr. Wing's accounts of the great breeding-farms in southwest Virginia and of Belle Meade and Lealand Farm (the latter two in Tennessee) he mentions the visible evidence of the limestone character of the land and water. I want to ask if it is not a fact that grasses growing out of limestone soil do not produce larger and stronger animals and fatten them faster than grasses grown on land entirely free from limestone? Is it not a fact that such localities as Belle Meade, the blue-grass regions of Kentucky and others like those where lime-rock is conspicuously in evidence, and therefore strong limestone soil and water are present, are not the localities producing the great animals—horses, cattle, hogs—more rapidly, perfectly and healthfully than other places with sandstone and soft water? It is said such regions produce great men and beautiful women, also, and men noted for large, strong bodies and long life. Can you run back in mind and review the people and the live stock you have seen in such localities and give expression concerning these matters?"

I think I have already said somewhere that life comes from life; that is, the limestones are the deposits of myriad lives that have gone before. In the limestone of Tennessee, Kentucky and some other regions there is also a deposit of phosphatic rock. This is a distillation of the nerve-force of prehistoric life. This phosphatic rock feeds the soil and plants, builds the superb thoroughbred; the lime in the soil makes the big-framed man and animal. The phosphorus makes the nerve, the brain, the will and the desire. There are two reasons for the excellence of human and animal life in these limestone regions. One is the superior nutrition, the other that superior men and animals gather there and crowd out the weaklings.

Moral—Buy a farm in a region with plenty of lime and phosphoric acid in the soil, and if you are in the sandstone, buy lime and phosphatic rock and apply to your fields.—*Joseph E. Wing, in Breeders' Gazette.*

No. 3034, Buggy. Price \$38.30, with leather quarter top.  
No. 5016, Park Wagon. Price \$65.60  
No. 604, Team Harness. Price \$20.90

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Our modern method of dealing direct with the buyer saves the profits of jobbers and dealers. We charge factory prices with only a small profit added. We give the buyer the benefit of the middleman's profits. No other factory can turn out high grade vehicles at similar prices. Our great facilities and long experience, the enormous trade we have built up in all sections of the country by selling

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has enabled us to lead the carriage market of the world. Before you buy a buggy, surrey, phaeton, road wagon, cart or any kind of harness or horse accessories, write for our catalogue and figure out how much you'll save. The broadest guarantee goes with each purchase. You can return anything with which you are not thoroughly satisfied, and we will pay freight both ways. Write to-day for the catalogue.

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**For all Crops in Rows**

Corn, Potatoes, Broom Corn, Sorghum, Sugar Beets, Carrots, Parsnips, Strawberries, etc., there is no cultivator equal to our

**"KEYSTONE ADJUSTABLE"**

**Weeder and Shallow Cultivator.**

Cultivates the entire surface, or between the rows. Expands to 7½ ft., narrows to 30 in. No cumbersome shafts and only weeder with a front ground wheel to prevent vibration and "wobble." Kills all weeds, grass, etc., and leaves a fine mulch of earth on top, to absorb moisture and retard evaporation. Easiest to handle, lightest draft. Fits all uneven surfaces. Round spring teeth with blunt points for light soils, flat spring teeth with diamond points for heavy soils.

Weeder booklet free. Send for general catalogue "C" embracing Corn Planters, Cultivators, Corn Shellers, Harrows, Rollers, etc.

**KEYSTONE FARM MACHINE CO., 1551 N. Beaver St., York, Pa.**

**READ, THINK, ACT!**

R. M. ABBEY, of Randolph, N. Y., writes:—I wish to tell you about my weeder. I moved into a new locality last spring and the farmers made lots of fun of my "Scratcher," as they called my Success Weeder. I tried to get some of them to use it, but they said they did not want their corn all scratched out; said the crops would get enough without their digging it all out for them. My corn averaged over 9 feet high, the corn around me averaged about 6 feet, and not near as good, either. One man said he guessed the weeder must account for the difference; said he would have to have one next year.

**Hallock's Success Anti-Clog Weeder AND CULTIVATOR**

would prove just as valuable to you in cultivating any kind of crop. For tempting terms address **HALLOCK WEEDER & CULTIVATOR CO.,** Box 830, York, Pa.

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in buying the LOUDEN GOODS. They work better, easier and last longer. No jumping track by door hangers, nor break-downs of hay tools in harvest—if you use the Loudens. Don't fail to get our catalogue showing scores of articles needed on the farm and ranch. Hay Carriers, Hay Slings, Hay Forks, Hay Stackers, Litter Carriers, Ice Tools, Hoists, Wire Stretchers, Ladders, Door Hangers, Door Latches, Hardware Specialties, etc. Also How to Build Hay Barns and Sheds

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**Profitable Cows**

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**ADJUSTABLE DIAL HAND SCALE**

Weighs quickly and accurately in pounds and tenths. Write for new catalogue. Everything for the Dairy.

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**CREAM SEPARATORS**

The REID is light-running, close-skimming, simple and durable.

Send for catalogue No. 12.

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is a device for cooling milk quickly just after it is taken from the cow. The object is to expose every particle of it to the air, thus cooling it and driving out all bad odors and germs which spoil milk very quickly and reduce its value.

**The Perfection Milk Cooler and Aerator** does this quicker and better than any other. Send for prices and free catalogue of Farm and Dairy supplies. **L. R. LEWIS, Manfr.,** Box 19, Cortland, N. Y.

**GINSENG** \$10. In plants produce \$4,000.10 in 10 years. Book telling how to grow it, 4c. Lakeside Ginseng Gardens, Amber, N. Y.

2d Crop Seed-Potatoes the best that grow, etc. Catalogue free. **J. W. HALL, Marlon Sta., Md.**

**SEND NO MONEY if you live within 500 miles of Chicago** (if farther send \$1.00), cut this ad. out and send to us and we will send you the **End Gate Broadcast Seeder**, by freight C. O. D., subject to examination. You can examine it at your freight depot, and if found perfectly satisfactory, exactly as represented, and the equal of seeders that otherwise sell at double the price, then pay the freight agent our **\$5.75 SPECIAL OFFER PRICE** (or less \$1.00 if sent with order). The seeder weighs about 100 pounds and the freight will average 65c for each 500 miles. OUR SPECIAL \$5.75 PRICE is based on the actual cost to manufacturer, is less than dealers can buy in carload lots. This is the **HIGHEST GRADE END GATE BROADCAST SEEDER** made. Made for us under contract by the best seeder maker in America. Made from the very best material that money can buy. Will sow more evenly and more satisfactorily than any other seeder made. Will sow 100 acres of wheat per day, other seeds at proportionate rates. VERY LATEST MODEL FOR 1901. Embodies every improvement every good point of every other broadcast seeder made, with the defects of none.

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**Don't Pay a Cent** of profit to agent or dealer when you can with equal safety, satisfaction and guarantee buy direct from manufacturers and save half the cost. Our vehicles are built for hard wear. Best materials throughout. New styles. Approved Workmanship. Unqualified guarantee. \$29.25 and upwards. Our Harness and Saddles comprise a complete line of standard work \$4.25 upwards. In no event place your order without writing for our **Free Catalogue** containing valuable suggestions to the vehicle & harness buyer.

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Write, stating subject in which you are interested.  
**The International Correspondence Schools**  
 Box 1512, SCRANTON, PA.

### FARM SELECTIONS

CATALOGUES RECEIVED

H. W. Buckbee, Rockford, Ill. Seed and Plant Guide for 1901.  
 J. A. Everitt, Indianapolis, Ind. Illustrated catalogue of O. K. seeds.  
 W. N. Scarff, New Carlisle, Ohio. Nursery catalogue of "the latest things out."  
 Union Buggy Co., Pontiac, Mich. Illustrated catalogue of vehicles and harness.  
 Lewis Roesch, Fredonia, N. Y. Special grapevine and general nursery catalogue.  
 Geo. E. Dickinson, 1 Broadway, New York. Special catalogue of gladiolus bulbs.  
 Wm. Elliott & Sons, New York. Illustrated catalogue of flower and vegetable seeds.  
 Udo Toepferwein, Leon Springs, Texas. Illustrated catalogue of beekeepers' supplies.  
 Livingston's Seed Store, Des Moines, Iowa. Annual catalogue of seeds, bulbs and garden tools.  
 Leroy Romlins, Martinsville, Ill. Descriptive catalogue of high-grade seed-corn, oats, wheat, etc.  
 Allen L. Wood, Rochester, N. Y. Illustrated catalogue of choice varieties of small-fruit plants.  
 The Geo. A. Sweet Nursery Co., Dansville, N. Y. Descriptive catalogue of high-grade fruit and ornamental trees, etc.  
 Coe & Converse, Fort Atkinson, Wis. Catalogue of fruit and ornamental trees, roses, small-fruit plants, vines, etc.  
 L. E. Archias Seed Co., Carthage, Mo. Catalogue of tested seeds. Special collections of flower and vegetable seeds.  
 Forrest Insect Guard Co., Philadelphia, Pa. Circular describing a tree-guard for trapping climbing worms and insects.  
 J. L. Martin, Clarence Center, N. Y. Circular illustrating and describing an adjustable tongue-carrier for binders, mowers, etc.  
 Highland Nursery Co., Rochester, N. Y. Descriptive catalogue of fruit and ornamental trees, small fruits and flowering plants.  
 The Berger Manufacturing Co., Canton, Ohio. "Results of Spraying." Illustrated pamphlet describing force and spray pumps.  
 The Sure Hatch Incubator Co., Clay Center, Neb. Illustrated catalogue of Sure Hatch Incubators and Common Sense Brooders.  
 Walker, Stratman & Co., Pittsburg, Pa. Memorandum-book and circular of high-grade fertilizers sold direct from factory to farmer.  
 Ames Plow Company, Boston, Mass. Descriptive catalogue of Matthews' new Universal seeding and cultivating implements for the garden.  
 J. L. Loeb, Aberdeen, S. D. Catalogue of farm seeds, listing wheat, speltz, oats, potatoes, corn, barley, millet, early cow-peas and Bromus inermis.  
 Johnson & Stokes, Philadelphia, Pa. Garden and Farm Manual for 1901. Full of truthful photo-engravings and honest catalogue descriptions of seeds and plants.  
 Geneva Tool Company, Geneva, Ohio. Magnificent catalogue illustrating and describing high-grade steel goods—hoes, rakes, spades, forks, etc.—for all purposes.  
 Geo. Ertel Co., Quincy, Ill. Illustrated catalogue of the improved Victor incubators and brooders, containing treatise on natural and artificial incubation.  
 D. M. Ferry & Co., Detroit, Mich. Annual for 1901, describing reliable seeds and plants and giving clear directions for the successful cultivation of vegetables and flowers.  
 German Kali Works, 93-99 Nassau Street, New York. "Farmers' Guide," a handsomely illustrated guide-book to farmers in the cultivation of all field, garden and orchard crops.  
 H. P. Wood, secretary Chamber of Commerce, San Diego, Cal. "Home Land," a handsomely illustrated pamphlet briefly describing the many attractions of San Diego city and county.  
 S. L. Allen & Co., Philadelphia, Pa. Descriptive catalogue, containing a new photographic picture-gallery of the Planet Jr. farm and garden tools at work in many different countries.  
 The Cyphers Incubator Co., Wayland, N. Y. "Profitable Poultry-Keeping in All Its Branches," describing incubators and brooders, and illustrating over sixty of America's largest and most successful poultry-plants.  
 W. Atlee Burpee & Co., Philadelphia, Pa. Quarter-century edition of Burpee's Farm Annual, a comprehensive work of 220 pages, four colored plates, beautiful lithograph cover in ten colors, and many photographure illustrations. Mailed for ten cents, together with a fifteen-cent packet of choice seeds.

MILKING-MACHINES

It is probable that among the numerous machines that have been invented to lighten the work in the dairy no single one has been more anxiously looked forward to than a successful milking-machine; but in spite of the utmost endeavors of inventors, practical and theoretical, we are still looking forward, but with lessening hope. The difficulty seems to come in the inability to make a highly developed system of nerves and cells, the seat of a very active life, co-operate with, and respond to, the demands of a machine, however skilfully that machine may be made and operated.

It may be assumed that a healthy, hungry calf comes as near to being a successful type of milking-machine as can be invented, but, as is well known, between the mother and calf there exists something more than the mere mechanical operation of drawing the milk.

We may call this something by many different names, but it all comes to the fact that the cow is as willing to give the milk as the calf is to receive it, and it is more than probable that the willingness of the cow, or, in other words, the control of the animal over the milk secretion, is responsible for the failure thus far of the milking-machine in all its forms.

It would seem that in some cases, at least, a machine would be of great advantage over certain types of milkers, notably the rough, uncouth man who milks as he would squeeze a sponge, and tries to wring the milk from the udder by force in place of coaxing it. But even in such cases it is evident that there is some subtle relation or union between the two living beings that does not, and cannot, exist between the cow and machine, and in consequence she refuses to give down to the machine. However, it is evident that, although reasons were as plentiful as blackberries, the cow will have none of them, and the milking-machine thus far is a most complete failure. Who will be the first to supply the missing link? —Hoard's Dairyman.

**15,000**  
**Trial Packages**  
**FREE!**

**Rheumatism Cured by a Simple**  
**Remedy that you may Try**  
 without spending a cent.  
**Cured many cases of**  
**30 and 40 years'**  
 standing.

If any reader suffering from rheumatism will write to me I will send him free of cost, a trial package of a simple and harmless remedy which cured me and thousands of others, among them cases of over 40 years' standing. This is a grand remedy, and want every afflicted reader to learn by actual test what marvelous power it has, and therefore will gladly send a sample free, even if more than 15,000 invalids should apply. Distressing cases of rheumatism, among them bed-ridden and crippled persons, were completely cured, of which I mention a few: A lady in Denham, Ind., writes that this remedy cured her, and she then cured 15 of her neighbors. In Lyon, Mo., it cured an old gentleman at the age of 82, who had been a sufferer for 40 years. In Seguin, Tex., it cured a case of 41 years' standing. Hon. Jacob Sexauer, of Fountain City, Wis., was cured after suffering for 33 years and after having employed 7 physicians. Miss Emma Callender, at 130 Oak St., Vincennes, Ind., was cured after she was given up to die. Rev. S. Smid, of Harrisville, Wis., writes that the remedy has cured two members of his congregation, one who had suffered 15, the other 25 years. Thousands of similar instances could be mentioned, showing that here is a remedy that can be relied upon. Write at once for a trial package, for it is an honest remedy which you can test before spending a cent. Address

**JOHN A. SMITH**  
 1742 Germanla Building, MILWAUKEE, WIS.

**High-Grade Flower Seeds.**  
**22 PACKAGES FOR 10c.**

KINDS	16	KINDS	18	KINDS	20
Aster,	16	Poppy,	18	Portulaca,	20
Fansy,	10	Candytuft,	10	Four O'clock,	18
Phlox,	10	Sunflower,	2	Marigold,	18
Sweet Peas,	2	Zinnia,	12	Estria,	10
Salvia,	2	Larkspur,	6	Swt Alyssum,	10
Balsam,	12	Verbena,	10	Nasturtium,	10
Pinks,	10	Forget-me-not,	8	Calliopsis,	8
		Sweet Mignonette,			

All of the above sent to any address, postpaid, for 10c. silver or six two-cent stamps. As a premium, and to introduce our seeds into every household, we will also send a collection of fine beautiful bulbs free.



**Bunker Hill Seed Co., Charlestown, Mass.**

**\$50 and a Wonderful FLOWER GARDEN**  
**Free!**



Send 50c and address of 2 others who grow flowers, and I will mail you my catalog and a mixed packet (guaranteed 500 seeds) containing 30 of the 400 kinds of Choice Flower Seeds described in my catalog, and allow you to compete for \$250.00 (30 prizes from \$5 to \$50), which I will give away to those who grow flowers from this packet. Full particulars in the catalog. I will send you also a certificate for \$50.

See to apply on any future 50c order. This offer is limited. Write at once.  
**MISS EMMA V. WHITE, Flower-Seedswoman,**  
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**\$1.50 MILK CAN.**  
 For \$1.50 we sell the Celebrated Chicago Special eight-gallon Milk Can. One of the most popular cans for creamery, dairy and general wagon use. Used generally in every part of the United States. Made for us under contract by the best and oldest milk can maker in America. Made from high grade heavy tin plate, extra well soldered, heavy breast and bottom hoops, seamless neck and cover. Average weight 15 pounds.

**OUR FREE OFFER SEND NO MONEY** say how many cans you want, cut this ad. out and send to us and we will send you the cans by freight C. O. D., subject to examination. You can examine them at your freight depot, and if found perfectly satisfactory, the greatest value ever offered, very much lower in price than you can buy elsewhere than pay the 1.50 PER RAILROAD agent our Special Offer Price **\$1.50 CAN**, and freight charges. Freight will average on six cans about 75 cents for each 500 miles. For prices on other kinds and grades write for Free Catalogue of Dairy Supplies.  
**SEARS, ROEBUCK & CO., CHICAGO.**

**SEED DUE BILL FREE**

To get new customers to test my Seeds, I will mail my 1901 catalogue, filled with more Bargains than ever and a 10c Due Bill good for 10c worth of Seeds for trial absolutely free. All the Best Seeds, Bulbs, Plants, Roses, Farm Seeds, Potatoes and many Novelties at lowest prices. Get the great money making plant. Giant Prize Tomatoes, 2 to the foot, Pan American Oats, sown three to farmers, and two Free Passes to Pan American Exposition, Buffalo, N. Y. are offered. \$2,000.00 in cash premiums. Don't give your order until you see the new catalogue. You'll be surprised at my bargain offers. Send postals for catalogue today. It is FREE to all. Tell your friends to send too.  
**F. B. MILLS, Box 46, Roschill, Onondaga Co., N. Y.**

**EVERGREENS**  
 Hardy sorts, Nursery grown, for wind-breaks, ornament and hedges. Prepaid, \$1 to \$10 per 100-50 Grand Bargains to select from. Write at once for free Catalogue and Bargain Sheet. Local Agents wanted.  
**D. Hill, Specialist, Dundee, Ill.**

**Popular Favorite.**  
 A new variety and very early. This **DEWEY Peach**—beats the Triumph. Perfect free stone; heavy delicious, hardy productive. Tree is strong, vigorous grower. Plants show this season. Special prices on early orders. Catalogue Free. Write to-day.  
**Harrison's Nurseries Box 28 Berlin, Md.**

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 I want 200,000 people to send for the finest plant catalogue ever published of strawberries, raspberries, blackberries, fine fruit or novelties, currants, grapes, &c. 15 years in the business. The most complete strawberry nursery in America. Send for catalogue today. Address,  
**D. BRANDT, Box 413, BREMEN, OHIO.**

SORGHUM

For the past four winters I have fed from ten to twenty tons of sorghum each winter, and find it a most excellent feed, especially when fed in connection with other rough feed. Stock will clean up poor, rough feed that they would not eat if they did not have the sorghum. It serves as an appetizer. For hogs I consider it as good as grass in the summer, and I think they will do just as well on sorghum alone in the winter as they will on grass alone in the summer; besides, the hulk of the stalk they split out makes a splendid bedding. I keep cattle, sheep, hogs, horses and chickens, and half of their rations is sorghum.

The seed makes an excellent feed for chickens. If you will cut the stalk fine on a cutting-box they will eat all the pulp of the stalk, and that is better for egg production than grass.

I sow broadcast, using one and one half bushels of seed to the acre. It grows from eight to nine feet high, ripening a half crop of seed. It can be cut with a mowing-machine or binder, and I bundle and shock the same as wheat or rye without curing. It would be just as reasonable for you to throw your corn down to cure and let it lie eight or ten days. It will cure in the shock set up like corn as well as corn will. I have always handled mine in this way and never had any to spoil.

I like sowing broadcast better than drilling. The sorghum keeps down all weeds, and I have nothing to handle but clean cane. In this way I raise ten to fifteen tons to the acre. I prefer the Red Amber variety. The black-seeded cane will blight when sown thick, while the Amber never blights.—L. H. Howell, in National Stockman and Farmer.

BEARDLESS BARLEY

I have sown the beardless barley for several seasons. With me it pays better than oats, because it yields as many bushels to the acre, or more if sown on good ground; besides, it weighs more to the bushel. It makes a splendid dairy feed ground with equal parts of corn and oats; also for fattening hogs. It is considered an excellent feed for laying hens. This time of the year, when eggs are bringing twenty-five cents a dozen or more, I like to go every week to market with a good-sized basket. But it does not pay to sow spring beardless barley on poor soil, because it grows and ripens in so short a time. It ripens three or four weeks before oats. If sown early it ripens before wheat.—S. L., in Rural New-Yorker.

A HOG-LOUSE TRAP

A large oak post one and one half to two feet high is set in the hog-lot. A two-inch hole is bored from the top down to within eight inches of the ground. Holes are bored from the sides tapping the vertical hole at the bottom. These holes are stopped with soft pine plugs. The post is next wrapped with burlap, the vertical hole is filled with kerosene, and plugged loosely to exclude dirt. The kerosene will seep out through the pine plugs and saturate the burlap bandage, and the pigs will use this wrapped post for a rubbing-post, and will thus saturate themselves with the kerosene, and the hog-lice infesting them will be killed.—Tri-State Farmer.

**I KNOW That Dr. Curry's Remedy Will Cure CANCER**

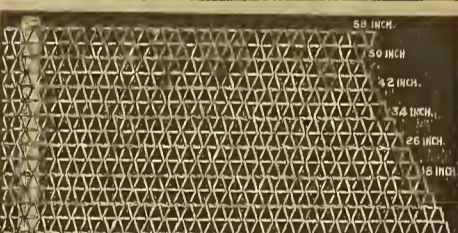
*This is the positive statement of Hon. Seth W. Brown, Member Congress, from the Sixth Ohio District.*

Such testimony cannot be doubted. It is backed up by the statements of those who have been cured by Dr. Curry, including prominent farmers, merchants and professional men.

Dr. Curry's remedy for the cure of Cancer has already taken its place as the most important medical discovery of recent years. His success has been little short of marvelous, with the result that his fellow-townsmen of Lebanon, Ohio, and influential friends and cured patients throughout Ohio have prevailed upon him to bring his wonderful treatment to the attention of the general public, so that all afflicted with Cancer, no matter where they may reside (for the remedy may be used at home), can avail themselves of the opportunity for becoming certainly, thoroughly and completely cured in 10 to 20 days.

Sufferers from Cancer will hail with delight the certain knowledge that they may be cured absolutely, without resort to the knife, and at their own homes and generally with less pain than the patient suffers before beginning treatment.

A full description of Dr. Curry's method will be sent to all who suffer with Cancer, **FREE OF ALL CHARGE**, on application to **THE DR. CURRY CANCER CURE CO., Box 125, LEBANON, OHIO.**



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**THOMPSON'S GRASS SEEDER**

Sows all clovers and any other grass, no matter how chaffy. Sows 20 to 40 acres a day. Beats the wind and wet.

Special Hopper for wheat, oats, etc. Weights only 40 lbs. Don't buy a seeder until you send for our free illustrated catalogue.

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**\$14.75 STEEL MILL.**  
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 may be obtained through me. No matter where located. Send description and selling price and learn my plan. **W. M. Ostrander**, 1216 Filbert St., Phila., Pa.

**FARM SELECTIONS**

**JOHNSON GRASS**  
**THIS** grass is a native of the Mediterranean region. It was introduced into the Southern states about 1830, and for some time was known by the name of Means grass, which name it still retains in some localities. About ten years later it was introduced into Alabama from South Carolina by William Johnson, and has since been quite generally known as Johnson grass. Its botanical name is Andropogon halepensis, or Sorghum halepense.

Johnson grass has received considerable attention in Kansas lately. It has been grown in the plots of the Kansas Experiment Station for several seasons and its behavior in our climate tested. It is a rank-growing perennial, with numerous strong, rather fleshy, creeping rootstocks, by which it propagates. The stems and leaves are coarse, but quite succulent. It seeds abundantly, and seed can be purchased at all seed-houses. If the seed is clean, about one bushel to the acre is sufficient for sowing. Johnson grass is used chiefly for hay, for which purpose it should be cut early, before the stems become too old and hard. Usually two or three cuttings can be made. The seed should not be sown until the ground is warm or it will not germinate well. Johnson grass prefers rich, moist soil, though it will grow in quite a variety of soils. It is injured by severe winters, but the cold winter of 1898-99 did not entirely kill out the experimental plot, and it quickly recovered from the effects of the cold. It is not a success as a pasture grass, as it is injured by grazing to such an extent that a pasture soon becomes useless, yet the vitality of the rootstocks is such that it is never entirely killed out in this way, and after a rest soon recovers from the effects.

Throughout the South, under proper conditions, it is considered an excellent hay grass, and in all parts of Kansas where there is sufficient moisture it will undoubtedly be valuable for the same purpose. However, it is exceedingly difficult to eradicate the grass on land where it has obtained a foothold, and for this reason it may become a pestiferous weed. Hogs are rather fond of the rootstocks, and when confined upon a plot of the grass will destroy it. But on soil adapted to its growth it requires great care to eradicate it. If one wishes to grow Johnson grass, the best plan is to devote a field to the purpose without expecting to subsequently put the field in cultivation. With care it can be confined to this field. After a few years the ground becomes so full of rootstocks that the development is hindered. To rejuvenate a field it should be plowed and harrowed in the spring, or else thoroughly disked.

All these points should be carefully considered before the grass is tried. As a forage grass it may prove of great value, and the fact that it is difficult to eradicate may be in its favor in those parts of Kansas where it is not easy to grow forage plants successfully. But if tried, great care should be taken to keep it under control.—A. S. Hitchcock, in Kansas Experiment Station Bulletin.

**DEHORNING CALVES**

Procure from your druggist one stick of caustic potash costing about ten cents. Take your calf about a week old and with a common pair of scissors cut off the hair all around the young horn. Dampen the caustic in water, and rub, repeating this process until the skin is all off.

Put on flour if the horn bleeds much. Be careful not to drop the caustic-water anywhere except around the horn, as it will leave a blemish. I have tried this method and find it a success. It leaves a perfect, well-shaped head and no trace of the horn whatever. Try it once and you will always dehorn your cattle this way.—M. J. O., in American Agriculturist.

**BUFFALO-GRASS HAY**

The experiment station at Manhattan, Kansas, has been making some digestion experiments concerning the value of buffalo-grass hay. Without going into details, in which a majority of our readers would not be interested, the results show that it is considerable superior to blue-grass and very much better than timothy. It has about the same amount of digestible carbohydrates, or fats, but because of its higher percentage of protein it furnishes a better-balanced ration.—Wallace's Farmer.

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last six months introducing Holladay's Black Marvel self-shining waterproof Shoe-Polish. Why not you? Free sample bottle and terms. Holladay & Co., 354, 188 Monroe St., Chicago

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FARM SELECTIONS

HOW I MAKE PRIZE BUTTER

I use good milk only, and I have a rather hard time getting it. The milk is heated in the receiving-vat to about seventy-five degrees and finished in the little tempering-vat. When it reaches eighty-six degrees it is run through a separator, skimming a thirty-per-cent cream. I use a starter, and this, with the hand-separator cream, brings the percentage of fat down to twenty-six or twenty-seven per cent, which I consider about right to secure that high, delicate flavor so well liked in our markets. My aim is to stir the cream every half hour, ripening at a temperature of from sixty-eight to seventy degrees, and as the degree of acidity advances the cream is gradually cooled down so that it stands at churning temperature at least six hours. The cream will show from sixty-two to sixty-four of one per cent of acidity with alkali tablets at the time of churning.

The cream is churned at from fifty-three to fifty-four degrees, and breaks in forty to forty-five minutes. The butter comes in granules the size of wheat-grains. The buttermilk is drawn off immediately, and the butter washed in just enough water to float it. The churn is given a few revolutions with the engine at full speed. The water is drawn off directly, as I think it very essential to making a high-flavored product not to let it soak in water. The butter is well drained, put on the table-worker, salted with one ounce of fine salt to the pound of butter, worked, and put in sixty-pound tubs, and is then ready for market.—John Metzger, Kansas.

Mr. Metzger starts with his proposition just where it must always start if fine butter is made. "I use good milk only." There is also great significance in the closing part of that sentence. Every patron of a creamery should read it over and think on it long. Here it is: "And I have a rather hard time getting it." That is the universal cry among creamery-men and cheese-makers everywhere. In Canada and Wisconsin and in New York it is just the same. Everywhere they say:

"The farmers are not particular enough to send us good milk. They don't seem to understand the value of good milk in making high-priced butter and cheese. They don't seem to realize the importance of clean cows, clean stables and clean milk-cans. They demand that we shall make first-class butter and cheese out of milk that is made foul by the filthy habits of certain of the patrons. And there we stand. We simply cannot make such goods unless we have clean milk. If we ask the patrons to unite for the sake of their own profit, and force the dirty ones to reform their course or leave, they will not do it. They seem to act as if they had rather lose a good bit of money every year than to offend some of these dirty fellows who are lowering the value of the general product all the time."

The above is the burden of complaint that we have heard from thousands of butter and cheese makers for years, and it is still being uttered. The Wisconsin Dairy School is one of several in the nation that is turning out hundreds of bright, neat and capable young butter and cheese makers. But what can they do with dirty milk? What can they do with a patron who is naturally nasty in his habits and practices? The fact is, the patrons of every cheese-factory and every creamery ought to form a solid body of sentiment and resistance against the dirty members of their own flock. It is these men who keep down the prices of butter and cheese.—Hoard's Dairyman.

THE MAN AND THE FARM

How any farm should be cropped depends upon where the farm is, its character and location. Some farms are by nature pasture farms, because they are not adapted to cultivation; other farms invite tillage. Size, too, is a controlling factor. A crop rotation and schedule of farm-work that is admirable for fifty acres may be wholly impracticable for five hundred or a thousand. All of these and many other circumstances and conditions need to be carefully considered by each farmer who desires to make the very best possible use of his land. Another and the most potent factor of all is the man himself. The man makes the farm good or bad, as the man makes almost everything else that comes under his control.—Jersey Bulletin.

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About 2000 boys are earning money each week outside of school hours by selling THE SATURDAY EVENING POST.

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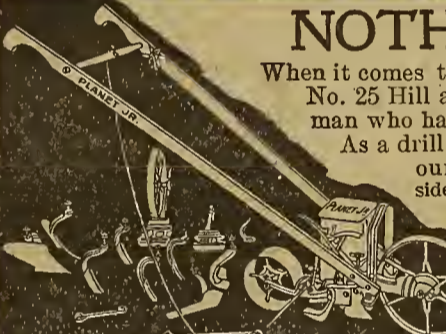
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**...PIG-TIGHT...**

An Illinois farmer said that after harvest he had fully 200 hushels of loose oats on the ground that he could not secure any benefit from, because the fence around the field would not turn bogs. Figure the loss for yourself. He also said, all this would have been saved if he had used the Kitzelman Woven Wire Coiled Spring Fence, and the value would have gone a long ways towards paying cost of the fence.

With the Duplex Machine any farmer can make it himself at the actual cost of the wire. Catalogue free for the asking.

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will sow all kinds of grain and grass seed perfectly even and without waste. Saves 3/4 the seed and 2/3 the labor. 300,000 now in use. Sold by leading dealers and sent on 30 days trial. See the Cyclone and our price will surprise you. Send for Catalogue and special prices free. Address

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Gentlemen! Last evening I received the Premium Doll which you sent me. It is a beauty and am well pleased with it, but Mama won't let sister in. We the doll until she is older. It is so handsome.

**ROBERT H. GILMORE, West Derry, N. H.**

## BIG DOLL

GIRLS, send us your name and address and we will mail you a box containing 30 of our fast-selling articles to dispose of at 10c each for a handsome premium doll (articles consist of assorted engraved Aluminum Silver Book Marks, Novelties, Jewelry, Notions, etc.) When sold, send us the money (\$3.00) and we will promptly forward to your address a beautiful and stylishly dressed FRENCH DOLL, nearly ONE AND ONE-HALF FEET TALL, imported direct from Paris. The finest and newest creation of the doll maker's art. Dollie has a beautiful turning bisque head, jointed body, pearly teeth, full long golden curly hair, automatic sleeping eyes, slippers, stockings, etc., complete. A magnificent creature of dollium; a big and lovely beauty, pretty as a peach, delights and pleases the girls. Order 20 and we will give you the money, receive your doll and be bappy. Add res: all orders to

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**GUIZOT'S CORN CURE** The best and quickest corn cure in the world. For sale by druggists or sent prepaid on receipt of 25c. **GUIZOT CHEM. CAL. CO., 166 Roof St., Cleveland, O.**



**SELECTIONS**

**BLOW, BLOW!**

Blow, blow, March winds, blow!  
Blow us April, if you please;  
Blow away the cold, white snow,  
Blow the leaves out on the trees.

Blow the ice from off the brooks,  
Set their merry water free;  
Blow dead leaves from woody nooks,  
Show the violets to me.

Do all this—'twill be but play;  
Then—please to blow yourself away!

—St. Nicholas.

**PIGEONS OF PEKING**

**T**HE Chinese have made pigeon-flying the decoying game that it is, because they like any kind of "playing for keeps." Even in kite-flying they fix little hooks to their kite-strings and try to pull in each others' kites, and count it fair to keep any kite that drops into their yards. They will tell you that a kite or strange pigeon that comes to your place, if given up, takes away your "family luck." So you must tear the kite and keep the pigeon. But when you see the town dandies sauntering out with their fans and bird-cages to watch the noon kite-flying, criticizing the flocks and their tactics, and arguing the fine points of decoying, you guess that "family luck" has very little to do with their game.

To decoy strange pigeons pigeon-keepers must first train their flocks to "fly in spirals"—that is, to rise steadily in circles without straying far from the home roof. Pigeons naturally fly together in circles. Even wild pigeons wheel about in flocks before straggling to the fields. Chinese make their birds eager for circling by keeping them shut up in a wicker house built on the ground around the dove-cote; and they cure their birds of straggling by pelting them with pebbles when they try to alight anywhere except on one spot—the ridge-pole of the roof facing their wicker house. The flock must alight here in a bunch and immediately walk down to the eaves. This is done to bring any strange pigeon among them down within sight of the grain, which is then scattered on the floor of the wicker house. Pigeons are fed only after flying, for unless hungry they are lazy and unmanageable. Their food is millet, sorghum-seed or corn, which their keepers use to get as much work from them as possible. When there is much flying and calling down to do they are usually fed with millet, which is so small that it keeps them eating a long while without filling them. At other times their food is sorghum-seed. Corn is not very good for pigeons, but they are so fond of it that pigeon-keepers usually have it on hand to call them down when they are already fed.

Chinese talk of three regions of pigeon flight—the "sparrow region," just above the house-tops; the "crow region," where the crows pass over the city at daybreak, and the "eagle region." In every flock are several strong-winged birds that will rise to the eagle region. These are the "high-flyers," which are usually sent up first, carrying whistles, as a challenge to other flocks to join them. When they have mounted to some height the heavier-winged birds, or "low-flyers," are sent up to meet them. A few stay-at-home birds are kept back to call the others down, which they do by flying around the roof and clapping their wings. Pigeon-whistles were in early times put on the birds to scare away hawks. Nowadays the hawks do not mind them at all, but they are still useful for attracting stray pigeons, for signaling and for guiding the younger pigeons when flocks become mixed.

In Peking flocks are sent up at sunrise, at noon and just before sundown. Neighboring flocks always join, and their keepers then try each to draw apart his flock with call-birds, so as to bring with it any unwary pigeons from the other flocks. If a stranger is brought to the roof the keeper coaxes it down with his own birds by throwing millet into the wicker cage.

No one ever demands back a pigeon lost in this way. Two friends will sometimes "play live pigeon"—that is, give back each other's birds that may be captured from the flock during the game—but the rule is to "play dead pigeon," or, as the boys say, "for keeps."—St. Nicholas.

**THE PEKING CART**

The Peking cart is probably unsurpassed as an instrument of torture by anything found outside of the prisons of the Inquisition, and yet the reason for its existence is not far to seek. The roads of Peking are so

horrible that no ordinary vehicle could stand the wear and tear for a single day. Holes a foot deep and more abound in every thoroughfare. Nearly half the huge blocks of granite in the great stone road that runs from Tung-Chow to Peking are missing, at least over a long section of the road. They have been "prigged" by the conscienceless natives whenever they desired a block of stone for any purpose. Since it is against Chinese traditions, apparently, to repair anything that has fallen into disrepair, the roads have gone on growing worse and worse from generation to generation, and the only thing left to do was to build an indestructible cart, springless and solid, which could not be smashed by rough usage.

Upon this problem the mind of the Chinaman has concentrated itself, and for once he has succeeded most admirably. The Peking cart is set directly upon a stout and unbreakable axle-tree. The wheels are huge, thick affairs studded with spikes, often almost solid, for an ordinary spoke and tire would stand but little chance in a Peking street. The most comfortable place to ride on this cart is on the shaft, in close proximity to the mules' switching tails and treacherous hind feet; but one is willing to risk instant death at the heels of a mule after he has ridden for an hour or two with his feet doubled up under him on the hard board floor of a Peking cart, where every hole in the pavement and depressions in the roadway call attention anew to his aches and pains. Some of the diplomats of Peking have a little well in the bottom of their cart in which they can put their feet, which affords some relief from the cramped position necessitated by the ordinary cart; but such aristocratic conveniences and comforts are not looked upon with favor by the average Pekinese.—Dr. Clark, in Cosmopolitan.

**SOME CURIOUS HINDU CUSTOMS**

Among the people of India there are some very strange ideas and customs. When a son is born into a household it is the cause of great rejoicing. The name of the father will now be perpetuated. When he becomes old the son will care for him, and when he dies his funeral rites will be performed.

The evil spirits are thought to be very near these little ones, and so one must be always on the alert to guard them from danger. At night, in some parts of India, the baby must not be left alone in the dark. When the little oil-lamp is lighted it must be passed three times around the child's head, then made to touch the ground, and after placing it in a little niche in the wall the mother worships it. The evil spirit is thus kept away from the child at night. Visitors should be very careful not to remark that the child is pretty or looks healthful. This would bring some calamity upon it, the anxious mother thinks. To keep the spirits away in the day it is necessary for the nurse to take some of the dust from the bottom of her foot and put it on the child's forehead.

When the little one sneezes some one must say, "Máy only good come!" When he yawns they snap the finger to prevent any harm coming to him. To keep the cobra from biting the child the mother takes an offering of milk and ghee, and placing it on the white-ant hill, in which the cobra often lives, she prays the nagagod to protect her child.—Record.

**PROFESSOR HUXLEY'S DEFINITION OF A LIBERAL EDUCATION**

"That man has a liberal education who has been so trained in youth that his body is the ready servant of his will, and does with ease and pleasure all the work that, as a mechanism, it is capable of; whose intellect is a clear, cold logic engine, with all its parts of equal strength and in smooth working order, ready, like a steam-engine, to be turned to any kind of work, and spin the gossamers as well as forge the anchors of the mind; whose mind is stored with a knowledge of the great and fundamental truths of nature and of the laws of her operations; one who, no stunted ascetic, is full of life and fire, but whose passions are trained to come to a halt by a vigorous will, the servant of a tender conscience; who has learned to love all beauty, whether of nature or of art, to hate all villainess and to respect others as himself. Such a one and no other has had a liberal education."

"He looked forward to the day when the spider would spin its web across the cannon's mouth. But why is the spider spinning its web? To catch the poor fly. That cannon's mouth will still be the theater of war. Nature has woven life of war and love. We have no option."—I. Zangwill.

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A--R--T--U--S	M--N--N--E--T--E
A--Y--N--M	N--E--A
C--D--U--T	P--Y
D--N--U--S	R--E
G--I--M	V--B--A

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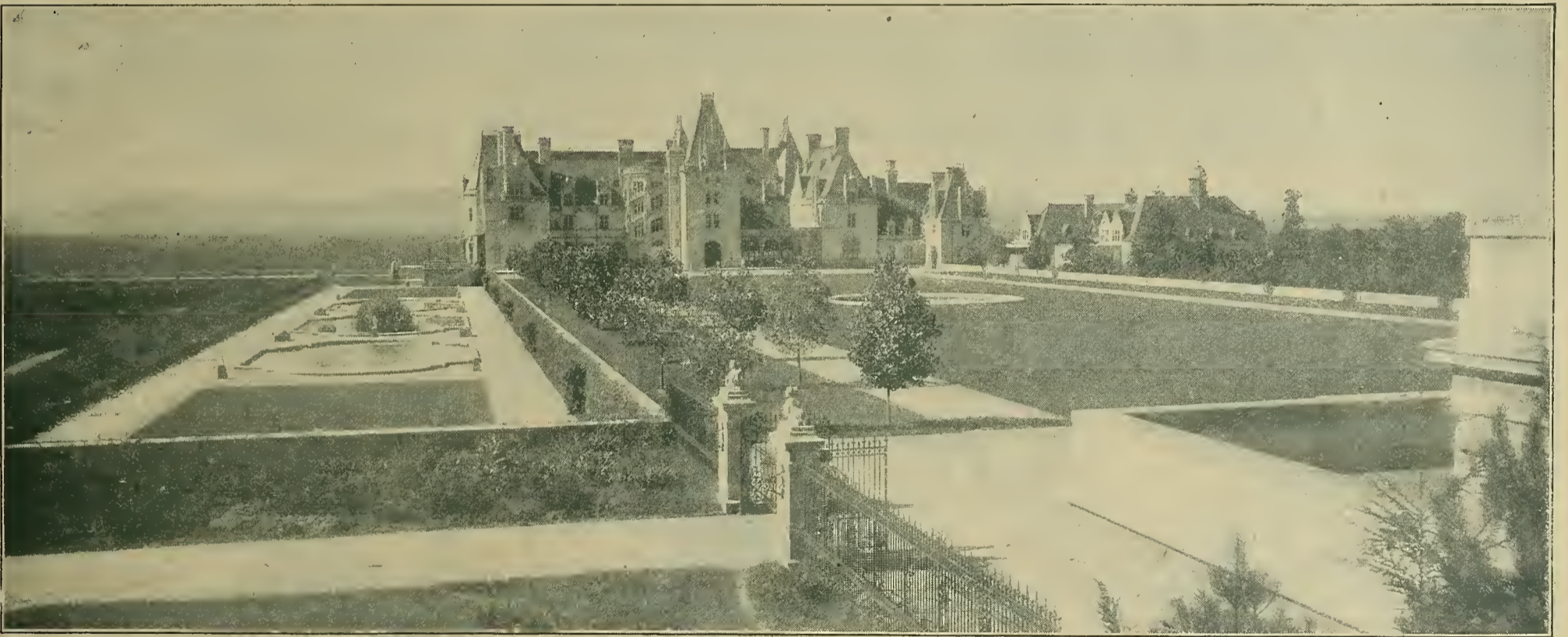
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## SELECTIONS

## KEEP A-GOIN'!

Ef you strike a thorn or rose,  
Keep a-go-in'!  
Ef it hails, or ef it snows,  
Keep a-go-in'!  
'Tain't no use to sit an' whine  
When the fish ain't on yer line;  
Bait yer hook an' keep a-tryin'—  
Keep a-go-in'!

When the weather kills yer crop,  
Keep a-go-in'!  
When you tumble from the top,  
Keep a-go-in'!  
S'pose you're out o' every dime,  
Bein' so ain't any crime,  
Tell the world you're feelin' prime—  
Keep a-go-in'!

When it looks like all is up,  
Keep a-go-in'!  
Drain the sweetness from the cup,  
Keep a-go-in'!  
See the wild birds on the wing,  
Hear the bells that sweetly ring,  
When you feel like sighin' sing,  
Keep a-go-in'!

—From "Songs from Dixieland."

## SEQUOYAH

IN THE event that Oklahoma and Indian Territory should be taken in as one state the Cherokees will ask that the name Sequoyah be given the new state. They cite the fact that a good portion of Oklahoma was formerly Cherokee territory, and that the name of Sequoyah would be perfectly applicable to that section. They will rebel if an attempt is made to saddle the name Oklahoma on the new state.

Col. J. H. Holden, editor of the Fort Gibson "Post," is one of the prime movers in the effort to have the territory named Sequoyah. He is a worshiper of that famous old Indian. "I believe the people of the territory should not only insist that we be given the name of Sequoyah," said he, "but I think we should erect a monument in memory of that great Indian.

"Sequoyah was born in the old Cherokee nation in the state of Georgia, his mother being a full-blood Cherokee, and his father a German trader by the name of George Geist, or Guess, as he was commonly called. Sequoyah showed German qualities in his years of study in perfecting his alphabet, which contains eighty-five characters. He could neither read nor write, thus showing his wonderful genius and perseverance in the invention of the only Indian alphabet, which is founded on such correct principles that apt pupils have learned the whole in three or four days, after which reading becomes an easy task.

"It has been erroneously stated that Sequoyah died in the West about the year 1857 or 1858. An article on Sequoyah in the Cherokee 'Advocate' of 1845, written by Col. Elias Boudinot, states that Sequoyah died somewhere in Mexico or on its borders in the year 1843, the circumstances of which are related by his son Tee-See Guess, but in what manner is not known. He had wandered off from his two companions looking for the horse which had been either stolen or strayed. His grave nor remains have never been discovered. He wore a large silver medal at the time of his death, by which his remains might be easily identified. It is thought by some that he wandered into a cave, where death overtook him.

"Walter Bengé, of Fort Gibson, who knew Sequoyah well, having lived near him several years in Sequoyah district, says that published reports of him being a notorious drunkard are untrue. While he knew him he tasted liquor but rarely, and never knew of him being drunk. Bengé says that he was a good, kind, conscientious man, honest with everybody. He was a thrifty farmer, and had lots of cattle and hogs. All attempts to convert him to Christianity were futile. He would say, 'White man heap more bad than Injun—more lie, more steal, more bad man—good Injun all right.'

"Sequoyah's trading-point was Fort Smith, about twenty-five miles distant, which he usually visited once a week, always stopping to see his old friend Judge Gunter, who had erected the first cotton-gin in Indian Territory at a point about a mile south of where the village of Muldrow now stands.

"Sequoyah's home was built about sixty-two years ago, and is located about twelve miles northwest of Muldrow. The house has been covered several times since its former occupant left. The porch was built since that time, also the lean-to at the rear; but the old stone chimney and the fireplace are the same that Sequoyah sat before and

smoked his pipe many evenings long ago. The house was built on an eminence, which commanded quite a wide view where the woods did not intervene. There is stony land near by to the east, where the primitive forest still stands; and is about the same today as when Sequoyah left on his last journey. About two hundred yards north of the house, just under the hill, is a spring, overshadowed by a large oak-tree, with a large square stone near by, which was a favorite resting-place for Sequoyah in the heat of the day. It may be seen that the seat is worn quite smooth from much use. No doubt that in his last wanderings in the West, when down sick and faint, fond memories reverted to that distant spot, and he longed to be there again.

"As near as I can learn, at the time of his departure for the Far West Sequoyah was something over sixty years old, but in good health and active. He was accompanied by his son and another Indian. They had two ponies, and a cart drawn by a yoke of oxen, with clothing, implements and provisions. The road they took on that fine summer morning fifty-seven years ago is still visible. A few rods east of the house still stands the primitive forest. The land is stony and not fit for cultivation for some little distance around. Bare rock is seen in many places, and the same old trees, marked and scarred, stand by the roadside. This road leads into the old military road between Fort Smith and Fort Gibson, which the party took, and had their first night's encampment, perhaps, not far from where the town of Sallisaw now stands.

"Something should be done to perpetuate the memory of the greatest native American, who has been justly called the 'American Cadmus.'

"The Cadmus of his race;  
A man without a peer;  
He stood alone, his genius shown  
Throughout a hemisphere."

—Kansas City Journal.

## THE CUCKOO-CLOCK MAN

In a sketch of Mark Twain the "Review of Reviews" includes a very interesting facsimile of a page from Mark Twain's notebook which he used when he was writing the famous "Pudd'nhead Wilson" maxims. He started out to write a funny paragraph about the inventor of the cuckoo clock.

"The man that invented the cuckoo clock," wrote Mark, "is no more. It is old news, but good."

The last sentence, however, did not please him, and, scratching it out, he wrote, "As news this is a little stale, but some news is better old than not at all."

Not liking this, he revised it, "As news this is a little old; but better late than never."

This also seemed to lack point, and a second amendment followed, "As news this is a little old, for it happened sixty-four years ago; but it is not always the newest news that is the most interesting."

Drawing his pen impatiently through these attempts, Mark tried it again, "The man that invented the cuckoo clock is no more. It is old news, but there is nothing else the matter with it."

After mature deliberation, Mr. Clemens evidently concluded that this also fell below the level of the Pudd'nhead maxims, so with his blackest ink he scratched out the final efforts and wrote across the entire series, "Give it up; am sorry he died," and followed it with a sentence which, we believe, stands, "It is more trouble to make a maxim than it is to do right."

One secret of Mark Twain's style is disclosed by the first draft of this maxim, which read, "It is more difficult to construct a maxim than it is to do right."

## EXCAVATIONS AT NIPPUR

Probably Professor Hilprecht's excavations at Nippur, the capital of Northern Babylonia before Babylon reached its overwhelming importance, will prove to be the most complete recovery ever made of the records of an ancient civilization. The excavations are being made in a mound two hundred feet high. There have already been found a temple of Baal, a great gate built about five thousand years before Christ, an immense palace six hundred feet long, many tombs older than Solomon, and especially the famous library, where already have been found 17,200 tablets of unbaked clay. The inscriptions are in the most ancient alphabet known, the cuneiform, and they treat all branches of knowledge known at the time. The labor is not yet half completed, and rich discoveries are yet to be expected.—Christian Endeavor World.

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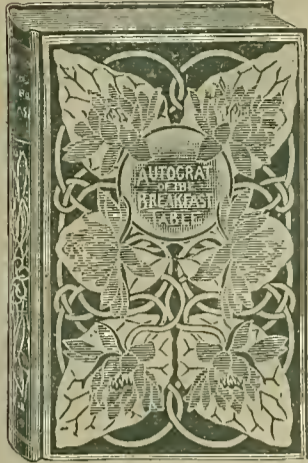
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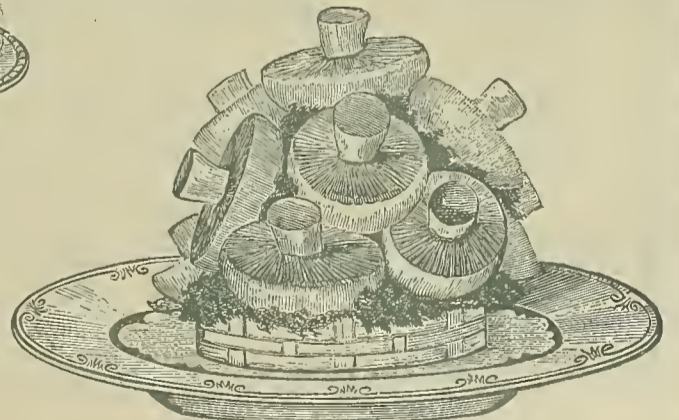
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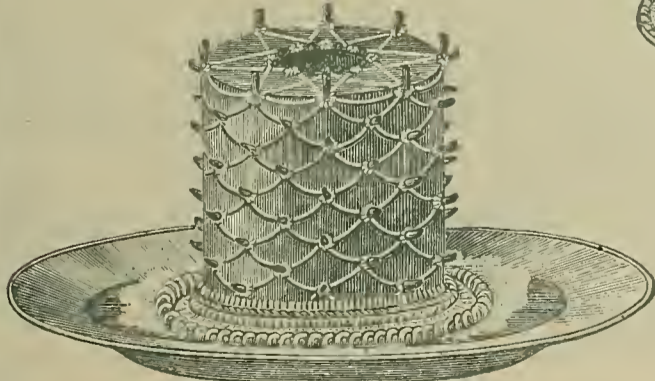
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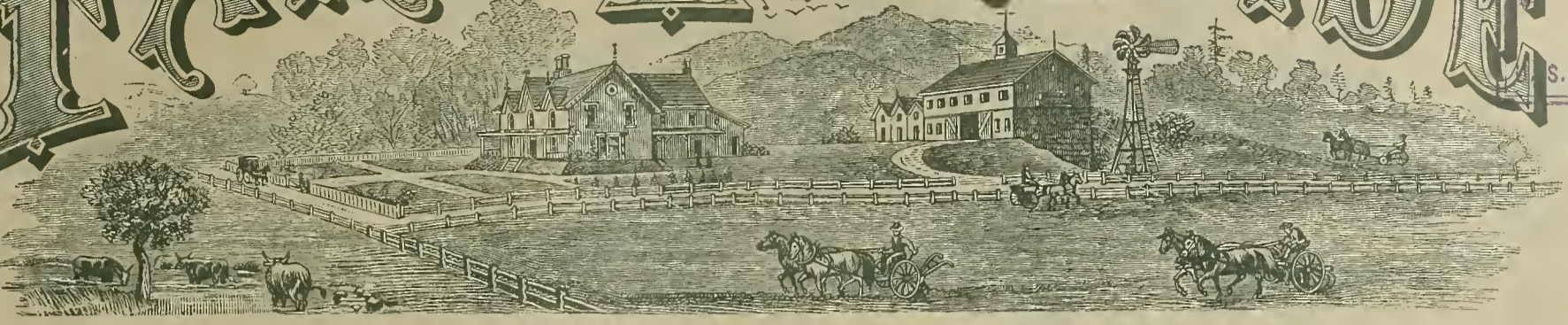
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ADDRESS FARM AND FIRESIDE, SPRINGFIELD, OHIO

COTTON-FIELD SONG

When de sun am wakin', darky jumps roun',
Sun claimin' high, de darky wilts down,
Foots git hebbly in de cotton-groun',
Hi, ho, my, oh, me!
Aft'noon sun trabble slow,
It's a mighty long time gittin' low,
But better times am comin', I know,
Nex' week when de moon shines, O!

-A. W. Bellaw.

continue together. The pearly cobwebs stretching from row to row indicate a heavy dew, and moisture gives weight to cotton. Besides, the wet locks cling to the fingers and are more readily drawn from the bolls than the dry ones.

The majority of the workers are soon left behind by the more expert, who advance steadily across the field, gathering the snowy fruit with the regularity of machines and with a skill born of lifelong practice.

Gradually the pickers separate into groups. One of the first to form is that of the children, who drop behind the others, and as the sun shines warmer lapse into play.

The best pickers are scattered over the field, each to himself. The pronoun, however, does not mean that they are males exclusively, for a young girl leads them all.

There is much singing among the workers when the flow of talk has ebbed and their hearts are cheered by the approach of the noon hour.

"Oh, Mary, don't you weep for me!
Oh, Mary, don't you weep!"

And we can hear the youth who is approaching us murmuring a monotonous chant, with these queer words repeated over and over again:

"Roos-t-er-roos-t-er-roos-t-er-
Rooster pickin' in de hot sun!"

From the far edge of the great field, where most of the men and women are now grouped, comes the full chorus of a typical negro hymn:

"Bound in sorrows,
Bound in sorrows,
Bound in sorrows all my days, all my days;
But before I'd be a slave
I'd be buried in my grave,
And go home to my Lord and be saved."

The long-drawn, fervid notes are full of the melody and pathos of negro music. One might almost imagine the singers a band of slaves who strive by means of the song to give utterance to the inexpressible woe of bondage.

When the noon bell rings some of the laborers go to their homes for dinner, but most of them lunch under the oaks by the well. The meal being done, a few of the more

diligent return immediately to work, while the remainder rest and gossip in the shade, which is welcome at midday even in October.

The afternoon is much the same as the mornings. There are the same groups, there is conversation, there is singing. Among the men and boys there is also a kind of crying or shouting which seems very odd to one unaccustomed to the ways of negroes.

"High cotton for spectacle,
Low cotton for lame duck,
Chicken in the bread-tray,
Peck! Peck! Peck!"

Another occasionally cries out, with great emphasis, "Vis, vat, venimus-a-vovat!" Probably he has overheard the master's son conjugating a Latin verb, and is trying to repeat the unmeaning words which, for some occult reason, appealed to his imagination.

When the distant tree-tops begin to hide the great red disk of the sun the coming of the wagons puts an end to the day's work. The men tie the sheets and place them on the wagons, while the women and children hastily gather up the hats, shoes and other garments discarded during the day.

At last all the cotton is housed, and the pickers depart for their various homes—singly, in pairs, in groups. The echoes of their songs and laughter die away, the twilight deepens into darkness, and the day is done.

DEAH CHLO

Ise lef' ma home away down Souf behind me,
Kase Ise poo an' work dar somehow didn't find me.
Now Ise all alone and lonesome,
No one heah I cares ter kno,
An' ma heart am mighty heavy;
Fo oh, deah Chlo,
I longs ter see yo so,
Deah Chlo.

I can heah de pine-tops sighin',
An' de whippoo'will a-cryin',
I kin smell de orange-blossoms in de air.
When I shuts ma eyes I dreams it
All so plain it really seems it,
Den I wakes an' fines dat dare is nuffin' dere,
An' all de time ma heart am achin' so,
An' all de time I'm longin' fo yo, Chlo.

I'd like ter know jess how yo does wiffout me,
I wonders if you really cares about me.
I has got a steady job heah,
But de time it pass so slow,
An' Ise always thinkin' of yo;
An' oh, deah Chlo,
I longs ter see yo so,
Yes, longs ter see yo so,
Deah Chlo!

-Leontine Stanfield, in Werner's Magazine.

A Day in a Cotton-Field 2 2 BY JOHN HAWKINS

THERE is not breeze enough to stir the vertical columns of smoke which rise from the chimneys of the negro cabins, and yet the banner of October floats far and near. A view from our piazza shows that it is yet "yellow, golden, glorious," and much else.

As the sun peeps through the purple band which rims the horizon the clangor of the great farm-bell bursts forth to summon the negro cotton-pickers to their work. From every direction they come—through the fields, along the roads and paths, out of the woods—the young and the old, of both sexes.

There is a voluble exchange of greetings when the pickers meet. Many of them do not live on the plantation, and some have not seen each other since last Sunday. But no time is wasted; work and social converse begin and



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AN interesting article entitled "Can I Make a Farm Pay?" in the "World's Work" for March Professor L. H. Bailey says:

"Be sure that you have good executive ability and that you will be content with moderate financial returns. Some men make fortunes on farms, but they usually have relatively large investment in the business, and they have the power of growing and handling crops. These are men who would make money from buttons, or shoes, or any other business. They are business men. Hundreds of my farmer friends are well-to-do; they are free of debt, have comfortable and personal homes, have the legitimate comforts of life, drive their own horses, and are beholden to no man. These are the typical farmers; they are not 'clodhoppers'; they are not pessimists. They are well fed and well clothed. They know what is going on in the world; they read. They ask more direct and pointed questions than all the experiment stations in the world can answer. They think their own thoughts. Come with me to some of their meetings and I will show you a body of men who will compare with your merchants and lawyers and doctors.

"The average earnings of American farms, good and bad, is probably not far from one thousand dollars a year. Eliminating the farms that earn nothing or less than nothing the average certainly would be encouraging. If one is to be successful in farming the farmer should run the farm; too often the farm runs the farmer. Men make money on the farm; whether you can or not I do not know. 'But can a man who has always lived in the city become a successful farmer?' Yes; but the chances are against him. The longer he lives in the city and fills a subordinate position and thinks second-hand thoughts, the greater are the chances that he will not make a good farmer. He loses the power of initiative. He is not 'practical.' He is not accustomed to manual labor. Too often he is not frugal. Yet despite all this, the fact that one is a 'city man' does not of itself incapacitate him for farming. Some of the most successful farmers I know were not born on the farm. They went into farming without prejudices and with

the advantage of business training. They were not bound by traditions. Farmers suffer more from lack of business training than from any other cause. The city man often succeeds in the country because he is trained in business methods. The country man often succeeds in the city because he is trained in relying upon himself.

"If you buy a small farm, as most city men must, aim to produce things for a special trade. Don't try unusual things like mushrooms and ginseng, but grow the things that every market wants—only grow them better than most men do. Last season one of my New York friends made money from watermelons, notwithstanding the fact that Georgia melons of greater size filled his markets. Grade your products and pack them carefully. Use neat, new, tasty packages. Advertise. Put on a label. The buyer will pay you for the package and the advertising. Last year my peaches brought me an unusually high price. I sold them under large labels in red and green ink. One person thought it foolish for me to spend money for printers' ink. I told him that I was not; the purchaser paid the printer's bill. Raise a good thing, then adopt the advertisers' maxim, 'If you have a good thing, push it.'"

**DESCRIBING** the resources of the new Australian Commonwealth in a recent number of the "North American Review" Mr. Hugh H. Lusk says:

"The whole of the coastal districts, extending about eight thousand miles, by a width of at least one hundred and fifty miles, are suitable for agriculture—some of it the agriculture of temperate climates, the wheat and corn, vines and fruit-trees we know so well; some the rice and sugar, the tobacco and cotton of the tropical zone. The land is generally rich, the rainfall in the coastal belt is abundant, and, strange to say, even the most tropical districts are not affected by malaria nor unhealthy for people of European race. The mineral resources of Australia are not even guessed at as yet. In the last forty-eight years the country has produced gold to the value of about \$1,800,000,000; in the last twenty, silver to the value of \$150,000,000. Iron, copper, tin, lead, antimony have been found in rich deposits in many parts of the continent, and are being worked in a few, with results out of all proportion to expectation elsewhere; and coal, of every known kind, extends in vast beds through districts spreading over thousands of square miles, both on the eastern and western coasts, while millions of tons are being exported year by year in greater quantities to India and southern China on the one hand, and to North and South America on the other.

"And yet, as we have already said, the mineral wealth of Australia is but vaguely guessed at. The richest discoveries of gold and iron and coal yet made in West Australia have been made on the extreme fringe of the great unknown land, as yet untrodden by the feet of white men; the great coal-fields lately found in Queensland stretch back, apparently unbroken, into the unexplored districts, known in the expressive language of the country as 'The Never-Never Lands.' Diamonds are found in one district; rubies in another; there is at least one emerald-mine in New South Wales; and opals, equal to any in the world, are found in Queensland, while the pearl-fisheries of the northwestern coast produce a considerable portion of the most valued pearls of commerce."

**THE** Cuban policy is defined in the amendment to the Army Bill authorizing the President to "leave the government and control of the Island of Cuba to its people," as soon as a government shall have been established in said island, under a constitution which, either as a part thereof, or in an ordinance appended thereto, shall define the future relations of the United States with Cuba, substantially as follows:

"1. That the government of Cuba shall never enter into any treaty or other compact with any foreign power or powers which will impair or tend to impair the independence of Cuba, nor in any manner authorize or permit any foreign power or powers to obtain by colonization or for military or naval purposes or otherwise lodgment or control over any portion of said island.

"2. That said government shall not assume or contract any public debt, to pay the interest upon which, and to make reasonable sinking-fund provision for the ultimate dis-

charge of which, the ordinary revenues of the island, after defraying the current expenses of the government, shall be inadequate.

"3. That the government of Cuba consents that the United States may exercise the right to intervene for the preservation of Cuban independence, the maintenance of a government adequate for the protection of life, property and individual liberty, and for discharging the obligations with respect to Cuba imposed by the Treaty of Paris on the United States, now to be assumed and undertaken by the government of Cuba.

"4. That acts of the United States in Cuba, during its military occupancy thereof, are ratified and validated, and all lawful rights acquired thereunder shall be maintained and protected.

"5. That the government of Cuba will execute, and so far as necessary extend, the plans already devised, or other plans to be mutually agreed upon, for the sanitation of the cities of the island, to the end that a recurrence of epidemic and infectious diseases may be prevented, thereby assuring protection to the people and commerce of Cuba, as well as to the commerce of the southern ports of the United States and the people residing therein.

"6. That the Isle of Pines shall be omitted from the proposed constitutional boundaries of Cuba, the title thereto being left to future adjustment by treaty.

"7. That to enable the United States to maintain the independence of Cuba, and to protect the people thereof, as well as for its own defense, the government of Cuba will sell or lease to the United States lands necessary for coaling or naval stations at certain specified points, to be agreed upon with the President of the United States.

"8. That by way of further assurance the government of Cuba will embody the foregoing provisions in a permanent treaty with the United States."

**IN** AN article on the beet-sugar industry in the "Review of Reviews" for March Mr. Ray Stannard Baker says: "The American farmer has suddenly discovered that he can raise with large profit as good sugar-beets as there are in the world, and the American manufacturer has learned that he can make those beets yield the highest grade of pure sugar. Twelve years ago the total production of beet-sugar in America was 255 tons; six years later the production had jumped to 16,000 tons, and in 1899 the production was about 80,000 tons. For 1900 those who know predict a production exceeding 150,000 tons, nearly doubling the output of the previous year and making the beet-sugar yield of the country nearly equal to the cane-sugar yield. And thus out of almost nothing the United States has built a sugar industry in half a dozen years, the output of which this year will be about double that of the island of Porto Rico. And the work has barely begun.

"In 1898 Michigan had one beet-sugar factory; in 1900 she had ten factories. In California the largest beet-sugar factory in the world has just been completed, larger than anything in Europe, though Germany has been years at the business. This enormous factory cost \$2,700,000, and will turn out upward of 400 tons of sugar a day, using 3,000 tons of beets for the purpose, and consuming yearly the product of 30,000 acres of land.

"Capital is always shy about venturing into new industries, but it has taken beet-sugar making to its heart. Indeed, one who reads of the growth of the industry in Illinois, Nebraska, Colorado, New York, Iowa, Minnesota, New Mexico and other states can hardly resist the contagion of the beet-sugar enthusiasm. At the rate at which the industry is now growing it will be only a few years before the United States will supply her own sugar needs, great as they are, thereby keeping at home the large profits of growing the beets and manufacturing the sugar, and saving the expense of shipping the sugar hundreds or thousands of miles."

**WRITING** on "Agriculture in the Twelfth Census" in the "Review of Reviews" for March Statistician Le Grand Powers makes the following statements: "In 1850 the census reported 1,449,073 farms; in 1860 2,044,073; in 1870, 2,659,985; in 1880, 4,008,907, and in 1890, 4,564,641. The estimate for 1900 is 5,700,000. The increase by 1,348,922 was successively 595,004; 615,908; 1,348,922; 555,734; and, approximately, 1,140,000. A part of this apparent variation is doubtless due to the greater relative success which attends the enumeration of some decades than

others; but after making due allowance for this possible factor we note the following facts: The increase in the last ten years was greater than in any other decade, with the single exception of that between 1870 and 1880. It was nearly as great as in the last-named period of marvelous farm development, and almost twice as great as in the three other decades since the middle of the century. So far as the number of reported schedules can throw any light upon the subject, the farm progress of the last decade is, in all respects, a repetition, with variations, of the changes chronicled in the noteworthy ten years from 1870 to 1880. The increase in number of farms is found in the same sections, and probably represents the results of the same economic movements among our people.

"The last ten years have witnessed a great many changes in the number, size and location of farms. In the later-settled states and territories many new farms were opened by settlement on the public domain. In the older-settled sections of the Southern and North Central states a large number of new farms were called into being by the subdivision of the old estates into smaller holdings. In the same parts of the country the area of improved land was considerably extended and the value of farm investments largely increased. The net additions to farm resources in the decade, stated in millions of dollars, will exceed the reported value of all farm investments in 1850. In other words, the increased wealth of our farmers, as the result of their last ten years' labor, equals the farm wealth of the nation reported as the outcome of their toil and economies from the settlement of Jamestown to the middle of the nineteenth century."

**COMMENTING** on the proposed development of new wheat-fields in old Asia "Bradstreet's" says:

"A group of German, a group of French banks and a syndicate of Belgian capitalists are at present occupied with the opening of the vast territories of Turkey in Asia by the construction of railways. The aim in view is as in the past Minnesota, Dakota and Buenos Ayres were converted by the construction of railways into great grain-producing countries from being waste prairie land, so in a similar manner to call into existence the dormant agricultural wealth of the Euphrates valley by providing an outlet for its produce on the international market. It would appear that Asia Minor is destined to rival, or perhaps displace, the United States as the great grain-producing country of the world. According to a German authority in Babylonia, renowned of old for its fertility, there are sixty million acres of rich alluvial soil admirably adapted for the production of cereals. The same writer calculates that when the railway is open and the agriculturist has a ready market for his produce, in good years the latter will be able to sell wheat at twenty cents a hundred pounds without loss. In order to realize the consequence of this low price on the international market we must remember the distance the goods have to be transported by rail is only very moderate, the average being about three hundred and twenty miles, while the distance of Dakota from New York is more than six times as great. The sea-voyage by the Mediterranean is also shorter than that from any of the other great grain-shipping ports of the world.

"Another German writer, Dr. Ruhland, calculates that wheat from the fertile plains of the Euphrates will cost more than \$20.50 a ton delivered to central Europe, to which, he says, if we add the duty—\$13.50 in France and \$8.50 in Germany—we shall have respectively \$34.00 and \$29.00 a ton as the market price, whereas \$48.00 are required at present if the farmer is to pay his expenses. Dr. Ruhland recalls the example of Argentina; financial groups in Europe boomed the country; millions of pounds were borrowed and gaily spent, until at last the terrible crisis came; the exchange went up to 364 per cent, and in the years 1893 to 1894 the international value of wheat receded in a manner that could never have been anticipated, for an inflated depreciated paper currency operates as an export premium. In Anatolia and Mesopotamia the capitalists are pursuing the same methods, and should they be followed, as would appear probable, by a similar crash when Babylonia is one of the granaries of Europe, who can say 'what will be the effect of a great crisis involving the whole of the commercial community?' The learned doctor conjectures that under such circumstances the prices might sink to \$14.25 a ton."



# ABOUT RURAL AFFAIRS

**Who Does the Milking?**

The job of all jobs on the farm about which I am particular is the milking. I keep cows mostly for the sake of having an abundance of good milk, good cream and good butter for family use, and I sell milk and butter more in order to get rid of the surplus than for the profits. That is in the production of these things. But when I want to enjoy a dish in which new milk or cream is the chief ingredient, as in any of our breakfast foods, wheatlet, grape-nuts, wheat-flakes, shredded-wheat biscuits, etc., I like to be sure that the milk is clean. The milk as drawn from the cow's udder by many milkers is absolutely filthy. It is nasty enough at best, for with every care and the utmost carefulness we cannot prevent particles of animal matter, hair, scales, dirt, etc., from finding a way into the pail, or bad odors from being absorbed by the sensitive fluid. But when I see people milk a cow without first cleaning the udder, milk with dirty hands or let some of the milk run through their hands into the pail, I am willing to forego the pleasure of eating or drinking the milk and cream. Many milkers make it a practice to milk into their hands and wash the teats with it to make the milking all the easier. In that case you will see the milk, often colored a rich brown, dripping off the milker's hands into the milk-pail. It is not a pleasing picture that I here present. It is truth, not poetry. I am not particularly fond of milking cows, but it is the job I usually do myself, unless I can assign it to a person whom I feel sure will do it in as careful and cleanly a way as I do it myself. No person who chews tobacco, no matter how cleanly otherwise, is allowed to do the milking for me. The job should be done with freshly washed hands, too. I believe that it would be a good thing to fit a milking-garment around the cow in such a way that the udder is fully incased in a pocket or bag, with a department for each teat, and only the end of the teat sticking out. If strapped together over the back, such a garment could be quickly adjusted before milking, and just as quickly taken off after the milking is completed.

**The Soy-bean** When my old father, in 1871 or 1872, sent me from across the big water the first sample of the "Japanese soja," or soy-bean, and I made my first trials with it, I had no idea that now, thirty years later, we would still be discussing the value of this interesting vegetable. One thing is beyond dispute; namely, that the soy-bean is the richest, the most nutritious of all vegetables, equaling beef in this respect, pound for pound. In Japan it is a staple article of human food, especially in the form of soy-cheese, or "tofu." Occasionally the green pods containing nearly full-grown beans are boiled, and the beans shelled and eaten from the pod; for the most part, however, the beans are not used until ripe, when they are prepared for food in a multitude of ways. The very fact that domestic animals, which refuse common beans in the raw state, seem to be fond of the soy-bean, and that poultry, pigeons, pigs, etc., take to the raw soy-bean very readily, seems to point to the usefulness of this bean for human food, also. We will have to learn how to prepare it. The difficulty I found thus far is that the bean is hard to cook. It contains more albumen and less starch than the navy-bean, and therefore does not cook so mealy. There must be some way to get over the difficulty and to get the bean cooked as soft as desirable. I am just getting a lot ready to be ground into flour, and shall try this for soup material. I am really quite sanguine about it, especially as the soy-bean is said to be a sure cure for constipation. If it proves that in my case I will have frequent messes of soy-bean soup, which I think can be made as palatable as any other soup. For cooking like beans, soak the soy-beans twenty-four hours in soft water before putting on the stove.

Soy-bean varieties are numerous, about a hundred being found in Japan. Here at the North we want only the earlier sorts. In size they vary from that of large shot to a little above very large peas. In shape they are intermediate between peas and our common beans. In color they are white, yellow, brown, black and spotted. I have seen and grown only the yellow and black ones. Some yellow varieties are used as coffee

substitutes, and have been introduced as "American coffee-bean." The yield under favorable circumstances is said to be from eighteen to twenty bushels an acre. On rich soil I can grow much more. A number of reports have come in, among them one by C. A. Sherman, one of our readers, who says: "I raised a fine crop of soy-beans and prepared them for coffee. I got a beautiful coffee in color and taste, also when sugar and cream were added. But I invariably had a raging headache after drinking it. It served my family the same. All the coffee substitutes on the market that I have tried appear to have extracts of coffee in them, as they affect me the same as coffee if I continue their use."

"I think friend Greiner will be better satisfied with the wheat than the soy-bean. The latter I was every way pleased with as a substitute for coffee except its effects. When trimmed with Jersey cream and sugar its appearance is rich, and it tastes very much like good coffee."

"During the Civil War, when everything was high, I used peas as a substitute for coffee. They, like coffee, must be properly browned and prepared. I like them better than poor coffee or poor tea. I am about ready to abandon tea and coffee; the latter I never or seldom drink at home."

For my present comparative and steadily growing exemption from those annoying headaches I think I must give the credit largely to my greater moderation in the use of strong coffee and the substitution of cereal coffees for the genuine article. I was therefore sorry to hear complaint about soy-bean coffee as causes of headaches. If properly prepared, and used with cream and sugar, I should pronounce such coffee substitute entirely harmless, and I will not yet concede that it would generally cause headaches. Yet bran or wheat may be better, safer. A reader in Tennessee, P. S. Gorman, writes as follows:

"Tea and coffee are not only unnecessary, but in many cases harmful. I take bran sifted from Graham flour and treat it in the same way that Ralstonites treat wheat as a substitute for coffee. Seasoned with good milk or cream and sugar you will have in it a hygienic drink that is quite pleasant and absolutely harmless. Soy-beans are used as a coffee substitute by several of my neighbors, but are not growing in favor. I have used wheat, rye and barley for the same purpose, but find nothing so good for my taste and needs as bran. Less tea and coffee, less pork and more fruit and vegetables, milk, butter and Graham flour would be vastly to our advantage." To all of which I say amen, although, in a general way, people must live and feed according to their own individual conditions, tastes and requirements.

**The San Jose Scale** In one of our horticultural weeklies, copy of which is just received, I find, to my regret, an article about the "San Jose Bugaboo." Evidently the writer has not come much in personal contact with the insect. I do wish that it were only a "bugaboo." But I have these facts before me. First, that the San Jose scale has been introduced to my premises with some nursery stock received from some nursery in the United States, although it is impossible now to trace the source; second, that the scale has spread to a large block of pear and apple trees, even without its presence being detected for some years, and that it has taken hold of the trees until there seems but one way to check it—namely, by cutting the trees down and burning them. The insect takes its time. It does not overrun an orchard in a year or two. But it kills in time, and while, by fumigation or spraying with petroleum, etc., it may be possible to get rid of it when found on smaller trees, it will be entirely impracticable to treat large trees, especially where trees are so close as to be interlocking, with any hope of destroying every scale on the large trees and saving them. Destruction of such trees seems to be the only way of destroying the scales so as to make them stay destroyed. The San Jose is most easily identified by its presence on the fruit, especially on pears and green apples. If you see red circular spots on such fruits in the fall or any time thereafter, the circles being one eighth to one quarter inch in diameter, with a distinct white speck in or near the center, you

may be sure of having a case of genuine San Jose. The enemy is scattered all over the United States. In some cases its presence is not known and not suspected by the people whose premises it has invaded. In other cases the infection is known, but either ignored or at least not admitted. Nurseries somewhere, by sending imperfect trees all over, have scattered it far and wide. A Dansville, N. Y., nurseryman stated before a meeting of the Western New York Horticultural Society that he fumigates all his stock before sending it out—for his own protection as well as for that of his customers. What he does other nurserymen can do. If not, state laws could make them do it. I cannot see why this should be a hardship on the nurseryman, nor in any way be apt to ruin his business. I think it would have a tendency to save it. T. GREINER.

**SALIENT FARM NOTES**

**Cow-peas** That the interest in cow-peas as a fertilizing and hay crop is rapidly increasing is plainly shown by the numerous inquiries I have received the past winter. Only a short time ago cow-peas were scarcely heard of outside a few of the Southern states. Now thousands of acres of them are grown north of latitude thirty-eight, and its culture is advancing northward at a rapid rate. I am of the opinion that as its many excellent qualities become better known north of latitude forty the acreage planted will increase by leaps and bounds. About all who have failed with it have failed because they did not plant a variety adapted to their latitude or did not understand its management. When farmers learn how to plant and manage cow-peas, how to harvest them at the right time and to give the hay proper care there will be more or less planted on almost every upland farm. I say upland, because other crops will be more profitable on rich bottom-land, where the soil is eight to fifteen feet deep and teeming with humus and fertility its entire depth. When we fully understand the cow-pea, what it is useful for, what can be done with it, and how to manage it, from the selection of a variety adapted to our locality to harvesting the crop, then we can proceed intelligently to get out of it all that is in any way beneficial.

There are quite a number of varieties, some growing tall and maturing seed late in the season and others more dwarf and maturing seed early. Of the former the Whippoorwill is probably the best known. It is a popular variety in the South, and does well up to latitude thirty-nine, and in favorable seasons still farther north. Of the dwarf sorts the Black is an excellent variety, and popular because of its prolificacy. It is the variety I would advise farmers living north of latitude thirty-nine to plant. There are some other dwarf early varieties that are quite popular in certain localities, but usually the seed is more difficult to obtain and higher in price than those I have mentioned. Most farmers in the South think the Whippoorwill is good enough for them, while experienced growers north of latitude thirty-nine are well satisfied with the Black variety. The former makes two or three times the amount of vine, but the latter produces more seed, especially where the seasons are short.

Cow-peas will grow as far North as corn will. It is what is termed a sun plant, as it requires lots of sunshine and a warm soil; therefore, it should not be planted until these two requisites are assured. From the middle of May to the middle of June is likely to be the most favored time north of latitude thirty-nine. It is as tender as the melon, and the slightest touch of frost kills it. This being the case, A. C. C., Wisconsin, and other inquirers will see that it is no good for fall pasturage. In Northern sections it must be cut for hay or turned under for fertilizer before frost touches it. The Black variety grows so rapidly in the heat of summer that there is little danger of frost injuring it before it is ready to be cut for hay or to be turned under for fertilizer.

The proper time to cut cow-peas for hay is when the first, or lower, pods are ripe. They have then reached the best stage for this purpose. When cut for hay the fact must be kept in mind that they are almost exactly like clover, and must be cured and handled in the same manner. Rain injures the hay almost as much as it does that made from clover. If allowed to cure very dry the leaves break off and are lost, the same as with clover. It handles about the same as long clover. One must build a load right if he expects to get

it off easily. In cutting the vines with a mowing-machine many farmers have a scythe-blade fastened to the outer edge of the sickle-bar. It slants upward and backward at an angle of about forty-five degrees, and the edge is kept sharp. This cuts the tangled mass of vines so that the swaths can be divided. But for this blade it would often be found impossible to draw one swath over so that the next can be cut.

Before turning pea-vines under for fertilizer many farmers pasture them a few days with cattle in order to break them down somewhat so that the rolling-cutter will divide them more easily. One farmer of my acquaintance declares that it does not pay to plow the whole of the vines under for fertilizer. He turns his cattle into the pea-field when the pods begin to ripen, and keeps them there until the vines are eaten and trampled down so that he can easily plow them under. He claims that he obtains as large a yield of corn the following year as he would if he turned under the entire crop. His plan is good if the soil is not in need of humus. As I have before stated, the cow-pea, like clover, possesses the peculiar power of taking nitrogen from the air and depositing it in the soil in the form that is available to the succeeding crop. This is the reason why it is so valuable as a fertilizer.

One of the best plans for getting the full value out of a crop of cow-peas is to turn a lot of growing pigs on them when some of the lower pods are ripe. They will find and eat almost every pea, and will convert them into pork of the finest quality, besides trampling the vines down so that they may easily be turned under with the plow. There is no better food for rapidly pushing the growth of a lot of pigs and preparing them for finishing off with corn. By pasturing with pigs in this manner one gets the best value for the peas, obtains all the nitrogen deposited in the soil by the roots and has all the vines to turn under for humus. Pasturing with pigs and cutting for hay are probably two most profitable uses to which cow-peas can be put. Farmers who farm for profits will not be disappointed in cow-peas.

I have sown the peas broadcast and harrowed them in, and I have planted them with a drill corn-planter, straddling the rows, and I like the latter plan the best. The drill should drop one or two peas every foot if the seed is good, and the vines will cover the ground and yield a full crop of peas. The ground should be plowed just before the planting is done, and all weeds that have started turned under; then after planting the ground should be harrowed smooth, very smooth if the peas are to be cut for hay with a mowing-machine. Some farmers cultivate the vines once or twice before they begin to run, but if the ground is plowed just before the seed is put in the vines will smother most of the weeds that are likely to spring up. I am satisfied that there is no better crop to fit land for corn, and several wheat-growers tell me they are quite as useful for fitting land for wheat.

The seed can be obtained from most of the leading seed-houses, especially those whose trade is largely with the South. In almost all of the towns in sections where these peas have been grown some years the seed can be procured at hardware-stores and grocery-stores possibly cheaper than from regular dealers. I have no seed for sale. Address all inquiries for seed to seedsmen, or if you have a friend in the South write him to procure them for you. When planted with a drill corn-planter about one bushel of the Black is required to the acre. If the ground is just plowed, plant them one or two inches deep. I believe I have answered all of the queries submitted. FRED GRUNDY.

**THE FORAGE CROP**

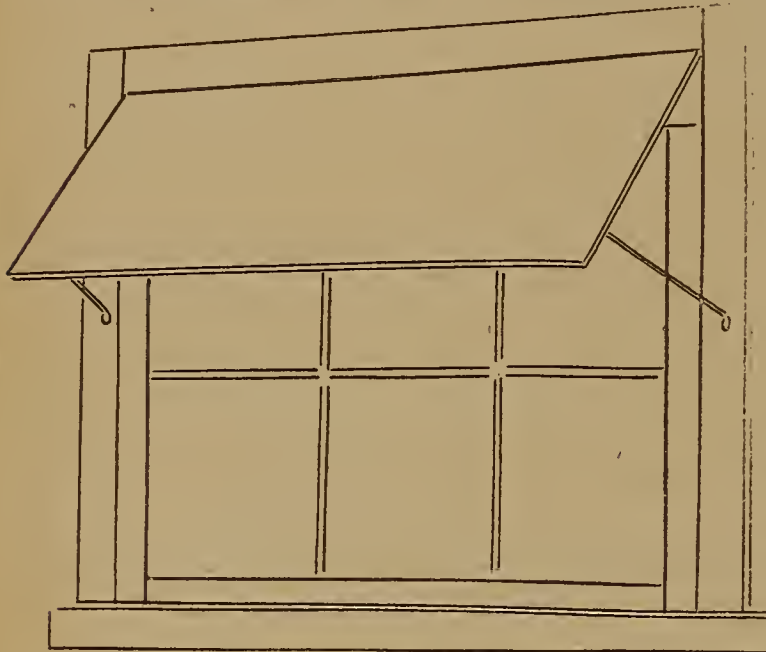
According to estimates of the Division of Statistics the hay crop of 1896 alone amounted to 60,000,000 tons, valued at nearly \$4,000,000,000, exceeding by a third the total value of the wheat crop. In addition to this vast quantity of hay, which would barely suffice to carry through the year the 16,000,000 milk-cows owned by the United States, enough pasturage, fodder and green forage were supplied to feed 37,000,000 sheep, 30,000,000 cattle, 14,000,000 horses and 2,000,000 mules. A conservative estimate places the total annual value of the grass and forage crops of this country at more than \$1,000,000,000.—Arthur Henry, in Ainslee's.



## FARM THEORY AND PRACTICE

**A**NOTHER CHANCE.—I trust that I am not unappreciative of the fine sentiments of our poets about spring, but I confess that I welcome this season of the year most because it means another chance to try for better success, better yields, more income, than I have secured from fields in past years. A live farmer tries each year to do his best—that is his business, and income must be had—but in my experience, every year there are mistakes here and there that cut yields. We are inclined to hold the season responsible for failures, but within certain limits we control our incomes, and a mistake of judgment mars the farm ledger about as often as do influences beyond our control.

I have read about men who seemed to do always just what proved to be best under the circumstances. They outclass me. Every autumn I see where I missed it in some respects, and I frankly admit that I like to see the slate wiped out to some extent, and to have a new chance each spring to start the spring crops as perfectly as I can. "Perfect" does not mean the doing of everything possible for the biggest yield, but it means everything possible for



AWNING

the best net income, everything considered. Anything less is not business; anything more is fancy farming, and not in our line.

**HARROWS.**—I have learned that there is an immense amount of fertility in the soil, and we usually fail to get at it. The material that should be making plants is tied up in compounds that the plant-roots cannot dissolve, or the soil-water cannot dissolve for the roots. Tillage unlocks fertility. This is an old story, but we do not learn it well. We may believe that we do, but when planting-time comes we hurry on to the planting instead of mixing and remixing soil-particles, fining them and fitting the seed-bed. Last year I did take the time, putting extra labor on, and never did such tillage pay me better. A dry summer followed, and the plants stood the drought better than I anticipated.

The improved harrows of the present day do wonderfully good work. The old-fashioned spike-harrow, with straight teeth, did a world of good in its day, but it cannot do the work now required. Soils are older and need more manipulation than formerly. There are many kinds of good harrows; some adapted to one kind of soil and some to another. Where there is not too much stone I am sure the disk or cutaway is the ideal harrow, especially for sod land. It tears the soil into pieces and mixes it without bringing up the sod to the surface badly. I should not want to try to handle sod land without a disk-harrow, and it is needed often on other land.

The spring-tooth is a thoroughly good harrow. It tears into pieces and can be made to go to a good depth when necessary. Harrows of the Acme type are great pulverizers and levelers. I do not use the Acme for very deep work, preferring the disk for that, but do want it to follow the disk. In making a seed-bed for small grain it cannot be excelled. For cultivation in stony land and in the heaviest clays its valve would not be so sure. For stirring the soil after planting corn and potatoes, and especially

for the last cultivations of a seed-bed for wheat, the slant-tooth harrows do rapid and good work. No farm implements pay their way better than good harrows.

**WEEDERS.**—For many years I have used the weeder. No other implement is coming into general use more rapidly. It has its limitations, and I do not recommend it for those who cling to the old-fashioned methods of cultivation, believing in cultivation only when weeds are about to take the crop. The weeder kills the weeds before they get well rooted; after that it will not uproot a weed any more than it will a corn-plant or potato-plant. Nor is it a satisfactory implement for very stony ground. On heavy clays it can be used only in connection with the cultivator, cutting out the ridge in the row and leveling the surface. The facts should be borne in mind, and the owner of such land does well to buy only after a trial of the implement.

But the owner of ordinary soil wanting to kill weeds when they are starting, and wanting to prevent a crust from forming after a rain, can hardly afford to be without a weeder. It does rapid work. One horse and a man can go over fifteen to eighteen acres a day. The long, vibrating teeth come as near to hoeing the plants as anything except a hand-hoe can do. The weeder must be used at the right time to get good results, but its work is so rapid this is usually possible. To give the plants a chance, use the weeder. If the soil has been made loose with sods, and has been well fitted for planting, a weeder does great work.

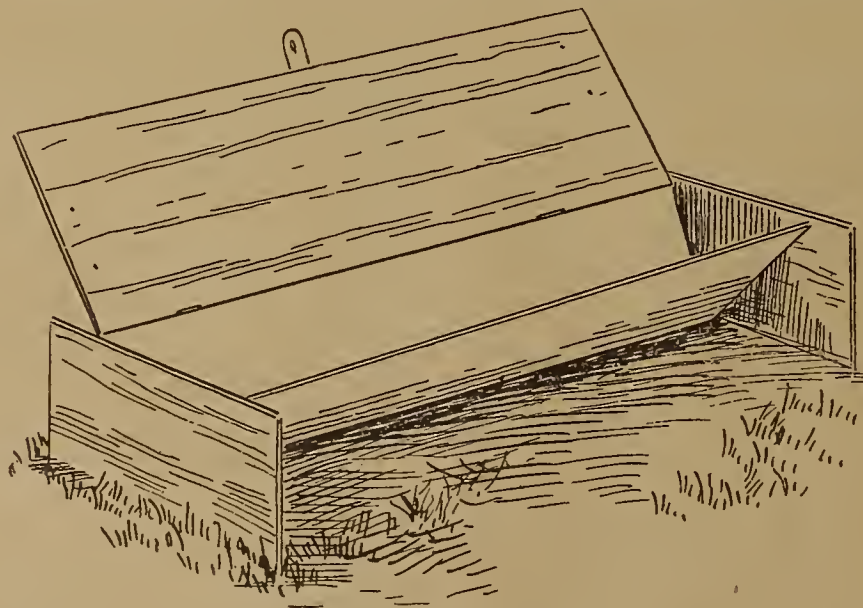
**PARTNERSHIP.**—Implements for farming cost a very large sum of money nowadays. How much money can we afford to spend in this way? It is always a question. For myself I do not like partnerships very well, but there is a plan that works well with new implements. Let two or three neighbors join in ordering something they be-

lieve they need, thus sharing in any risk. If the implement is a profitable one for them, then one can buy out the others' shares if partnership is not convenient, and the others can buy for themselves. In this way all learn cheaply and safely that the implement is what they need. We must be conservative, but we cannot afford to be without good labor-saving machinery.

DAVID.

## CONVENIENCES FOR FARMERS

One day last fall I was driving with a friend through a rural section which I had always considered a little more progressive than the average rural community, when he made the remark, "There is no class of peo-



THE MODEL TROUGH

ple in the world that have so few conveniences as farmers." I felt a little piqued at the remark, as I had previously been pointing out the well-kept and thrifty-looking farms in the section through which we were passing; but when my friend pointed out place after place where a little lumber, a few

nails or screws and a few hours of labor would suffice to complete some convenience I felt this remark was called for.

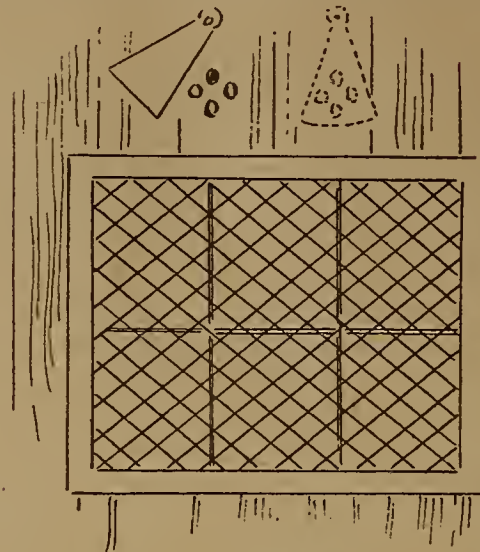
These are a few of the things we saw: Cellar windows banked up with stable manure to protect the cellar from the cold of the winter; numerous barns with openings covered on the outside by a wooden shutter, but no glass on the inside; hog-pens

empty in the morning instead of full of water, or in winter ice, which will require considerable hard labor to remove. A glance will convince any farmer of its value.

The plan shown by the illustrations of the awning and ventilators can be applied to any building on the farm where stock is kept, including the poultry-houses. Indeed, I am modest enough to think that possibly we

may solve some of the vexed problems of poultry-house ventilation by some enlargement of the plan indicated. One of the illustrations shows the barn window with its miniature awning, which is so arranged as to act as protection from the sun and the air as well, for the ventilators shown in the other illustration are arranged so that they are in the barn under the shade or awning. Inch auger-holes, four in number, are bored in the side of the barn directly over the window. A set of four holes may be bored a few inches apart, so as to have one, two or three sets of four holes

each, as desired. Over each set of holes is fastened at one end with a screw a fan-shaped board, which can be turned down to cover the holes when they are not needed, as in the cut. The awning is a light board—a half-inch board is sufficiently heavy—fastened with small hinges to a cleat placed above the holes made for ventilation. This awning is worked with hinged arms at



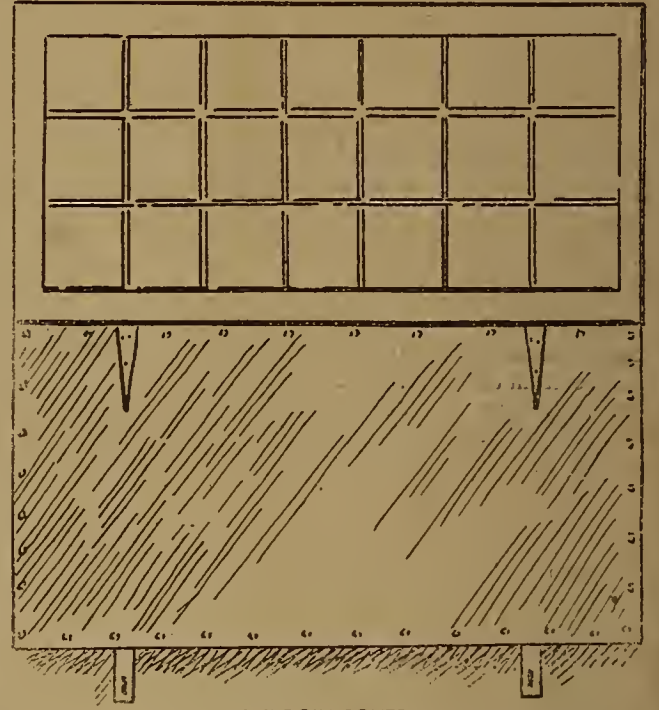
VENTILATORS

in the corner of the barn-yard so arranged that the pigs could wallow in the filth of the yard, and find, if they could, a dry spot under the roof for night; and hundreds of feeding-troughs partially full of sour food more or less soiled by different animals.

There is certainly something wrong when a farmer will go without the little conveniences which go so far to make life more enjoyable or to reduce some of the hardships of farm labor.

Four conveniences are here described and illustrated, all of them thoroughly practical, undeniably convenient and certainly all within the mechanical ability of the average farmer.

The model trough will be found not only a convenience, but a food-saver. It is not automatic in its action, hence will require the co-operation of the farmer in order to have its greatest value. The usual V-shaped trough is made, and a heavy plank is nailed at each end projecting out a few inches, as shown in the illustration. The planks should be heavy, so that the animals will not be likely to tip the trough over while feeding. A cover is hinged to the trough, as shown in the cut, the hasp for fastening it down when closed being used or not, as preferred. Some of the advantages of this trough follow. If a number of pigs or sheep are to be fed out of doors these troughs will enable one to prepare the food and turn it into all the troughs before any of the animals are permitted to begin eating. There is an advantage in this, as every farmer knows who has filled up one trough at a time, going back to the barn for more food each time, and seeing, when he has finished, the stock that were fed from the first trough



WINDOW-COVER

either side, as shown. When the wind is blowing violently one or more ventilators may be left open, but the air is prevented from falling directly on the stock by the awning, yet it reaches the interior and accomplishes its purposes quite as thoroughly. In the summer the awning will be found very convenient in shutting out the sunshine during the middle of the day; it will also be of assistance when closed in keeping out the cold during the winter.

In the window-cover illustrated will be found a convenience which will be readily appreciated. In the barn, but more frequently, perhaps, in the poultry-house, one has a window of considerable size which is necessary for light. Such windows admit a vast amount of cold during the winter, and should be covered, that the interior of the building be made as warm as possible. The illustration shows how this may be easily done. Make a frame of light lumber—not more than one inch lumber should be used—cover one side of it with building-paper—newspapers will do if well tacked on—and hinge this cover to the lower ledge of window-casing. At the other side of the board fasten hasps as shown. At night this cover is raised over the window and held in place by wooden pins thrust through the staples, over which the hasps go. If the window-opening is covered with wire netting in the summer, as is often the case in poultry-houses, and the window-sash has been taken out to give place to the netting, this cover will be found very useful to close if a storm comes up in the night when the fowls are in the house. This same idea might be readily used in protecting cellar windows during the winter, using them on the exposed sides of the building. Surely a neat contrivance such as shown is preferable to banking up the cellar windows with manure.

GEO. R. KNAPP.

NOTES FROM  
GARDEN AND FIELD

**THE BIRDS.**—The birds we have not always with us. With few exceptions they leave us here in the fall and don't come back until spring. But the discussions about the usefulness or injuriousness of many of them will always be with us, it seems. I find that the farmers in Europe are quarreling over the bird question about as much as we are in this country. The bone of contention in parts of Europe at this time is the thrush family. This family embraces some of the most noted singers, and I well remember how as a boy I used to listen with rapture to their powerful flute-like songs on warm spring evenings. These thrushes, like our robins and orioles, however, are fond of berries and other fruits; and yet even with the comparative greater scarcity and higher value of such products, there is a disposition on the part of the people to minimize the damage side of the question and appreciate their good services in destroying insects. Sometimes the same charge is made against the thrushes in the Old World that we here often prefer against the English sparrow; namely, that it drives other birds away. On the whole, however, this, like other birds, enjoys the protection of the thoughtful among European soil-tillers.

I cannot deny that I often suffer quite seriously from bird depredations. I harbor no ill feelings against the robins, catbirds, etc., when they take a few strawberries in my garden. They are welcome to that small portion of the crop when I am so bountifully provided. It causes me some annoyance, however, when I see the birds take my Juneberries and sweet cherries so very greedily that in some years it is hard work to get what I want for myself. I am so friendly disposed to the whole bird tribe, that it is with the greatest reluctance that I have ever allowed a gun to be directed toward a bird in the cherry-trees, or that I have ever ordered my helpers to shoot the blackbirds in the corn-fields which were pulling up the young corn-plants at a ruinous rate. I know how great is the help which I receive from the birds in my fight with injurious insects, and for this reason—and possibly on sentimental grounds no less—I am the birds' friend, and in any doubtful question give to them the benefit of the doubt.

**A BIRD EXHIBIT.**—The Bird Protective Society, co-operating with the Buffalo Forestry Association, wishes to make a comprehensive bird exhibit at the Pan-American Exposition, and proposes to make it of especial interest to agriculturists, particularly those interested in the forests and shade-trees. The exhibit will consist of infected sections of various kinds of trees, on which will be mounted the destroying insects in their various stages of development and the birds that devour them. All the exhibits will represent the bird and insect life in as natural a way as possible, and give a most impressive object-lesson of the great value of bird-life for the soil-tiller. An exhibit of this kind has never been made at other expositions. That it would be not only extremely interesting to every visitor whatever his occupation, to young and old, male and female, but highly instructive and undoubtedly productive of practical results by aiding in the direction of abolishing the nuisance "of the little boy with the little gun" roaming at large and firing away at every feathered creature. The financial help asked of the Pan-American managers—two thousand two hundred and fifty dollars—is so small as to appear very insignificant compared with the benefits expected from an exhibit that in itself would add so much interest to the exposition as a whole. I hope that the managers will quickly respond to the request of the Bird Protective Society.

**MORE CATALOGUES.**—In these days of the spread of the San Jose scale, and the scare that it has created, we will look with particular interest for devices to apply petroleum or kerosene to infested trees or shrubs. I have catalogues from the Gould's Manufacturing Company and the Field Force-Pump Company, both of New York, and the Deming Company, of Ohio. All these firms now make serviceable sprayers for the application of petroleum or kerosene in mechanical mixture with water. This is probably the most convenient and most economical way of applying oil. The proportions can be easily varied in these spraying-

machines to give from five to twenty-five per cent of oil. For spraying on trees or shrubs in leaf we cannot safely go much beyond a ten-per-cent oil mixture, while dormant trees will stand not only the twenty-five-per-cent mixture, but clear petroleum without injury. I confess that I do not like the regular kerosene emulsion. It is a nasty thing to handle and spray, to say the least; and the same may be said of any whale-oil soap preparation. As I have no "Kerowater" or oil-water sprayer in my equipment, I am using, and shall use for this season at least, my Empire King sprayer for spraying the clear petroleum, and I shall go at it, spraying every tree that is affected, or suspected to be, just as soon as the snow goes down a little. The treatment is rather expensive, and I do not propose to spray a tree with petroleum unless I am reasonably sure it needs it. But every tree on infested premises needs to be closely watched.

A very complete catalogue comes from the Iowa Seed Company. It offers seed of the sand vetch (which I take to be the hairy vetch, *Vicia villosa*) at a very reasonable figure. This plant is now much talked about, and recommended by our station experts as a cover crop for apple orchards. Professor Craig says that he finds five pecks to be about the right quantity to be sown an acre. Seed should be sown about August 1st. It is hardy, will make a complete mat by winter, and provide a splendid winter mulch and protection. As the seed for an acre will cost a little over five dollars, at present prices, I will be able to give this vetch at least a good trial, although it is as yet a little too expensive to be used for large orchards and in a general way. It is probably not difficult to grow seed, and American growers may find it a profitable crop, as the demand for seed will surely increase rapidly.

I must try this Idaho coffee-pea, said to be entirely different from the soy-bean, or American coffee-berry, claimed to be a native of Idaho and being very productive. "When roasted and ground it has the flavor of coffee. The peas when boiled without roasting are equal to ordinary garden-peas. Of especial value for its drought-resisting qualities." Spelt is also found among the novelties. This probably is the grain the botanical name of which is *Triticum Spelta*, and which, according to Webster, has been much cultivated in Germany and Switzerland for food, being also known under the name "German wheat." I have never grown this plant, but will try it this year. In the meantime I would like to have reports of readers who are acquainted with its merits from their own personal experience.

The modest catalogue of the Ford Seed Company offers "not many pictures, but lots of good seeds for your money." In the list of strawberries the following three are given the greatest prominence by especially large type: Dole, Hero and Sample. In an earlier issue I stated that J. H. Hale named the Sample as his first choice for a berry for general cultivation. It is a midseason berry, very productive, and the fruit large and of good quality. In the list of gooseberries I find Columbus and Chautauqua. I have not had these two together so I could compare them, but I would like to know whether they are not practically the same. I have a very high opinion of the Columbus.

A very large catalogue, and not the least attractive in the lot, is that sent me by the Storrs & Harrison Company. It gives the following description of the Sample strawberry: "One of the very best berries and seems to succeed nearly everywhere. Plants strong, large and healthy, producing in profusion large, dark-colored berries of uniform size and color, firm enough to ship well. Believe this, like Bubach, will become one of the standard sorts for both home and market." Of Glen Mary, which was Mr. Hale's second choice, the catalogue says: "Berries large to very large, often flattened, bright deep red on surface, light red to center, sweet, rich, good flavor. Season medium to late. One of the most productive, and holds its size well to end of season. Plant very vigorous. One of the best for home use and near market." Rough Rider is also here catalogued. I find this quite a vigorous grower and good plant-maker. Mr. L. J. Farmer, the introducer, assured me while at Rochester, during our horticultural meeting, that this berry would surely become as popular as Bubach in its time. I believe it is a berry having perfect blossoms.

T. GREINER.

ORCHARD  
AND SMALL FRUITS

CONDUCTED BY SAMUEL B. GREEN

INQUIRIES ANSWERED

**Infected Twigs.**—J. H. B., Estill Springs, Tenn., writes: "Kindly let me know if the inclosed twigs are infected with the San Jose scale."

**REPLY:**—The twigs are perfectly free from insects or their eggs. There is, however, a few very minute pustules, due probably to the presence of some fungus in the bark, but I cannot see that it has hurt the twigs.

**Yellow Locust Seedlings.**—C. B., Astoria, Ill. Gather the seed at any time between now and spring. When ready to sow put it in a milk-pan and cover with hot water, stirring the seed at the same time. Allow it to stand until cool. Some of the seed will swell up at once. Pour off and remove these swollen seeds; add more hot water, and repeat the treatment until all the seed is swollen. If the seed is mixed with moist sand in autumn, and kept frozen in winter, scalding is not necessary. The treatment recommended, however, is generally more convenient than mixing with sand.

**Formalin—Paris Green and London Purple.**—M. W. G., Lewistown, Mo., writes: "Please tell me about formalin as an insecticide—how to prepare it for use, how much to use, its efficiency, cost, and all about it. What brand is desirable?—Tell me, also, what brand or brands of both Paris green and London purple are reliable. I lost most of my fruit last year through adulterated drugs."

**REPLY:**—Formalin is not an insecticide, but is used for disinfectant purposes. It is a good preservative of fruits, flowers and vegetables when used at the rate of two per cent in water, but material preserved in it is not fit to eat, and its use is confined almost entirely to museums.—I know it is very difficult to get Paris green and London purple of proper strength, and the only way you can be at all sure of it is by buying through some reliable drug-house.

**Best Fruits—Soil Washing—Cherry-trees from Sprouts.**—G. W. F., Durand, Ill., writes: "What varieties of fruits are best for extreme northern Illinois?—Will land on a side-hill wash worse if subsoiled?—Are sprouts from cherry-trees suitable to set out for trees?"

**REPLY:**—The best list of fruits for northern Illinois is perhaps that given in the Illinois Horticultural Society's report, which is as follows: Apples (for a farmer's orchard of one hundred trees)—Summer varieties, two Red Astrachan, four Duchess, two Benoni, two Whitney, two Yellow Transparent. Fall varieties, six Wealthy, two McMahon, four Fameuse, two Longfield, two Ramsdell Sweet. Early winter, five Jonathan, seven Grimes Golden, two Tallman Sweet, five Roman Stem. Late winter, six Minkler, ten Willow Twig, fifteen Northwestern Greening, ten Salome, ten Ben Davis, four White Pippin. Pears—Standard—Keiffer, Flemish Beauty, Bartlett, Seckle. Dwarf—Angoulme, Howell. Peaches—Elberta, Stump, Champion. Cherries—(Early) Richmond, (English) Morello. Plums—DeSoto, Lombard, Wolf. Blackberries—Snyder, Ancient Briton. Raspberries—Eureka, Loudon, Older, Columbian. Grapes—Moore's Early, Concord, Worden, Niagara. Gooseberries—Downing. Currants—Red Dutch, Victoria, White Grape. Strawberries—(Staminete) Splendid, Bederwood; (Pistillate) Crescent, Warfield.—No.—Not unless the tree is not grafted. If grafted the sprouts are probably worthless.

**Apple Seedlings.**—A. E. M., Artbarsburg, N. Y. If you wish to raise apple-trees from the seed, you can gather the seed from cider-pomace by washing the pomace in water. The seed being heavier than the fleshy part of the apple readily sinks, and if a small stream of water is run into the vessel containing the pomace, and the whole kept agitated, the pomace will be washed over. The seed should then be mixed with sand and stored by burying in the ground over winter. About ten days before the land is in first-class condition for sowing the seed, which will generally be about the fifth of May, the seed should be brought into the house or other warm place and stirred each day; when it has started a little it should be sown. Treated in this way it comes up much more evenly than if sown before it is started. It should be covered about one inch, and the best soil is a sandy loam. It is customary to sow in rows about three feet apart, and to cultivate with a horse, but in the garden eighteen inches will be found an abundance of room between the rows of seedlings the first year. I would sow about twenty good, plump seeds to the foot of row. The seedlings should have first-class cultivation all summer. At the end of the first year they should be dug and used for root-grafting in the winter, or planted out for top-working. If they are very small at the end of the first year, which will frequently be the case; if they are injured by insects, or if the soil is not good, then they should be allowed to remain another year, by which time they should certainly be large enough for grafting.

**Best Shade-trees—Ornamental Vine—Dewberry.**—L. C., Alma, Michigan, writes: "What kind of shade and ornamental trees will do best on our soil?—What kind of tall-growing vine for the house will do best?—How is the catalpa as a shade-tree?—How do you treat and care for the dewberry? The FARM AND FIRESIDE is a gem. It is a member of our family, and we could hardly do without it."

**REPLY:**—Probably the best all-around shade-tree for the Northern states is the white or water

elm, but the hackberry is equally good. On good soils the hard maple is especially desirable. The basswood is also excellent. Any of these are good for shade or ornamental purposes.—I think the best vine for covering a porch is probably our native Virginia creeper. There is a form of this that clings to stonework, which is known by the name of Englemann's Virginia creeper, and is excellent for training over foundations or on stone or brick work of any kind, but that with a rough surface is best.—The catalpa is a very fast-growing, excellent shade-tree for sections not more severe than southern Iowa. I doubt if there is any really sound catalpa in Wisconsin, Minnesota or the Dakotas. It is, however, worth growing in many sections where it is not quite hardy; as, for instance, about St. Paul and Minneapolis, where it will generally flower well and give variety to the landscape by reason of its peculiarly large foliage, but it is not regarded as a very desirable shade-tree there.—Probably the best way for handling the dewberry is planting it about four feet apart in rows seven feet apart. In the spring of the year the vines should be drawn together and some hay placed under them to keep the fruit off the ground. Aside from this treatment it should be managed in the same way as raspberries. In very severe sections it is desirable to cover it in winter with earth or mulch.

**Plum-tree Not Fruiting—Peaches Dropping.**—C. H., Penline, Pa. Your plum-tree that blooms full and does not set any fruit is very likely a variety that has imperfect flowers, or at least flowers that are not fertile when impregnated with their own pollen. As a rule plum-trees do best when several varieties are mixed. This is specially true of most of our native kinds. I had a little experience about fifteen years ago with some Wild Goose plum-trees which had never borne fruit, although they flowered profusely every year and were large, fine trees; but they finally became very productive after some other varieties, particularly native kinds, in their vicinity began to produce flowers. I rather think that in your case the planting of some other varieties near the one you now have would probably remedy the trouble.—The reason your peaches fall from the tree and have small drops of gum upon them is probably that they are stung by the curculio. This insect injures both the plum and the peach. It winters over in its mature state, which is as a small snout-beetle. In the spring it emerges from its winter quarters and lays its eggs in the peach or the plum. The growth of the young in the fruit causes the latter to drop off in the case of the European plums, but with our native sorts and on the peach will often only make a wound, from which the gum exudes from a rough scar. The remedy for this insect is jarring the trees as soon as it makes its appearance in the spring, which is about the time the flowers are unfolding. To do this successfully the ground should be first covered with a sheet and the tree jarred, which causes the beetles to fall to the ground. This work should be repeated every morning so long as the beetles can be gathered, and is the method followed by the most progressive plum-growers for removing this insect. Spraying with Paris green will also destroy this insect, but the spraying of peach or plum trees is a rather dangerous operation, as the foliage seems to be quite sensitive, and I have such poor success in the way of sprays on this class of fruit that I have given them up almost altogether as a remedy for the curculio, although I still use Bordeaux mixture for fruit-rot.

**Osage-orange Seedlings.**—A. S., Martinsville, Ind. 1. The Osage orange will hardly grow as fast as the yellow locust, but when young will grow nearly as fast as the honey-locust. 2. The oranges should be gathered and rotted until the pulp will separate from the seeds, when the seeds should be washed out. The seeds should be sown in the nursery the first year, and the seedlings transplanted when one year old. When the seed is washed out it should be mixed with dry sand at once, or else dried and stored in a cold place. I think it best to mix the seed with sand and then bury it out of doors where it will be frozen slightly during winter. The seeds should be sown about early corn-planting time, in rich soil, sowing about twenty-five seeds to the foot, in rows thirty inches apart, and covered about one inch deep. It is generally best to sprout the seed before it is sown. To do this successfully, if the seed is mixed with sand, it should be kept moist and stirred daily until the seed shows sign of starting. As soon as it has sprouted even a very little, and before the sprouts are long, it should be sown. If the seed is dry, and it is intended to sprout it before it is sown, it should be covered with water for from two to three weeks before planting; but the water must be changed every day, or there is danger of the seed being seriously injured. As soon as the seed is well swollen it should be spread out on the floor and stirred each day until it starts, when it should be sown. The advantage of sprouting the seed before sowing is that it comes up quicker and a more even stand is secured. It is very important to stir the seed daily when sprouting it or it will start unevenly. One pound of seed will generally produce three thousand to four thousand plants. In planting they should be set on rich soil if a strong growth is wanted, and one should plan to have them not nearer than eight feet apart each way if they are to be good for posts; but the trees should be crowded throughout their growth, in order to make them take on the upright form, and this cannot be done if they are set eight feet apart to begin with. It would be all right to set them at this distance, however, and fill in between with some other tree; but this nurse-tree should not be allowed to interfere with the growth of the Osage orange. Or the Osage orange may be planted four feet apart each way, to be thinned out later, when other trees will not be necessary for crowding.

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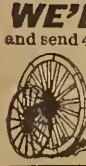


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### MELON CULTURE

THE shippers of the genuine Rocky Ford melon grown in Colorado make the claim that the Eastern-grown melon of this variety lacks the true flavor and sweetness. This is said to be due to the peculiar climatic conditions which favor its growth in Colorado. Theoretically this claim is very plausible, but several years' experience with this variety in the Eastern states justifies the writer in contradicting the assertion. I have successfully cultivated this variety and sold the melons to private customers, retail and wholesale dealers in competition with the melons direct from Rocky Ford, and have usually secured higher prices, made heavier sales and been generally assured of the superior quality of the home-grown fruit. The past season I sold all I could grow to high-class fancy grocers who sold almost exclusively to an aristocratic trade, in preference to the shipped stock, buying of the latter only when our supplies were inadequate.

It should be said, however, that in order to grow melons having this peculiar quality I gave very liberal fertilization, as well as special culture. One of the first considerations was the selection of field, a timothy sod being the ideal location for the melon-patch. This was plowed just as early in the spring as the ground permitted working, repeatedly cut up with disk, spring-tooth and Acme harrows until planting-time—the oftener and more thorough, the better for the crop. Marking out the field at six feet, I then used a shovel to dig a hole six to eight inches deep and eighteen inches across at the intersection of the marks, thoroughly loosening the bottom with a spading-fork. A wagon loaded with fine and thoroughly rotted horse manure, the older the better, was then driven astride the row and a good forkful placed in the bottom of each hole, after which a heaping pint measure of special melon fertilizer was evenly scattered over the bottom, sides and earth taken from the hole. This was then thoroughly mixed with the horse manure and soil removed with a potato-hook or hoe, filling the hill to within a half inch of the level. A man following threw on top of this from two to three inches of fine soil, and another with a rake leveled off the hill and took out all rubbish or pieces of sod on the surface, leaving the hill fully a foot across on top. On this was evenly scattered from fifteen to twenty seeds, to secure a full stand. These hills were afterward thinned to three plants each. A covering of the lightest, loosest soil was placed on the seeds to a depth of from one half to three fourths of an inch. Immediately after planting an application of air-slaked lime, at the rate of not less than one quart to each hill, was evenly spread over and around the same on a space about two feet across. If a rain "baked" the soil, a rake was used to loosen the surface. After the plants broke ground a "finger-weeder" was used among them, breaking the crust and killing the weeds. Next the hills were thinned, and again loosened with a hoe or the finger-weeder. The ground was cultivated meantime as often as practical with a horse-tool as deeply as possible, and this was continued until the plants began to cover the ground.

After thinning, and when the plants became well established, the special fertilization began. This consisted of from three to five applications of nitrate of soda, at the rate of from one hundred to one hundred and fifty pounds an acre, distributed around rather than on the hill, and being very careful not to allow any of this powerful salt to come in contact with the leaves of the plant, to avoid fatal "burning." From the time of the first application the plants fairly "ran away with themselves," and where a block of plants was left without this application of nitrate of soda the plants later appeared, in comparison with the nitrate-treated hills, as having been stunted with a blight, although the fertilization already given them produced a great crop.

This fertilization with nitrate of soda is what gives flavor, sweetness, richness and the lusciousness so much desired in this as well as any other melon. With this nitrate treatment it is desirable to pinch off the ends of the main vines, as well as the laterals, as otherwise the vines will become so dense as to shut off the sunlight from the fruit and delay ripening. However, planting at a greater distance, say eight or even ten feet, will obviate the necessity of cutting the vines back.

The dressing of lime, aside from rendering the plant-food rapidly available, tends to prevent the attack of the striped beetle, while a dusting or two of well-slaked lime made while the dew is on will effectually drive them off.

R. M. W.

### IMPROVING PASTURE

A correspondent from Creston, Iowa, writes: "How can I get rid of wire-grass or tickle-grass in a pasture that is too rough to be plowed? Last spring I thought I would kill it with manure, but it seemed to grow all the better. Would it be advisable to seed a piece of land with clover, timothy and blue-grass, with a nurse crop of one half rye and one half oats, and use it for pasture? Would the cattle destroy the blue-grass plants if taken off in wet weather?"

I am not sure that I have the same grass in mind that our correspondent has, but I may venture to make the following suggestion: The grass in question is an annual, and therefore it dies at the end of the season. Now, what he must do is to start some strong-growing perennial grass on the same land, so that when the wire-grass dies in the fall the other grass will remain on the ground. No doubt the first year there would be some places where the wire-grass would grow more rapidly than the other, and it might even smother it out here and there, but in a year or two of this treatment the annual must disappear. A good grass to use for this purpose is smooth brome-grass (*Bromus inermis*), of which so much has been written in recent years. It would for this purpose be a good plan to sow a little Kentucky blue-grass with the brome-grass, as the latter is so very tenacious and spreading when it is once firmly rooted in the soil. It will be necessary to break the sod somewhat in order to give the seeds of these grasses an opportunity to get their roots started into the soil. Do not be afraid of too heavy seeding. It pays to give the ground plenty of seed.

As to the second question, I may say that a good deal depends upon the kind of soil one is dealing with whether it will pay to sow the mixture proposed. For my own part I do not like to put blue-grass in with timothy, as the blue-grass is quite apt to "run out" the timothy; but there are places where this danger is not to be feared, or where blue-grass is desired, and in such cases I should agree with our correspondent's suggestion. Do not sow the "nurse crop" of rye and oats too thickly, or the little grass-plants will be smothered out by the rank, dense growth. Do not pasture much the first year, and, in fact, great care must be taken not to pasture heavily so long as the ground is at all soft, which may be for several years. Every year that the grass-plants have to grow they become better rooted and better able to endure the tramping and cropping of cattle.—Charles E. Bessey, in Breeder's Gazette.

### CEMENT WALKS AND FLOORS

Any one of fairly good sense can make a splendid sidewalk or barn floor with three inches of grout and three quarters of an inch of top coat. These points only are necessary, and they are absolutely so: A firm, solid foundation, good fresh cement thoroughly mixed with gravel or sharp sand; the grout must be solidly tamped, and the top coat must be put on the grouting within a few hours. It is best to do it at once. Two hundred pounds (one half barrel) of Portland cement to one hundred heaping shovelfuls of good gravel is ample for the first, or foundation, coat, and three inches is ample of thickness. To save material this should be laid evenly, by gage, over an even foundation. The top coat should be two parts of sharp screened sand to one of cement, and troweled down perfectly smooth, leaving not a single hole, however minute, by which water may reach the foundation and freeze there. It is generally more convenient to put the top coat on as the operator proceeds, and best that it is done then; but if protected from the sun one can wait twenty-four hours before applying it. An inch coat of earth or sand should be applied as soon as the top coat has set or hardened enough to prevent the earth sticking to it, and it is best that this dirt or sand should remain there a week. This is done that it may dry slowly and evenly. Masons will tell you to use five to one, even three to one, for grouting, and half and half and five to three for top coat; but I know that nine to one (with plenty of elbow-grease) for grouting will last forever.

If the operator has more time than money, screen your gravel, use nine to one, mix it thoroughly, and then mix it a little more, and tamp it in the same manner. Cement sidewalks laid on the principal street of a city thirty years ago are just as good as when laid. A cement wall can be made for at least half the cost of a stone wall. It will exclude all dampness, and will last forever. Any man of sense can make it, too.—S. E. Barry, in Rural New-Yorker.

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HINTS ON MANAGEMENT

Poultry should pay a good profit, but if neglected will run one into debt. The smaller the flock, the greater the individual yield. Fifty hens are the largest number that should be allowed to run in one flock. Too many are usually kept together, and room on the roost is frequently restricted. The roosts should be low and level, and not one above another, like the rounds of a ladder, as the fowls will all seek the highest roost, and many will be crowded off and probably injured by falling. Hens that are accustomed to low roosts are less inclined to scale fences, and may be confined in pens with less trouble. The ground under the roost should be covered with loose gravel mixed with loam, unless a board floor is used. It is better to have two yards than one, as one may be cultivated while the other is occupied. In this way roots and forage may be grown for the fowls on land fertilized by their droppings. An open shed is very important, as affording protection from cold in winter and heat in summer. Hens to be profitable should be carefully fed, and if they are well cared for they will give a profit. If hens are fed on varied food they must lay eggs. Clover hay finely cut is excellent for winter feeding in place of the green stuff they usually get in summer. Close breeding will cause the eggs to be infertile. Young fowls may pay better than old ones, but something depends upon circumstances, so far as age is concerned. Brahmans should seldom be more than two years old if one is seeking the greatest profit. Never keep more than one hundred growing chicks in the same yard, and not so many of different ages. For sitting hens half-barrels without heads set in the ground half their depth are excellent. Make nests of hay on the earth; in cold weather such nests exclude cold air beneath the eggs. In warm weather the nest should be in a cool place. Sitters should be kept by themselves, to prevent any annoyance from other hens. A coop placed over the nest, large enough to allow of a dust-bath, works well. Have food convenient, so the sitting hen can eat and go back to her nest before the eggs get cold. It pays to give care to sitting hens, as they will then, as a rule, bring off larger broods.

EARLY SPRING OPERATIONS

Poultry-keeping should be done on systematic lines. Every one, whether he breeds and raises chickens for exhibition purposes, for the poultry market or for egg production, has some method or system whereby he is governed in selecting his eggs for incubation. If market-chickens be the desideratum, the earlier they are obtained the better. Broilers cannot be produced at a moment's warning. The object should be decided, and the plans perfected in advance, so that one may be prepared to keep pace with the season. It is also necessary to possess a definite knowledge of the different breeds, in order to know which one is best adapted to bring about the objects desired. If for market, one may require a bird of moderate size, that it may mature early—one having yellow legs and skin, strong and healthy and of vigorous growth. To produce such birds the poultryman must study the different breeds and also the requirements of his nearest market. Where market-eggs are the object, it is better to have the birds of some purely distinct breed, that the eggs may be as uniform in color and size as possible. Good taste naturally demands this; besides, the hens of pure breeds lay better. For this purpose, also, the earlier one gets the chicks from the shells the better. The spring eggs laid by hens are considered valuable for incubation, more so than the later clutches, especially of the non-sitting varieties. When first commencing to lay the bird is full of vigor. For this reason fewer diseases attack the progeny, and they grow up and come to an early profit with less trouble and anxiety to the owner. It is expedient to have the season's chicks all at one time, when it can be done, as less care will then be required. At the same time one person can attend to a flock of a hundred, and a pullet can scratch for fourteen chicks as well as for one. A little more feed is required at one meal, but the work is more successful if provision be made in advance. The incubator will be found useful in early hatching.

PREVENTING SITTING

It is better to allow hens to sit than to prevent them, but there are times when too many may wish to do so. If a hen sits, remove her very gently from the nest, and place her and all others taken the same way in a yard by themselves. At night, or when it rains, let them go into the pen kept for their benefit, but have nothing there but the roost. After they have been thus confined for a few days, with plenty of good food and pure water, they may soon be ready to lay again. Let them all out and they will go to their own pens, and if no longer desiring to sit they will go to roost, but if still maternally inclined they will go into the nest-boxes. Go out after dark and remove them again, and so on. The hen-house should always be entered very quietly. One cannot work too quietly. The timid birds will soon learn to remain quiet when approached, while the bold ones will brawl around you and really seem glad of your company. Fowls quickly recognize strangers and know those who attend to them.

SELECTING EGGS FOR HATCHING

Select the hens that are to produce the early pullets now. Get the breeding-birds together early in the season. Feed them well, both in the morning and evening, and give them a little meat each day. Give a good feed of the best grain before the roosting-time. This system of diet in the winter will keep the birds healthy and robust. The eggs will be perfect and the chickens will be healthy. The eggs must be gathered daily and placed in a fairly warm place until a sufficiency is procured for a complete sitting. After the spring is well advanced, if you have then so far had success and your yards are full, avoid setting more eggs. It will be advisable, where eggs are wanted nearly all the year round, to provide early pullets by hatching chicks as early as it can be done.

INQUIRIES ANSWERED

**Selecting Eggs.**—H. L. R., Nashua, N. H., writes: "How can I select eggs so as to hatch pullets or roosters?"  
REPLY:—There is no method for doing yet discovered.

**Hatching Leghorns.**—E. B. L., Lima, Ohio, writes: "How late in the spring can Leghorns be hatched so as to mature for fall laying?"  
REPLY:—It is best to have them hatched not later than May.

**Turkeys.**—S. A. writes: "What is the disease when the heads of turkeys swell, yellow lumps appear and the eyes close?"  
REPLY:—Probably roup, which is difficult to cure; in fact, no sure remedy is known, the disease being contagious and deep-seated.

**Emden Geese.**—E. E. H., Tamarac, Pa., writes: "Please give me some information regarding Emden geese."  
REPLY:—They are pure white, both sexes, and specimens have been known to weigh fifty pounds, the required weight for the gander being twenty pounds, and eighteen pounds for the goose.

**Enlarged Liver.**—M. E. R., Lamonta, Oregon, writes: "What is the cause of the liver of a fowl being two or three times its normal size, with ulcerated spots?"  
REPLY:—It is difficult to state the cause without knowing all the details connected with it. It may be due to mode of feeding or even scrofula.

**Black Spanish.**—L. L., Rushville, Indiana, writes: "Can you give me any information of the Black Spanish?"  
REPLY:—They are non-sitters, rank high as layers and have white faces. They are good foragers and are hardy on some farms. Their combs are very large, which is a drawback in very cold locations unless they are well protected.

**Hens Eating Eggs.**—E. A., Grand Rapids, Minn., writes: "What can I do to prevent hens from eating eggs?"  
REPLY:—Make a nest with a top, about twelve inches wide, twelve inches high and eighteen inches deep, open at the front and raised one foot from the floor. If necessary make it lower in height, so that the hen cannot quite stand up in it. The nest being off the floor she cannot reach the eggs if the nest is made in the rear of the box.

**Poultry-house.**—H. K., Pleasant Ridge, Ohio, writes: "Give best plan for poultry-house to keep about one hundred chicks."  
REPLY:—There is no plan that will satisfy all. Location of farm, climate and cost must be considered. The "New and Complete Poultry Book" (published by FARM AND FIRESIDE) contains a great many improved designs. A cheap house may be sixty feet long, twelve feet wide, nine feet in front and seven feet at rear, felt roof, doors and windows facing the south, and the house divided into two or more apartments.



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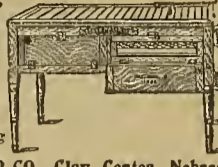
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Peanuts.—S. A. R., Stockham, Neb. Plant and cultivate peanuts just about as you would beans. Send to Secretary of Agriculture...

Improving an Old Pasture—Alsike Clover.—J. A. S., Girard, Pa., writes: "I have an old run-out pasture that had grown up to briars and weeds that I wish to reseed."

REPLY:—Sow red-clover and blue-grass seed this spring. The clover will predominate in the pasture next year, but in time the blue-grass and timothy will take full possession.

Changing Pasture to Red Clover Meadow.—M. M. R., West Superior, Wis., writes: "I have a common pasture—rolling upland of heavy clay loam soil— which I wish to get seeded to red clover for mowing in the shortest possible time."

REPLY:—Probably the quickest way is to plow the land as early this spring as possible, make a fine seed-bed and sow beardless spring barley and red clover. The barley crop is much better than oats for securing a good stand of clover, as it ripens earlier and gives the young clover a much better chance, with less danger of smothering it out.

VETERINARY

CONDUCTED BY DR. H. J. DETMERS

To regular subscribers of the FARM AND FIRESIDE answers will be given through these columns free of charge. Where an immediate reply by mail is desired the applicant should inclose a fee of one dollar...

NOTE.—Parties who desire an answer to their inquiries in this column must give their name and address, not necessarily for publication, but for other good reasons. Anonymous inquiries are not answered.

Bad Milk.—N. C. D., Smyrna, Mich. Please consult FARM AND FIRESIDE of March 1, 1901.

A Lousy Heifer.—N. L. W., Monongahela, Pa. Please consult answer to O. E. P., Urbana, Ohio, in present issue.

Nodular Disease in Sheep.—M. U., Lynn, Wis. Please consult answer to A. M. C., Hugbart, W. Va., in present issue.

Milk-fistula.—J. C. B., Smithville, Texas. Please consult answer to J. F. G., Helena, Mont., under the head "Lateral Opening in a Cow's Teat," in FARM AND FIRESIDE of January 1, 1901.

Bitter Milk.—T. F. F. H., Bisbee, Arizona. The prevention consists in removing the cause; therefore, since you know the cause in your case no more needs to be said.

Either a So-called Champignon or Swine-plague.—W. T., Alton, Kan. The degenerations of the spermatid cords of your pigs are either so-called champignons (see FARM AND FIRESIDE of November 15, 1900, answer to S. W. D., Edmond, W. Va.), or, more likely, degenerations caused by the morbid process of swine-plague.

Probably Cow-pox.—W. W. K., Decatur, Ill. What you describe appears to be a case of cow-pox, a very innocent disease which will disappear in a short time without any treatment.

Respiratory Passages Obstructed.—R. M., Dryad, Wash. According to your description there seems to be some obstruction somewhere in the respiratory passages of your steer, but the exact seat of the same, whether it is in one of the nasal cavities, in the larynx or in the trachea, and also the nature of the same, whether it is a tumor or morbid growth, or possibly a product of tuberculosis, must be determined by a thorough and careful examination of the animal, and cannot be learned from your description.

Like an Obstruction in the Larynx or in the Trachea.—S. C. B., Whitman, Neb. What acts like an obstruction in the larynx or in the trachea of your calf may be a tumor or a morbid growth, and may also be a product of bovine tuberculosis.

A "Lump" Beneath the Skin.—H. M. P., Granite Falls, Minn. If the "lump" under the skin of the hind leg of your cow, close to the udder, is situated in the inguinal region, it can hardly be anything else but a swelled inguinal gland.

A Suspicious Case.—A. D. S., Carpenterville, Ill. Although the case you describe may be nothing more nor less than garget, your description leads me to suspect that your Jersey cow suffers from tuberculosis in the udder.

Side-bones.—H. J. B., Henry, Ill. The term "side-bones" is applied to the lateral cartilages of the hoof when they have become ossified, as they will quite often in aged draft-horses, and almost always in any horse very much advanced in age.

Diarrhea in Sheep.—A. E. P., Alma, Oreg. Diarrhea in sheep, particularly at this season of the year, is—unless produced by medication—as a rule a symptom of the last, or fatal, stage of some cachectic or worm disease. It may be that the worms that cause the death of the sheep are not in the intestines, but may be in the stomach, in the liver or even in the ramifications of the bronchial tubes.

Retention of the Afterbirth.—A. R., Gowen, Mich. A retention of the afterbirth in cows as a rule occurs only in cases of premature birth or in which the cows while with calf had not sufficient exercise. In most of such cases in which it does not pass off at the proper time it will do so within three to nine days.

Attacks of Colic.—A. K. B., Northampton, Mass. Your horses seem to have frequent attacks of colic. You can considerably lessen their frequency if you will follow a few rules. First, after a horse has been fed a substantial meal, give the same time for the inauguration of the process of digestion before you compel the animal to perform work; second, after the animal has come home from work, perhaps covered with perspiration, wait a reasonable time—at least an hour or longer—before you feed a heavy meal;

Probably So-called Nodular Disease of Intestines.—A. M. C., Hugbart, W. Va. "Make a post-mortem examination of the first sheep that dies, and if you find numerous nodules or so-called spurious tubercles in the walls of the small intestines you have to deal with a worm disease which, once developed, must be looked upon as incurable. In some of the nodules you may yet find what appear to be embryonal worms, but in most of them you will search for them in vain.

Worms in Hogs.—E. W., Cuba, Kan. The worms you found in the intestines of your hogs belong to the species Echinorhynchus gigas, and are not easily expelled, because the same burrow with their heads into the mucous membranes of the intestines and feed upon the exudates they thus cause to be produced; therefore, cannot be poisoned by the contents of the intestines.

Probably a Horny Scar.—P. T., Prairie Junction, Minn. What you describe is probably nothing but a horny scar, which will be formed if any wound on the lower extremities of a horse has been allowed to suppurate before it is brought to healing. Such a scar is permanent.

Probably Punctured Hoofs.—J. P., Benton, Ind. It seems that your horse has had an attack of laminitis, or founder, from which he only partially recovered before he came into your possession, and that in consequence he is now suffering from punctured hoofs.

Lousy and Probably Worms—Large Joints.—O. E. P., Urbana, Ohio. Wash your coat as soon as the weather will permit, first with soap and warm water, and then with a four-percent solution of creolin in water. But these washes will not do much good unless, at the same time, the premises are thoroughly cleaned and disinfected, so as to make a reinfection impossible.

Disinfectants.—W. H. S., Lower Lake, Cal. The best and cheapest disinfectants for hog-pens, etc., in which hogs have died of swine-plague, or so-called hog-cholera, are, after the premises have first been thoroughly cleaned—which, by the way, is necessary, no matter what disinfectant may be used—fresh air and bright sunlight.

Quicksilver-poisoning.—M. B. S., Thorp, Texas. Although in your very intelligent description some of the symptoms seem to have been overlooked, there can hardly be any doubt that you have to deal with a severe case of quicksilver poisoning, caused by an excessive use of calomel (a quicksilver salt). I am well acquainted with the treatment of the so-called screw-worms as practised in Texas, and know that in most cases it is successful and harmless; but the effect of quicksilver upon cattle is very uncertain—more so than upon any other animal.

Resembling a Fistula.—T. Van der P., Otley, Iowa. The small, suppurating openings in front of the pastern-joint of your horse appear to be of a fistulous character. First probe them carefully with a metal probe having a well-rounded bead, and ascertain not only where the openings lead to, how deep they are, and in which direction they go, but also whether or not there is a foreign body at the bottom of each.

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### THE GRANGE

Conducted by MRS. MARY E. LEE, New  
Plymouth, Ohio

**A**T THE last Ohio State Grange the committee on education asked that a committee on education be appointed to investigate the school systems of different states and make report at the next annual session of such measure as shall improve the present school system. The grange was unanimously in favor of it. The worthy master, Hon. F. A. Derthick, appointed the following committee: G. Ickis, Adena, Jefferson County; Mrs. Mary E. Lee, New Plymouth, Vinton County; W. W. Simmons, Appleton, Licking County.

Any or all of the committee will be glad to have suggestions from the friends of education. This is one of the most important steps taken by the grange. There is a good deal of dissatisfaction with the workings of the present school system. Patrons and tax-payers feel that they are "paying too dear for their whistle." The object of this committee is to formulate some definite plan of action to present to the grange for its consideration. After the grange decides on a definite plan it can then work for it. It is hoped that the grange can work in unison with the teachers' association, women's clubs and the many state associations that are working for the betterment of our schools. If all the associations which are seeking the same object could unite before the fight for the change comes much ill-applied energy would be saved for other matters. All legislation of a beneficiary kind is a compromise. Let us all enter upon the solution of the school problem with determination to be fair, and to avail ourselves of every honorable opportunity to help and be helped. We will be surprised how quickly we will achieve our ends. Judge Huggins recently remarked, "Farmers have learned the value of organization. They must learn the power of concentration." Judge Huggins meant more than concentration within our own ranks. He meant such concentration as would enable us to work harmoniously and forcibly with other organizations. After all, the interests of one are identical with those of all. Each needs each. We, as farmers, are only a part of a great whole. To serve our own interests we need the broad and comprehensive sympathy that enables us to see and work for that which contributes not only to our own welfare, but to that of all.

Judge Huggins makes not only a forcible plea for a grange library, but an excellent selection as well. It is not really so much a matter of ability as of desire and determination. The books Judge Huggins mentions are among the masterpieces. No one can lay claim to being well read and intelligent without reading at least a part of them.

Our readers will be glad to have Judge Huggins give further hints not only on the selection of books, but on their care. Judge Huggins is a prominent lawyer and large landowner, an enthusiastic and consistent Patron, who is rendering our order special service by his shrewd judgment.

It is amusing to see how persistently some seed-houses cling to high-sounding titles of "Mortgage-Lifters," "Billion Dollar" and other like phrases describing so-called new fruits and vegetables. Usually these candidates for favor are old or worthless plants that have failed to fulfill the hopes of the introducers, or have been supplanted by better sorts. They are brought out to tempt that class of men who, like Micawber, are "waiting for something to turn up." About the only thing that will turn up to these phantom-chasers is a notice of a mortgage foreclosure.

The only safe "Mortgage-Lifter" we have ever known is centuries old. It is eternal vigilance, industry, economy and stick-to-it-iveness, combined with intelligence and honesty. It is a pretty safe rule to let severely alone anything that exhausts the whole vocabulary of growing descriptions in heralding its appearance.

If, however, you are determined to spend money on something new, make out an extended list of these epoch-making producers, and then don't send for them. Order instead a few agricultural works—"Soil Fertility," by Isaac P. Roberts, \$1.25; "The Soil," by King, \$1.25; Edward B. Voorhees on "Manures;" "Feeds and Feeding," by Henry, or that matchless storehouse of agricultural lore, by Dr. Storrs, "Chemistry in Some of Its Relations to Agriculture." There are special works in different branches of agriculture. Spend your money for these, and keep them lying about where you can pick them up at

odd moments. You will find many of them which, if rightly used, will contribute not only to your financial independence, but to your self-respect and your value as a citizen. I do not see how any one can find farming meaningless, monotonous drudgery in the light of these practical scientists. Make out your list for "Mortgage-Lifter" and "Billion Dollar," then send for the books mentioned.

The two volumes of the Report of the Commissioners of Education for 1898-99 are before us. These are the most valuable reports that have come to our notice. Under miscellaneous topics in Vol. I. many subjects of interest are treated. Vol. II. contains a symposium on education and crime that our readers will be glad to read. The books are to be obtained, free of all charge, by addressing Department of the Interior, Washington, D. C.

Who so has felt the Spirit of the Highest  
Cannot confound nor doubt Him nor deny.  
Yea, with our voice, O world, though thou deniest,  
Stand thou on that side, for on this am I.

Rather the earth shall doubt when her retrieving  
Pours in the rain and rushes from the sod,  
Rather than he for whom the great Conceiving  
Stirs in his soul to quicken into God.  
—Frederic Myers.

#### CITY VERSUS COUNTRY BANKS

At our earnest request the cashier of the First Bank of Logan, Ohio, sends us the following. The writer is a young man of good business ability, strict integrity, genial and courteous. Besides his duties as cashier of a thriving bank he finds time to do considerable literary work. He is ready to answer such questions as our readers may ask in regard to the relations of banker and depositor.

"When you loan money or give credit to another, whether it be to an individual or to an institution, you ask some pertinent questions. Even your best friend might be denied as a borrower if he had no good security to give, if he had no probable means of repaying you, if he was lacking in honesty, or if he were inclined to be a spendthrift. The same questions are pertinent when you intrust your funds to a bank. Is the bank sound? What are its stockholders worth in case you might wish to recover from them losses incurred by the bank? What of the officers and their methods? What of the clerks and their habits?"

"I have been asked whether a country bank is safer than a city bank. It depends upon your ability to ascertain facts. It is not necessary that the cashier should be a Sunday-school superintendent or a Methodist exhorter. What you want to know is whether he can manage his own personal affairs wisely. He often has gained experience as a financier from other vocations, and it may not require as much effort in a small town to learn all about such enterprises. Likewise you may learn of the standing and responsibility of directors, stockholders and even of the borrower. Honesty is hereditary—not invariably, but generally. You have the opportunity in a town to learn more accurately of the families of officers and clerks. You also may ascertain their habits and their haunts. Whereas in a city you would have to employ a detective, in a town you need only ask the grocer."

"The firm which desires to employ a trustworthy clerk who is expected to handle moneys and act as attorney is very careful to seek information relative to him. Inquiry blanks are used by all business houses which take notes or give credit for goods, and all sources at their command are utilized for their protection. The creditor of a bank should be no less alert and conservative. Of the bank's methods you have some opportunity of learning. There are perhaps more opportunities to learn of the country bank, even as to public records and court proceedings. Of its investments which you know personally you may draw your own conclusions. You need not be a spy, but you must be wide awake. Such investigation need not be confined to the actual transactions of the bank, but just as much to those of the stockholders. If you have reason to believe that speculations or poor investments are being made, or losses are being suffered by any one interested in the bank, it is your business to know how much the bank's credit is affected by it."

"However well a bank may be protected by bankers' associations, by fire and burglar insurance, by mechanical safeguards of every kind, by surplus earnings, by manifold other means, you, as a depositor in that bank, should exercise your judgment as much as though your dealings were with

an individual. The farmer can be shrewd without being suspicious; he can be interested without being inquisitive. Of him who loses through mismanagement, fraud or accident, of him I would like to inquire, "Did you ask questions?"

#### GRANGE LIBRARIES

(PAPER READ BEFORE HILLSBORO, OHIO, GRANGE, BY HENRY M. HUGGINS)

A rented house is vastly better than none, but to have your own house is a great deal better than to be a tenant. Likewise a traveling library is much better than none, but to have your own library is still better.

Do you say you can't afford a library? Let me tell you about some books I bought the other day. I bought Green's "History of the English People," in four volumes, a volume of Heine's poems, and one of Herbert Spencer—"Data of Ethics"—six volumes bound in cloth. Not editions de luxe, of course. The history was rather poor print and paper, but much better of each than the newspapers we read. The Heine was good print, paper and binding. The Spencer the same, with gilt top. What do you suppose these books cost? The Green 98 cents, and the Heine and Spencer 25 cents each. All six volumes cost, you see, \$1.48. We can't afford not to have a library.

But you are thinking, maybe, "Green's 'History of the English People' may be very well, but what do we care for Heine, or Herbert Spencer, either?"

Well, I don't insist on Heine. I will admit there is a question when we come to the subtle and brilliant but terribly audacious Heine. Nor will I insist on Spencer, although I might not be so far wrong if I said that the trend of modern thought is almost wholly toward the philosophy of Spencer. Let's see what we can get as cheap as these.

I could have had Dickens complete, fifteen volumes, for \$3.98; Victor Hugo—Hugo the splendid, the great, even if sometimes grandiloquent—ten volumes, for \$2.98; Thackeray—the cynic, perhaps, but so kindly, pleasantly cynical, the social surgeon who so deftly probed the festering places in the English life of his time—ten volumes, \$2.98; George Eliot, whose powerful analytical genius has placed him among the great literary minds of the nineteenth century; Scott, Charlotte Bronte and others at the same. I could have had Macaulay's "England," five volumes, 75 cents; also Heine's "England," five volumes, \$1.48; Prescott's "Mexico," three volumes, 98 cents; Prescott's "Ferdinand and Isabella," three volumes, 98 cents; Prescott's "Peru," two volumes, 75 cents. I could have had Ruskin, he of the glowing, humorous style, the big-hearted human sympathies, the great critic of art and letters; Carlyle, Taine, nearly all the great essayists and biographers, in fact, at the same.

Were these flimsily bound, poor paper and print? No. They were strongly and neatly bound in cloth or leather, and good print and paper.

If these are not cheap enough we can get all I have named and many more, including Hawthorne, Oliver Wendell Holmes, Hall Caine, Barrie, Parkman, Ralph Waldo Emerson, Kipling, Stevenson, Harriet Beecher Stowe, Charles Reade, Washington Irving, Bunyan; and if any farmer's boy wants a well of English undefiled, let him read "Pilgrim's Progress," for fifteen cents a volume. The books will be smaller than the others, 12 mo., but in neat and attractive cloth, fairly good paper and print.

So you see we must have a library of our own. Why, \$10.00, even \$5.00 will start us. Five dollars will get over thirty volumes of the best books in the world.

We want the young folks to take an interest in the grange. Can we do better toward that end than to have plenty of good books?

Books are the best of things, well used; abused, among the worst. What is the right use? What is the one end which all means go to effect? They are for nothing but to inspire. I had better never see a book than to be warped by its attraction clean out of my own orbit, and made a satellite instead of a system.

It is remarkable the character of the pleasure we derive from the best books. They impress us with the conviction that one nature wrote, and the same reads. We read the verses of one of the great English poets, of Chaucer, of Marvell, of Dryden, with the most modern joy—with a pleasure, I mean—which is in great part caused by the abstraction of all time from their verses. There is some awe mixed with the joy of our surprise when this poet, who lived in the past world two or three hundred years ago, says that which lies close to my own soul, that which I had well-nigh thought and said.—Emerson.

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## IN WINTER QUARTERS

By Bertha Knowlton

ONE loves animals, a menagerie in winter quarters is a charming place to visit. Many of the animals are born in captivity, and so do not fret against a cruel fate. Others are tamed, and learn to love their keepers too well to go back to the old life.

If you will pocket your fears and be not overfastidious as to your nose you may walk into a very large barn where herbivorous animals of the warm or hot belt are kept. The floor is of earth, the temperature is moderated by a huge coal-stove, and the general plan of arrangement is a long, wide, central space, with pens or stalls on either side. The zebras, the buffaloes, the cattle kind from India stand in open stalls like well-regulated domestic animals. The antelope and deer are in box-stalls, the huge ostriches exercise their stalwart limbs and supple necks in a roomy inclosure, the monkeys chatter from an upper chamber, and the cockatoos blink at them from across the way. The huge hippopotamus is a spoiled pet, who lifts his ugly head from a tankful of water and opens his hideous mouth for jelly-cake or any titbit you may offer. He is so ferociously ugly, and withal so self-satisfied, you cannot loathe him, but only laugh at him. Here is everything of the goat kind, from very small specimens to the large llama of South America.

Here the hog-like tapirs are using their queer snouts in the straw, and there a kangaroo dreams of far-off Australia. There are some of the horned animals that keep up an incessant knocking against the prison doors, but the keeper says, "No danger whatever," and you are reassured. You feel yourself in the midst of a Noah's ark, and wonder if you will come safely to land. You do, and step out once more into the clear December air in a much dazed state of mind, but physically whole.

"Keep out" is the inviting inscription at the next building, as at all of them, but you know that there is entrance for you. The courteous keeper says, in answer to your inquiry, "Walk right in; the lions and tigers are here," and you walk in past the bloody carcass of a horse which is to serve for tomorrow's dinner to some king of beasts.

You are a trifle nervous when the largest lion of all tells you in unmistakable language that he would eat you if he could. The keeper tells you that he escaped once, and once he killed a man, and of course you feel better, as history does not repeat itself, they say. The baby lions look at you sleepily, like two overfed kittens, and in the next cage an old lion gazes at you so benignly you long to pet him as you would a great dog. The keeper reaches through the bars and pats him lovingly. "He is a nice old fellow, and always rides on top of the chariot in the procession."

The wolves, a little farther on, are as gentle as house-dogs, but above them lives a hyena, for whom no deed is too savage.

The Bengal tigers are magnificent, but you could fairly weep at their pitiful groans. They fret against captivity, pace their cages restlessly and utter heartrending cries. They have killed several men, and you do not wonder at it when you think of their past life and this.

"And are you alone with all these?" you ask the keeper.

"Yes; except at night I change off with the night-watch."

"Are you never afraid?"

"No; they know me and they do not know their own strength. Even if one gets loose there is no danger if it is put back at once. They do not remember at first how to use their freedom," and you think of human beings who are in the same condition from long imprisonment.

That was exciting, you tell yourself and your companion, as you once more emerge into the world.

Are there any more?

Yes; eighteen elephants over yonder. Your heart fails you, but you are bent on seeing, and boldly knock at the door. The keeper responds.

You say, "May we peep?"

"Walk in."

"Is it safe? A man told us it wasn't."

"Perfectly safe."

Here, for the first time, you are really frightened, for the huge beasts are loose in a large inclosure, and sway and trumpet till your blood runs cold.

That fellow from Asia weighs 8,600 pounds, and there are others nearly as large. The baby elephant is a lubberly baby indeed, and when he starts your way you move on.

The keeper takes you to the sawdust ring, where the elephants are exercised and trained. He shows you a shattered place in the side of the building. "That big one got mad and hurled a man against those boards and smashed him all to pieces."

You grow a trifle white about the mouth, and ask your companion if it isn't time to go. It is a delicious sensation to be uncertain whether you are to get out of the elephants' house alive. You ask the keeper, "Is there any way out without going through there?" pointing back to him of the man-killing propensities.

"Yes; but it's safe enough."

You assure him of perfect faith in his word, but you are very glad to go home by way of the camels and dromedaries and the great gnu, and when you are out in the fresh air your courage returns and you say, "Who's afraid?"

The black bear and the brown bear are taking a meal out in the cold shed, and you salute them respectfully, keeping a safe distance from their cages.

You have been to menageries many times in your life; you have seen the Cincinnati "Zoo" in its days of glory, and the animals in Lincoln Park, but never before have you spent such a social hour with wild creatures from all parts of the world. You heard each called by its own pet name (there were Deweys and Fannys and Johns and Marys), you saw a phase of life quite different from that on dress-parade.

You are aglow with enthusiasm, and go home to tell marvelous tales to your friends, and you write long letters to your relatives. You dream of being caught up by elephants and hurled through space, you have visions of lions and tigers for weeks, but not for twenty shows on wheels would you exchange that one afternoon behind the scenes.

### MOURNING MILLINERY

Mourning millinery changes but little, if any, from season to season, and to have a good pattern is to have a perfect guide for all times. Therefore, I will give directions, step by step, for the making of a widow's bonnet. Take a piece of buckram (this material is but twenty cents a yard) and cut heart-shape, ten inches wide and seven and one half inches long from the center point at front to the point of indentation at the back. The outer edge of the heart-shaped piece is then cut into seven slashes—one in the center and three on each side; fold over, to cut these, and keep straight. The center slash is two and one half inches deep. At a distance of two and three eighths inches from the bottom of the first slash and only one inch distant from the top mark off a second slash which shall be two and one fourth inches deep. The next slash is also about two and one fourth inches deep, and begins two and one fourth inches from the preceding slash, measuring at the bottom, and one half inch away at the top. The last slash is two and five eighths inches from its previous slash, measuring at the bottom, and one and three fourths inches distant at the top, and is two and one half inches deep. If these measurements are carried out each slash will have its proper slant when the buckram is opened out flat, and the bonnet will be the same on each side.

At each slash plait the buckram over, and pin it to lap about seven eighths of an inch. The three plaits on each side must turn toward the center plait, so that you can fold the bonnet to see if each side is exactly alike, and the plaits must tally. When the slashes are all pinned accurately, take a tape-measure and see that the bonnet is twenty-one and one half inches around the outer edge. Then sew each plait firmly with cross-stitches its entire length, and remove pins. The bonnet is now ready to wire, which is done in the same manner as any buckram shape. In order that the cloth covering may be perfectly smooth, a single thickness of sheet-wadding is placed over the frame after the wired edge is bound. If the outside is of thin nun's-veiling it will be necessary to use a black underlining; this need not be done in a silk bonnet. This shape is

called the Marie Stewart, and is the most popular one of all.

To cover the frame, prepare bias folds about one and one half inches wide, and place fold half over fold in making the bonnet. A nice trimming is to make a length of bias folds and form into a large, soft knot and fasten with two large balls. To make the balls, take hat-pins, wrap the head with ordinary cotton and form into a ball; then cut a circle of thin lining, gather it over the edge and draw it over the cotton in a close, cap-like fit. Now prepare some very narrow milliner's folds—say one fourth of an inch wide—two folds of dull taffeta and one of crape braid, or plait this as one does the hair. A dainty edging is thus formed. Now begin at the top of the cotton ball and sew it around and around, covering the ball entirely. This braiding is also a pretty edging for bows, loops and drapes.

In draping mourning-veils, the style of drape depends on the length of the veil and the height of the person. A good rule to follow is to have the hem of the overdrape come to the waist-line and the under part show just the width of the hem. To drape the shawl, fold the veil as you would a shoulder-shawl, divide the bias folded part in the center, and fasten this in the center of the bonnet at the bottom side-crown and just beneath the brim; draw it evenly to the corner of the bonnet, fold in three or four plaits, and fasten in place with heavy mourning-pins. Veils are about one and two thirds yards long, the lower hem is nine inches wide, and the hem of the overdrape is six inches wide. Mourning-veils are made of crape, nun's-veiling, sheer silk or grenadine. Bonnet-ties are of No. 22 gros-grain ribbon.

To freshen old crape, wrap smoothly around a broom-handle, not too tight, place over a wash-boiler, and steam for five hours; then set aside to dry about ten hours. When unpinned it will be as glossy and crisp as when new.

To dye a light or colored straw hat, mix any good black package-dye with alcohol, making quite a thin liquid, and apply with a paint-brush very quickly.

E. HARRINGTON.

### THREE PRETTY DOILIES

Use fine scrim for the centers, afterward lining them with some color. Honiton



braids and the different lace-stitches are used to fill the centers.

C. I.

### WHILE WINTER LINGERS

Most people are apt to grumble when winter lingers in the lap of spring, but the housewife finds it a most convenient season to prepare for warm weather. Not the least important of her many duties is to see that the family diet is changed to meet the requirements of the changeable weather. By a little wise forethought and preparation the transition from winter to spring can be

marked by very much improved health in the whole family, and without taking medicine, too.

Too many country housekeepers keep on with the heavy meats, pies and hot cakes that are so delicious when the thermometer hovers near zero, forgetting that such a diet courts disease in spring weather. It is always easier to avoid sickness than to cure it. Especially is this true where there are children. Greasy fried cakes, rich cookies and a generous supply of pork are sure to make life interesting for the busy mother when hives and unsightly sores appear on the tender skin. Most childish complaints can be traced to disordered digestions, so it is the parents' duty to see that their little ones are properly fed if they want to avoid doctors' bills.

Among the most healthful dishes for late winter and early spring are eggs in every form, light soups, mush and milk, brown bread, vegetables and fruits. This sounds more elaborate than it really is. Take soups, for example; many country families are familiar with bean, beef and oyster soups only, and every one knows how difficult it is to procure fresh beef and oysters on a farm. But if you should chance to mention soup, you will hear the familiar "Yes, we all like soup, but fresh meat is almost an impossibility."

There are many delicious soups made without the slightest suspicion of fresh beef or meat of any kind, but if one must have the beef flavor, a can of extract of beef will supply all that is necessary and will keep indefinitely. Milk, the foundation of all so-called cream soups, may be had in abundance on a farm, and all kinds of vegetables; but cream soups are usually prepared by city housekeepers, where milk is expensive and vegetables stale.

To make any ordinary cream soup, take two thirds milk and one third the water in which the vegetables were boiled if green, or boiling water if one must depend on canned ones, and slightly thicken with flour rubbed smooth in butter. One tablespoonful of flour to two quarts of both is the right proportion, though tastes differ. Just before serving add one pint of vegetables and a lump of butter to each half gallon of soup. These soups may be served with stale bread, crackers, or toasted bread cut into small squares. Asparagus, turnips, beans, peas, corn, celery, tomatoes and many other vegetables may be used. It takes such a very little time in which to make cream soups, and they should therefore be prepared just before dinner is served, for much depends on having them piping hot and serving at once.

Puddings are another stumbling-block to the busy housekeeper who turns out dozens of pies each month, thinking them easier to make than puddings. If you once accustom your family to healthful, delicious baked or boiled puddings they will never want to go back to pies.

From plain custard to elaborate meringues there is a wide range of wholesome puddings fit for a king. Any plain cake receipt (omitting most of the butter) may be transformed into cottage pudding, to be served with hot sauce, cream and sugar, or fruit-juice sweetened. Corn-starch puddings are easily prepared if the vessel containing the milk is placed to heat in a larger one filled with boiling water, thus avoiding all danger of scorching. Sliced apples placed in a pan and sprinkled with sugar, nutmeg and bits of butter may be covered with a batter made like pancake-dough, only thicker, and baked in a quick oven. This should be served with milk and sugar. Cherries, pears, bananas or plums may be used in this way instead of the apples.

There should still be plenty of carrots, onions, potatoes, cabbage, beets and turnips in cellar and pit, and while not perfectly fresh, can be soaked an hour or two in cold water before using, and will be relished by all.

Canned and dried fruits are much appreciated at this season to help out the last apples and pears. A generous diet of vegetables and fruit makes it possible to have meat once a day to great advantage, especially if pork alone is used. No farm should be without plenty of poultry, which should often take the place of salt pork. Try living mainly on the products of garden, poultry-yard and orchard, and see if you are not benefited in health and independent almost wholly of the groceryman and meatman. Anyway, the doctor will have very little chance to cultivate the acquaintance of your family if you make it a rule to furnish them with this kind of a diet.

HILDA RICHMOND.




## WHEN SORROW CAME

BY ELLA WHEELER WILCOX

When first dark Sorrow entered at my gate,  
With mournful mien and melancholy eyes,  
I met her with a distant, cold surprise.  
"Good Dame," quoth I, as one in high estate  
Addresses menials, "go hence and wait,  
For all my time is spoken otherwise."  
But Sorrow sat her down, and would not rise,  
An unasked guest, intruding on life's fete.  
Gay Joy and Pleasure, whom I entertained,  
Sped down youth's corridors and passed from  
sight;  
And laughing Mirth paused in the dance and  
fled,  
Then Wroth. I cried, "See how my friends are  
pained!  
Woman, why came you here, and by what  
right?"  
But Sorrow paid no heed to aught I said.

The guests departed; we two sat alone.  
I gazed upon her; regal was her mien,  
Her eyes held depths unfathomed and serene,  
And there was dulcet music in her tone.  
"Rebellious heart, kneel down," she cried, "and own  
Allegiance for all time to me, your queen!"  
And as I knelt God's smile flashed in between,  
And on my soul fell peace I had not known.  
Then at my board I placed her to command  
My willing service; and her mournful face  
Grew radiant, as she answered, with delight,  
"Nay, I will go, since now you understand,  
Who entertains dark Sorrow with such grace  
Shall walk with Joy upon the mountain  
height."

## "PRETTY SOON, JOHN"



I AM often forcibly reminded of the little old lady who was taking her first journey by rail. One watching her would surely have thought she was expecting to travel around the world in that selfsame coach, so carefully did she adjust her various belongings about her. Once when her nephew was endeavoring to call

her attention to a beautiful view she did not so much as turn her eyes out of the car-window, but remarked, "Pretty soon, John. As soon as I get everything fixed all right I'm goin' to sit back and enjoy myself." But alas! before she was ready to enjoy herself she was at her journey's end. Her voice was pathetic as she said, "If I'd thought we were goin' to stop so soon I wouldn't have wasted all my time fussin'."

Aren't there many of us who are taking our life's journey in much the same fashion? Are we not too prone to pass by many beautiful real scenes in search of ideal ones beyond? Are our eyes not often blinded to delightful though simple views on either hand because our vision is set for more magnificent ones in front of us? Do we not lose much of the present in our efforts to "get everything fixed all right," that we may "sit back and enjoy ourselves" in the future?

All too soon will the journey be ended and we will learn, when it is too late, that we have wasted valuable, precious time "fussin'." Fussing, fretting and worrying! The three (dis) graces of our American life! They have always dogged the feet of mortals, but it is to be feared that in our day and country we are more susceptible to them than in any other previous age. Our climate, our consuming ambitions, our competitive system, our pride, our methods, our heredity, our social and industrial environment, our very atmosphere, all seem to crowd on us in a way that breeds nervousness.

"The man or woman who can succeed in turning the tide of American life, and can teach us to be sober, self-controlled and to take a quieter gait, will be one of the nation's benefactors." We certainly shall live longer, and have much better health while we do live, and have much more time to enjoy life when we have learned this lesson.

We forget that it is a duty to enjoy the best health possible. As housekeepers let us do our housework, and do it well, but do not let us suppose that it is a panacea or that it will enable us to forego outdoor air and exercise. In fact, our great trouble is that in our highly civilized life we do not get out of doors enough. Air is life, and healthful exercise in pure air will keep us vigorous and add to our good looks. Snatch what rest you can and look on the bright side. It is better to have work and be tired than to eat out your heart because you are tired of having no work. "The day for work, the night for rest, and God caring for us all through." Let us see to it that we do have "the night for rest." Too many of us carry our worries and troubles to bed with us, and do not allow "tired nature's sweet restorer" to knit the raveled sleeve of care and cause us to arise in the morning refreshed and new.

"I'm too much interested in what is going

on to take much time to remember or brood, and I never take but one day at a time." So spoke an old lady over seventy years of age, but whose blue eyes were clear and whose face was full of cheer and strength. Ah! that is it; we have no time to worry and brood, no strength to spend fussing over inessentials. "Worry-weeds" must be pulled as soon as the tiniest stalks appear above the even soil of tranquillity. The poison-ivy of fretfulness will spread in wondrous growth unless destroyed root and branch as soon as it begins to grow. The thistles of fussiness will soon occupy the entire field unless their growth is checked at the start.

It is inexpressibly sad to see people who are continually getting ready to enjoy life, but who never take the time really to enjoy it. So many of us cross and recross the bridges in imagination which in reality we never reach. Anxiety is manifestly and demonstrably useless. It is so positively harmful that both soul and body are made to suffer by it immeasurably. It is far better to bear our troubles simply as they come and to enjoy the pleasures before they flit past us forever. It is not work so much as worry that is undermining the constitutions of so many men and women around us.

No doubt many of you read the little incident in one of our weekly magazines last year where the man of the house became angry because the children began to laugh when he was inquiring for his pen and looking everywhere for it. At last one of the children said, slyly, "If you'll laugh, papa, you will find it." He stared at her in astonishment. Then, as her meaning broke in upon him, he joined in the laugh, and the penholder fell out of his mouth. How many of the difficulties of this life one can extricate one's self from by a laugh! How many blessings are ours if we stop to count them now! How much we lose by "pretty soon!" Let us have Thanksgiving and the holidays all the year round!

"Few things are needed to make a wise man happy; nothing can make a fool content; that is why most men are miserable."

Is that the reason you and I are so often unhappy? Are we miserable because foolish? Discontented because not wise enough to realize that we have those "few things" that really should conduce to our happiness? Contentment is not laziness; far from it. It is the making the best use of our activities. A lazy person is never a wise person. A lazy housekeeper is by no means a wise one. Being contented does not mean quietly sitting down and folding the hands; letting things go that should not be allowed to go; submitting to that which should not be submitted to; being idle when there is work to do; taking things easy when they should be taken by the nape of the neck and placed in their rightful places. No, no; contentment is not inactivity; neither is it worryment. It is the activity of the loving mind and willing hand; where feverish haste is not known, where nervousness forms no part.

True it is that the world takes on much the appearance of the color of the glasses through which we view it. We note the azure blue above or the ominous clouds that hang near the surface, according as our eyes are raised or lowered. Our immediate horizon will necessarily be narrow; we need to get above our every-day plane of living in order to obtain a broad view of the beauties about us. Because we remain in the same rut, stay upon one unvarying level, does not prove that we are contented mortals, or that we are making the best of circumstances and enjoying things as we go along. "Religious contentment is the devil's harvest." The same idea may be carried out in every avenue of life; and yet there is such a thing as contentment. It is a word hard to define, difficult of explanation; each individual must make a definition for himself, then live up to the meaning.

"My crown is in my heart, not on my head;  
Not decked with diamonds and Indian stones,  
Nor to be seen; my crown is called content;  
A crown it is that seldom kings enjoy."

ELLA BARTLETT SIMMONS.

## EASTER SALADS

No. 1.—Hard-boil one dozen eggs, and drop into cold water for a few minutes before removing shells. Heat, but do not boil (boiling weakens it), good vinegar, add to it one ounce each of ginger and allspice, a few blades of mace and one half ounce each of salt, black pepper and mustard-seed. Simmer half an hour, and pour over the eggs placed in a jar; when cold cover tightly. Prepare three weeks before wanted for use.

No. 2.—Hard-boil the desired number of eggs, and remove shells. Make a bed of let-

tuce in a flat dish, form upon it little nests of the chopped whites of the eggs, into each nest drop a whole yolk, garnish with red beets cut into cubes, and over all pour a rich mayonnaise dressing.

No. 3.—Cut into halves hard-boiled eggs; remove yolks, chop, and mix with them minced veal or chicken and a little parsley; add a good dressing, mix well, fill cavities in the whites, and garnish with fringed celery.

KATHERINE E. MEGEE.

## GEORGE PUDDING

Boil a handful of rice with two or three pieces of finely peeled lemon-rind in as little milk as possible until tender; now drain off the rice and mix it with twelve good-sized apples (previously boiled to as dry a pulp as possible), a glassful of white wine, the yolks of five eggs, two ounces of finely shredded mixed peel, and sugar to taste. (It should be pretty sweet.) Lastly add in the stiffly whipped whites of the eggs, pour it all into a mold thinly lined with good paste, bake till of a nice brown, then turn it out and serve with the following: Melt together one spoonful of sugar, one ounce of butter, the yolks of two eggs and a gill of white wine; stir it all over the fire till smooth, then use.

## HOUSE-CLEANING

When the spirit of spring begins to stir in trees and plants, and its first influence is felt by all growing things, though they are safely covered by the dark mold, the average housekeeper feels impelled to begin her spring house-cleaning.

Now that rugs, which are frequently shaken, are so generally used instead of tacked-down carpets the work of house-cleaning is much simplified; but the careful housekeeper still finds a need for periodical cleaning. If there is no papering, painting or calcimining to be done, yet the heavy hangings of winter must be taken down, dusted and put away, lace curtains need washing, whether they are put up again at once or left until fall, as many housekeepers do, preferring to have only shades at the windows during summer. Pictures must be taken down and dusted, all the moldings wiped and the wall and ceiling thoroughly brushed. Any place where dust may lodge must be thoroughly cleaned. If there are cracks in the floor, they should be filled before the floor is oiled. I have seen a preparation of fine, hard-wood sawdust and glue, mixed to a paste, used for filling cracks, and it was very satisfactory. If the kitchen floor is not smooth enough to oil, it may be covered with a good oil-cloth, which is easily kept clean. If the kitchen has no wainscoting, make one with linoleum or good quality of oil-cloth with a tile pattern, and put a narrow wood molding at the top. This looks well and needs only an occasional wiping with a damp cloth to keep it clean.

Now, a word of warning. Don't begin your house-cleaning too early. However warm the weather is in March, do not be lulled into the belief that you can safely open your house for a thorough cleaning. You may make a beginning by cleaning out all drawers in the bedrooms, linen-closet and store-room. Clean and fumigate the attic and all closets or rooms where there is the least danger of moths or other insect pests. Sulphur candles are prepared especially for fumigation and are very handy. Put some water in a shallow pan, and lay in it a piece of brick to set the candle on. Have the room so that it can be tightly closed, with all drawers open; set the pan in the middle of the room, light the candle, and go out as quickly as possible, closing the door. Leave it closed for half a day and all insect life will be destroyed. It also purifies the room from disease germs. The cellar should be fumigated after it is thoroughly cleaned, as sulphur fumes will also destroy mold and any impure germs. If a cellar is well cleaned, fumigated, and then given a coat of lime whitewash, it will be as sweet and clean as it is possible to make it.

Don't let the fires out too soon, for the early spring winds are laden with moisture. If warm days come, and the heat of the fire seems oppressive, cool the room by ventilation, but keep a little fire to dry the air. Unless your home is south of Ohio it is not safe to let the main fire of the house out before May. Even then there should be some place where a fire may be had on chilly, damp days or evenings. An ounce of prevention is worth a pound of cure, and if you wish to escape colds, twinges of rheumatism and kindred ailments, do not be in a hurry to let the fires go out, even if the final settling of the house for the summer is thereby delayed.

MAIDA McL.

## A MAPLE FESTIVAL

MAPLE CARAMELS.—To one half pound of maple-sugar melted add one ounce of butter, one half cupful of milk or cream and one tablespoonful of lemon-juice. Let boil until it slightly hardens when dropped into ice-water, then turn into shallow pans that have been well oiled, and when cooled sufficiently cut into caramels.

MAPLE CARAMELS.—One pound of coffee A sugar, one half pound of maple-sugar, one half pint of rich cream, or one half canful of condensed milk. Heat slowly, and when it begins to boil add one fourth of a teaspoonful of cream of tartar and two ounces of butter. Cook slowly, stirring all the time, to "soft crack." Pour into greased pans.—Nelly Willey.

MAPLE-SUGAR AND ALMONDS.—Cook together eight cupfuls of maple-sugar, one ounce of butter, one cupful of milk and one half cupful of thin cream until the syrup "hairs." Set the dish in a vessel of ice-water, and when nearly cold stir till creamy. Pour into buttered tins containing two pounds of almonds chopped fine.

HICKORY-NUT TAFFY.—To four cupfuls of maple-sugar add one cupful of water; boil until it becomes brittle by dropping in cold water; just before pouring out add one tablespoonful of vinegar. Having placed the hickory-nut meats in well-buttered pans, pour the taffy over them.

COLUMBIA NOUGAT.—Butter a shallow pan, and fill it to the depth of half an inch with hickory-nuts, walnuts, filberts, pecans, Brazil-nuts, almonds, dates, candied orange-peel and citron, all cut into thin strips and small pieces. Boil two pounds of maple-sugar with one cupful of water without stirring (after the sugar melts) until it is hard, even brittle, when dropped into cold water, then add one tablespoonful of lemon-juice, and pour into the pan, covering the filling. When almost cold mark off into narrow bars with a sharp knife slightly oiled.

MAPLE WALNUTS.—Beat the white of one egg to a stiff froth, stir in enough powdered sugar to make it like hard frosting, dip the walnut-meats (which you have taken care to remove from the shells without breaking) in a syrup made by boiling for two or three minutes two tablespoonfuls of maple-sugar in one of water, or in that proportion. Press some of the hard frosting between the two halves of the walnut and let it harden. Dates may be prepared in this way, also butternuts and English walnuts.—White House.

MAPLE-SUGAR DROPS.—Melt one pound of maple-sugar with one cupful of water and boil the syrup until it is a creamy ball. Pour at once on a marble slab or a large meat-platter slightly oiled. When cold enough for you to bear your finger on it stir it with a wooden spatula until it becomes a crumbly mass, then knead it with your hands as you would bread until it is an even, smooth fondant. Melt it by placing it in a double boiler or in a bowl placed in a panful of boiling water, and drop it by the spoonful or from a funnel upon buttered tins.

MAPLE-SUGAR WAFERS.—Take pure maple-sugar, in amount according to the number of pounds of candy to be made, and add pure, concentrated glycerin at a ratio of one dessert-spoonful to three pounds of sugar; dissolve in a plentiful supply of water and boil to 242 degrees Fahrenheit, or until it will "thread" when dropped from a spoon. Pour immediately into a platter (not greased) and let it remain perfectly quiet until almost cold, then stir with a ladle, and continue until the whole becomes a firm, creamy mass. Allow this to stand over night, or longer, as it improves with age and acquires a finer grain. Place this cream in the inner vessel of a double boiler, such as is used in making custard, the outer vessel of which contains boiling water. Place over the fire until the cream becomes a liquid, stirring in the meantime and crushing the lumps with a spoon. When thin dip out the cream with spoon and drop in thin wafers upon buttered plates to harden. If any difficulty is met in getting the cream thick enough to drop readily, add water, a very few drops at a time, until the desired thinness is obtained.—Toledo Blade

CRYSTALLIZED POP-CORN.—Put in a granite kettle one ounce of butter, three tablespoonfuls of water and one cupful of maple-sugar; boil until ready to candy, then throw in three quarts of nicely popped corn, and stir briskly until the candy is evenly distributed over the corn. Remove the kettle from the fire and stir until it has cooled a little, and you will have each grain separate and crystallized with sugar. Nuts of any kind are nice prepared in this way.

VIRGINIA REED.

[HOUSEHOLD CONCLUDED ON PAGE 19]

## NIP AND TUCK—A FARM STORY

By Dora Read Goodale

## CHAPTER IV.—CONTINUED

For several hours there was no change. The patient lay in a semi-stupor, only rousing up to swallow the drops that were held to his lips, and Hugh was left a prey to his own painful reflections. At about midnight his uncle grew restless, groaning and muttering in a strange, disconnected way that made Hugh look around askance as if ghosts were about. Suddenly he raised himself on his elbow. His eyes glittered feverishly, and his voice, from an inarticulate murmur, rose husky and shrill:

"H'ist her up! Steady, now! Look out for your end! There!"

"What are you doing, uncle?" ejaculated Hugh, with a throb of irrepressible alarm.

"Doing? Don't you see what I'm doing?" snarled the old man, leaning forward in the feeble light of the lamp, while drops of sweat rolled down his face. "Haw! Gee, haw! It's an ugly place to get out with a team!" He went on uttering broken commands to imaginary oxen until Hugh's blood ran cold. "Get around, I say! Gee! Haw, gee! Well, now, who'd ever 'a' thought that come from a shooting-star?"

"A shooting-star?" echoed Hugh, and a flash of light seemed to break over him.

By some freak of memory he was transported back to the day when Professor Hastings picnicked near the cold spring and the words "she drops them like hot cakes" floated out to him through the window. He felt that he was on the very brink of discovering the long-kept secret, and half fearfully he ventured the question, "Which is the best way out from here?"

"Up the lane. You run ahead and let down the bars. Yes, yes," Uncle Peter went on, with a little chuckle, as he fancied himself alone, "the boys was smart, but they wa'n't smart enough to know a cold shooting-star stun! Hugh might have seen it didn't ring like anything ord'nary. 'Just stickin' its nose out,' says he, and here it's lain ten year—it's Phebe Ann's turn to laugh this time. Well, Hobart will sell him the place—he can dispose of this first—Hugh's a good boy—"

The voice died into indistinguishable murmurs; the spark of life which had flickered up with brief energy now sank rapidly. Hugh could think of nothing, realize nothing save that the kind old man, generous, whimsical and cheery-hearted, was about to leave them forever. Nor was the parting long delayed. The trees were still jeweled with ice when Peter Clapp's tired heart-beats and difficult breathing ceased, and his spirit passed from the finite into the infinite and eternal.

## CHAPTER V.

## THE FINISH

In real life, beloved readers, the end of a race seldom appears at all what we pictured it at the beginning. The course is not all visible beforehand. There are unlooked-for turns, alluring by-paths, obstructions and even pitfalls; and when the contestants—dusty, footsore and panting—draw near the goal they find that the prize for which they are running is quite different from that which attracted them when they set out.

Uncle Peter's affairs were in perfect order. He left a will which bore the stamp of his practical wisdom and his kind heart. The agreement made with his nephews was to be carried out to the letter, Mr. Lord and Mr. Crozier being appointed trustees to serve until the following November, when the estate would be divided. The boys' yearly accounts, audited and approved, were tied up with the document, the last balance, as we know, showing Hobart triumphantly in the lead. There were some small bequests to distant relatives, old neighbors and to the village church where he had worshipped for sixty years; the remainder of his property was left to Phebe Ann, "in affectionate recognition of her faithful and unsparring service." The date was four years back, and as the brothers learned of the good man's cheerful provision for others in the event of his death they realized more fully than ever before the beauty of a life that "smells sweet and blossoms in the dust."

When spring opened Nip and Tuck, by a common impulse, put things in train for more than usually extensive operations. It seemed a kind of tribute to the dear old man's memory to make the farm yield to its fullest capacity. Their hearts were heavy, the house lonely, and they gladly turned for refuge to that great consoler, hard work. Moreover, though Hobart was openly and Hugh secretly positive that he was the one who would "come out ahead," each felt a natural pride in making his surplus credit as large as possible.

The tie between the brothers had never been so strong as during that last summer on the old place. Ever since the memorable conversation in the big barn they had understood, and consequently loved, each other better. For how can we help loving those whom we really understand? To begin with, Hobart felt that to patronize a declared rival would tend to lower his own dignity, while premature boasting might embitter a possible failure. His altered tone had an excellent effect. "Liberty and equality" became their watchword, and as they passed through a common experience and confided in a mutual sense of

honor, "fraternity" crept in to make the famous triad complete. The sorrow which fell upon both in the loss of their uncle united them still more closely, and each now felt that his anticipated triumph would be tinged with regret by a sense of the other's defeat.

This desirable state of affairs did not prevent an occasional wordy encounter, especially as the season wore on and their nerves felt the strain of a perpetual game of cross-purposes.

"I'd better prepare Hobart a little, for he'll be awfully cut up if it's sprung on him at the last moment," Hugh would say to himself; while Hobart, on his side, was of the opinion that his junior "might just as well face the music, now that the matter is practically settled." The result was elaborate hints which nobody took, and much wholesome advice conspicuously in want of a market.

"Fact is, Hugh," observed Hobart one day, as they came up through the meadow on a load of rye-straw, "fact is, as we can't go halves,

on the present occasion. Emily was twenty now, the loveliest girl in Rockham, if not in the whole world. From her bright, piquant features and long-lashed eyes shone a sunny benignity, a universal good-will which it was not in human nature to resist. With her full share of archness and fun, she seemed to have more than the corresponding measure of love, so that her wittiest sallies often broke off with an involuntary touch of tenderness. Some called her a witch, and some an angel, with equal plausibility. If asked to choose, Hobart would probably have inclined to the former epithet and Hugh to the latter. Having six brothers, Emily understood the species—never preached, admired openly, sympathized by a little squeeze of the hand, liked to tramp, fish and study with them, and, in short, deserved the encomium of Holmes' tombstone heroine, "She was so pleasant!"

These spoiled brothers were accordingly dangerous, for they often declared they would shoot at sight any man who tried to take Milly away. Occasionally, indeed, she surprised them by the warmth of her feelings or the independence of her views; she even waxed gloriously indignant, but her indignation was always directed against shiftlessness or injustice, from which let us all pray to be delivered. Mr. Crozier was a poor man, consequently his daughter could "do anything" from trimming her best bonnet to doctoring a sick cow. She could sing, and play on the organ, and she could make you forget her accomplishments and only want to sun yourself in the light of her

"He went on uttering broken commands to imaginary oxen"



"Came up through the meadow on a load of hay"

I do think it's better that you should have the land. It's a fine old property, and you were meant for a farmer, which I never was."

This was apropos of a free comparison of the results of their summer's work. Hugh accepted the challenge promptly.

"In other words," he returned, "you're perfectly satisfied to win, and it's exceedingly kind of you; but you know the game isn't up yet. I should take the farm in any case, and I want to build a new house and a silo, and buy stock and machinery, just as much as you want to carry out your plans. I fancy I'm quite as fit to be trusted with money as you are, and what's more, I really believe you would be better off with the price of this place than you would with five times as much. It's all very well to talk, but a 'fine old property' with a tumble-down house and no capital certainly leaves a good deal to be desired."

Hugh had seldom spoken so rapidly and defiantly, and his brother looked at him in considerable surprise. He contented himself, however, with shrugging his shoulders, remarking that no doubt both would like to beat, but the one that failed must accept the fortunes of war. Perhaps he did not feel as careless and confident as he appeared. It was queer and just a little disconcerting that Hugh should still talk of the game not being up at this late day. Could he have a winning card in reserve? Hobart mentally cast his eye over the orchard and thought not.

One subject uppermost in both minds was seldom mentioned between them, and it was ignored

smile. Yes, yes, my boys may be as commonplace as you please, but Emily was one girl in a thousand, and I only wonder, as Hugh did, what such an angel could see in any fellow. She did like them, though—bless her kind heart!—magnified their triumphs, and gently encouraged them up the steep path of virtue; but if she liked one the least bit better than the other, or either better than the schoolmaster, or remotely suspected that they were in love with her, she gave no sign of the fact. Perhaps she thought them too platonic for their years, little dreaming what it cost to escort her only in due turn and be pleasant and friendly—but nothing more. Perhaps she was really strictly impartial, or perhaps she surmised the truth and was guarding a secret of her own with a skill and success only possible to the daughters of Eve.

Hugh went up-stairs the night after the conversation recorded above determined to have an interview with the person whom he most dreaded in the whole world; namely, himself. For six months he had been on bad terms with this person—avoided his society, told him to mind his own business, and positively declined to listen to him. But the beggar was so pertinacious that finally, in pure desperation, he had resolved to shirk no longer, but to hear whatever he had to say. To this end he locked his door, lit the lamp, opened his desk, and drawing out two papers read them as a preparatory exercise. The first was the draft of a letter in his own handwriting. It was dated early in April, addressed

to Professor Hastings, and after announcing the fact of his uncle's death, continued as follows:

I write to consult you in regard to a peculiar rock, of which I send a fragment by mail. I think you have some knowledge of it already. My uncle believed it to be a meteorite, and, as he expressed it, "something valuable." It lies partly buried in the earth, and I should think might weigh two hundred or three hundred pounds. I should be grateful for any information or advice. Respectfully yours,  
HUGH WILLIS.

This note had cost Hugh much anxious consideration. He felt that it might be wiser to omit all mention of his uncle and treat the meteorite as his own discovery, but his native honesty and directness rebelled. He now spread out the second sheet, and plunging in half way down the page read these words:

The rock of which you send me a specimen chip is, as you surmise, a meteorite, and in several respects a remarkable one, being of unusual size and composed chiefly of iron somewhat alloyed with nickel; there are also evidences that it contains softer, perhaps unknown, minerals. I discovered it at the time of my visit to your uncle's place, and, as I told him then, it belongs in a public museum; but he asked me to take no steps in the matter until I heard from him, owing to some complications about his estate, of which you doubtless know more than I. It ought to bring a couple of hundred dollars, perhaps double that sum, which is not so bad for a luck-penny. A meteorite is usually recognizable by the blackish, varnished appearance of its surface—a sort of overbaked crust; but the supermundane origin of this one was confirmed in a curious way. It seems that your uncle's housekeeper came running in at dusk one night, terribly frightened, saying that the moon had fallen in the wood-lot over toward the den, for she saw it and heard it drop. Your uncle told her it was probably a lantern, and laughed and quizzed her so much that she was deeply mortified, and made him promise not to expose her to further ridicule by mentioning her mistake. That was several years ago, and as the aerolite fell among brush and sprouts, it had remained unnoticed until it happened to meet my eye.

I am just setting out for a geological trip to the Black Hills, but expect to return before September, and then if you care to ship the nugget to my address I shall be happy to serve you by disposing of it to the best of my ability. Faithfully yours,  
C. A. HASTINGS.

How elated he had been when he first read that letter! How fitting it seemed—a real stroke of poetic justice—that nature herself should turn round and reimburse him for her work of destruction! It was capital—fortunate—providential; he told himself so twenty times, and every time that hateful little voice whispered to his interior consciousness that he was taking an unfair advantage and no good would come of it. Now that he listened he heard it much more distinctly, "You stumbled by chance on a secret that wasn't meant for you. Your uncle had made up his mind not to tell either of you about it. What Hobart would do in your circumstances is not the question at all. All isn't fair in love and war, and you know it!" These sentences came one by one, pitiless, unmistakable, in answer to his eager attempts at justification.

What would Emily say?—Emily, who was all candor, who scorned sharp practice of any kind, whose arrows were all directed against injustice and paltry evasions. He knew too well what her lightning verdict would be. True, she need never know it—he supposed not. But could he court her with the knowledge hidden in his own breast? And then other words came back from the unforgettable past, "Promise to treat each other honorably and generously, like men and brothers." Would this be keeping the vow solemnly made to him who was gone? Hugh bent his head, and a groan burst from his lips, for he knew that it would not.

For a whole hour he battled with himself, fighting the invisible horde—pride, self-love, dread of defeat, desire for success at whatever cost; worst of all, that bitter jealousy which he had thought dead, and which now rose up against him in ten-fold strength. It was hard, cruelly, desperately hard—impossibly hard, so he told himself—to silently and deliberately give up everything to Hobart. But our decision in any great crisis depends on countless small previous decisions, and a moral strength gained from years of difficult self-mastery came to his aid now. At the end of an hour he got up with great beads of sweat standing out on his forehead, went to his desk and scrawled the following in a big, blotty hand:

DEAR PROFESSOR HASTINGS:—Thank you for your very kind letter. I was glad to have my various conjectures confirmed. I am not at liberty, however, to dispose of the meteoric stone until the first of December, when my uncle's estate is formally settled. Immediately after that date I will ship it to you as you suggest.

Thanking you again for your sympathy and for your great kindness in interesting yourself in my behalf, I remain  
Sincerely yours,  
HUGH WILLIS.

This was sealed and stamped, but even then Hugh could not trust himself. He stole downstairs, hastened to the barn and took the wondering Dolly from her stall. Everywhere lay moonlight so solid, so bright that it seemed to be poured out like melted silver over the world. Not a leaf was moving. Down the shining ribbon of road he passed, between scattered farm-houses shrouded in darkness and sleep. One of them was Emily's. Emily's! What a tug at his heart-strings as he went by! At length he reached the post-office, and as he crowded his letter into the box on the door he felt that he was hurrying his dearest hopes, and that this was indeed the end of the game.

The day after Thanksgiving was one confused whirl of excitement, and the Willis brothers found that it took all their nerve to get through

it in a creditable manner. In the morning there was a visit to the lawyer's, from whose office Hobart came forth a moneyed man and Hugh a landed proprietor, not to speak of Phebe, whose modest legacy made her feel richer than either of them.

When they reached home there were the Stars and Stripes flying from the front porch, while half a dozen boys played "Hail to the Chief!" on as many combs and harmonicas. All the afternoon a stream of callers of either sex, young, old and middle-aged, came to shake hands, congratulate, joke, tell stories, and hint the questions that they hardly dared to put outright.

Hobart behaved splendidly—wore his honors with becoming ease, condensed his brotherly sympathy into a grlp that spoke volumes, and looked so handsome, victorious and irresistible that it was not in Hugh's heart to envy him a position that he himself might have occupied. When he came down after tea in his very best clothes and changed color, and smoothed his hat, and opened the door, that was the hardest moment for Hugh, for he knew very well where he was going. He wanted to say "Good luck to you," but he couldn't quite bring out the words, so he waved his hand instead, with a smile that made Hobart shut the door in a hurry. For an hour the young man paced the rooms like a caged animal; then, whether from delicacy or cowardice he could not have told, he retreated to his own room and sat there with a heavily heating heart until he heard the well-known step; but it needed no soothsayer to announce that that lagging tread was not the tread of a jubilant lover.

For what seemed an interminable time Hobart remained below. At last he was heard mounting the stairs, and to Hugh's surprise stopped, opened the door, and, putting his head in, said, with an attempt at his usual jaunty air:

"Well, old chap, I'm off to-morrow for a wrestle with the great world, so you needn't expect to see me again for a month of Sundays."

"To-morrow! You don't mean it!" exclaimed Hugh, in astonishment. "Why, where are you going? Come in!"

Hobart threw himself into a chair and drummed on the arms as he answered, impatiently, "Of course I mean it! Didn't I always tell you that I shouldn't stay cooped up here a minute longer than necessary? I'm my own master now, and I shall make you old hayseeds open your eyes before I get through. By the by, what do you suppose I heard to-night? Laura and Eliphalet are going to make a match of it. Nice thing—both such hook-worms, superior, musical and all that, you know. Where am I going? Out West first, I guess, and I may take it into my head to take a cruise from Frisco and look about on the other side. I shall buckle down to work, though, before

long—study engineering at one of the big universities, perhaps. Come, now, don't you wish you were a free lance with the world before you?"

"Well, no—not on the whole."

"I have another piece of news," Hobart went on, hardly pausing for breath. "Do you remember uncle's sending for Emily when he was first taken sick? Well, it seems he told her a secret which she was to tell me right after Thanksgiving. You see, he thought then the farm would be mine. It was about his gold-mine, as we called it; and of all queer things, the gold-mine is a meteorite that some professor found down in the lot, and said was worth hundreds of dollars. Think of it, Hugh, if you'd happened to strike it when you were examining round it would have just turned the tables. I was less than two hundred ahead, you know."

"It's better as it is," muttered Hugh, in a choky voice, thinking how queerly things might have turned out.

"Well, it will help you a trifle, for you'll sell it, of course, and every one says the orchard will be all the better for the awful pruning it got, and in a year or two there'll be more fruit there than the trees can stand up under. By the time you're ready to build you'll have money enough. I shall look out for that. And you'll settle down for a solid, prosperous farmer, with a—with a—" Hobart broke off, but in a moment or two rushed in again. "That sort of comfortable, hurgher life wouldn't suit me a hit, but it will you, and I can just see you first selectman, one of the pillars of the church—perhaps they'll even send you to the legislature for a term or two. Ha, ha! old boss, how do you like yourself as the Hon. Mr. Willis, model granger, member of school committee, et cetera, brother an unlucky rascal knocking about out West somewhere, and bound to have his brains blown out in a row some fine day?"

"Don't, Hobart!" expostulated Hugh, who was not deceived a particle by this show of high spirit.

"Well, I guess you were right in your notion that a rover like me oughtn't to be tied down to a home." There was a minute's pause before he added, impetuously, "See here, Hugh, I'm off to-morrow, for I couldn't stand it to sit and look on for awhile, anyhow; but you mustn't think I grudge you whatever blessings the good Lord sends. I have the biggest share of the money, but unless I'm greatly mistaken, you're the one that has gained the real prize, after all."

With that he suddenly vanished, leaving Hugh to sit in the dark, building air-castles, dreaming dreams, until carried away by a flood of happiness in which all lesser feelings gradually lost themselves, resolved, like ice in a warm current, into the mother-element—love.

THE END

## THE MANCHESTER WILL

By Hope Daring



THE town clock of the city of Lanier had just struck three. The October air was mild, and there was a crowd of loafers gathered on the corner by the city bank. Upon the addition of another to their number one or two looked up and nodded.

"Did you fellows know that old John Manchester is dead?" the new-comer asked.

"S'posed he was." And Mose Grant removed his clay pipe from between his lips. "Doc Hale said he couldn't live the day through."

"I knowed Manchester when we was both boys," said a small, stooping man. "He got too big-feeling to remember it, though."

"Manchester had something to feel big over," spoke up another, "for he was one of the richest men in this here town. He got a good start from his father, but he knowed how to make money his ownself. Knowed how to save it, too. He done well by his children, and I s'pose he paid his way in church, but I've heard John Manchester say he didn't believe in general giving."

"I s'pose it'll all go to the children," Grant remarked, tentatively.

"Nobody else for it to go to," and the man who had quoted Mr. Manchester on giving ejected a stream of tobacco-juice from his mouth. "They're all pretty well fixed 'cept Tom Ford's wife, John, junior, he's got his father's hardware business, and Matthew's got a good farm. Irene, she married a Methodist minister; I don't s'pose they're ever very well off—ministers, I mean—but this one Zanders is a nice man. They live over to Wyandotte, but the rest of 'em live here."

"Did Mr. Manchester live alone in that big house?" some one asked.

"All 'lone 'cept the housekeeper and the girl who helped her. Mrs. Manchester she died as much as a dozen years ago."

While this conversation was going on the solemn hush that death always brings had settled upon the Manchester home. It was a large, old-fashioned brick house, its lawn shaded by tall evergreens which effectually shut out the autumnal sunshine. The family were assembled in the parlor, having just left the death-chamber.

"Poor father!" Mrs. Zanders exclaimed, wiping her eyes. "Yet why should I say poor? He is better off than any of us."

"Don't, Irene!" Mrs. Ford said, impatiently. "Because you are a minister's wife is no reason you should say such things—now. John, you will come here to live?"

"I suppose so."

Silence fell upon the party. The mind of each

went back to the past. The father whom they mourned had been a good parent; not demonstrative, but just, although a little severe.

"Do you remember when mother had typhoid fever?" Irene Zanders asked, the muscles of her face twitching convulsively. "Father used to come up-stairs every night to hear the prayers mother had taught us."

Her voice broke over the last words. Mrs. Ford sobbed aloud, and the brothers turned away, wiping tears from their cheeks.

Three days later John Manchester was buried. The best citizens of the town followed the body to its last resting-place. The ministers said the usual things about the dead as a father, friend and citizen, and all was over.

John Manchester's children were in no haste to enter into possession of his wealth. Still, as Mrs. Zanders must return to her home in a short time, the brothers called upon David Lee, their father's lawyer, the day after the funeral. They were much surprised to learn that the will was not in Mr. Lee's keeping. A year and a half before their father had destroyed the will made soon after the death of his wife, informing Mr. Lee that he had made a new one and lodged it with Mark Sawyer, a lawyer in a city twenty miles distant.

"No, he gave no reason for it," Mr. Lee said, "nor do I know how the present will differs from the old one. I have already notified Mr. Sawyer of your father's death, and he will come on with the will whenever you wish."

It was arranged that he should come two days later. The natural heirs of the Manchester estate were somewhat disturbed. It had always been understood that they were to share their father's wealth equally. Had this been changed?

Mark Sawyer came as promised. He was a man of fifty, with a keen, wizened face. The Manchesters were assembled in the parlor of the old home when Mr. Sawyer, accompanied by Mr. Lee, was ushered in.

The greetings were brief and businesslike. Mr. Sawyer answered the questions concerning his connection with Mr. Manchester in slow, deliberate words.

"This is the will," he said, in conclusion, rising and facing the little party. As he adjusted his glasses and unfolded the document an expectant hush fell upon all.

Shorn of technical terms, the will stated that fifty thousand dollars, half of John Manchester's wealth, was to be divided equally among his four children. The other fifty thousand was given to one "Martha Green, a seamstress and unmarried, the daughter of Josiah Green, a farmer

living in Exter Township, four miles west of Lanier."

So great was the surprise of all that for a moment after the lawyer finished there was silence. Then from the lips of both brothers came the same question, "Who is Martha Green?"

"It's a mistake!" Mrs. Ford cried, her face flushing a dull red. "I know Martha Green; she has sewed for me. She's an old maid, and goes out sewing for seventy-five cents a day!"

"There must be some mistake!" Matthew Manchester cried, turning fiercely upon Mr. Sawyer.

The lawyer bowed. "Perhaps so. There is no mistake about the will. The witnesses were business acquaintances of your father's, some of the most reliable men of our city."

"What reason did our father give for leaving money to a stranger?" It was John Manchester who asked the question.

Mr. Sawyer replied, coolly, "Your father did not honor me with his confidence."

A babble of questions rose. Astonishment merged into anger. Mr. Sawyer rose and took his hat.

"My instructions were that immediately after reading the will to you I should drive out into the country, find Miss Green and notify her of her good fortune, so I will bid you good-by."

"It is hardly worth while for you to take the drive," John retorted. "The will shall be set aside."

The lawyer was about to leave the room without speaking again when Mrs. Zanders laid her hand upon his arm. "One moment, please. Do you know why our father left this large sum of money to a person of whom we know nothing?"

Mr. Sawyer's impatience died out as he looked into the woman's childlike, blue eyes. "Upon my word of honor, Mrs. Zanders, I do not. All I know, besides the bare facts I have stated, is that every precaution was taken by the late Mr. Manchester to make the will unassailable."

Bidding those assembled good-afternoon, Mr. Sawyer left the house, followed by Mr. Lee. At the gate a team was waiting. Mr. Sawyer declined the company of the Lanier lawyer, but received from him plain directions for finding the home of the Greens.

Mark Sawyer drove slowly along the country road. On each side stretched fields, then brown and sear. Gigantic maples stood along the highway, and the brilliancy of their scarlet, orange and ruby tinted leaves was outlined against a sky of soft, misty gray.

"Doubtless the mystery will be solved when I see the woman," the lawyer said to himself. "Mr. Manchester did not look like a man who would carry on a secret intrigue. It may be the righting of an old wrong."

He soon reached the Green farm-house. It was small, weather-beaten and untidy, while the outbuildings were in bad condition. A faded, care-worn woman came to the door. She nodded in response to his inquiry for Miss Martha Green, and led the way to the family sitting-room. It was scrupulously clean, but poorly furnished with a worn rag carpet, a calico-covered lounge and wooden chairs. A gray-bearded man sat near the door. At the western window a woman was bending over a sewing-machine.

"This is my daughter Martha," the elder woman said.

The person at the machine rose and stepped forward. She was of medium height, thin, with a grave, dark face, far-seeing brown eyes and dark hair. Her expression was one of self-repression; it was not a face to be read at a glance.

"I am Mark Sawyer, a lawyer from Grand Rapids. I have business with you if you are Martha Green."

"I am. This is my mother and father. Be seated, Mr. Sawyer."

He sat down, and without one unnecessary word told the story of John Manchester's will. His eyes never left her face. It paled, but told no secrets.

"So he thought enough of it to do this!" she exclaimed, when the story was finished.

Mr. Green said, "Old John Manchester left us fifty thousand dollars! What's the use of telling us that? Do you take us for fools?"

"The money is left to your daughter. Here is the will," and he placed the document in Martha's hands. She examined it and passed it on to her father, still without speaking.

"What did he leave you money for?" Mr. Green demanded, turning half angrily upon his daughter. "You didn't know him."

By a gesture she referred him to the lawyer. Mr. Sawyer's interest in her increased. Was this a clever ruse to learn how much he knew?

"Why don't you speak up?" the farmer demanded. "What did old Manchester leave her money for—if he did?"

"I do not know. Neither do the children of Mr. Manchester."

"You know, Martha! What'd you mean by sayin' what you did 'bout his thinkin' 'nough of it?"

Martha Green spoke slowly and deliberately. "This is as much of a surprise to me as to you. I did not have any knowledge of Mr. Manchester's intention."

"But what'd you mean by what you said?"

"That is a question I must refuse—now and always—to answer."

An oath broke from the old man's lips. He advanced a step. "None of that! I have a right to know, and I will!"

She did not flinch. "Father, I am thirty-three years old and my own mistress. If you expect this money to benefit you, you must respect my silence."

The shadows of night were gathering in the room. Out of the gloom the woman's face shone white and determined. With a muttered curse Josiah Green retreated.

Martha listened in silence while Mr. Sawyer explained that her legacy consisted of government bonds and mortgages. She promised to meet him at the office of Mr. Lee the next day, and bade him good-by, having baffled every effort to solve the mystery.

Why had John Manchester left Martha Green fifty thousand dollars? Twenty-four hours after the reading of the will Lanier and all the surrounding country was asking that question. If there had been any acquaintance between the two it had been slight, having for its basis nothing more than a chance meeting in the store, on the street or in some home where Martha had been employed as a seamstress.

Martha Green was the eldest of a family of five. While she had received only the education to be acquired at the district school, she was a reader and a thinker, being so liberal in her views as to sometimes receive that term of reproach for a woman, "strong-minded." While industrious, neat and sweet-tempered she was one of those reserved, unimpassioned women who seldom attract the notice, and still less frequently the affection, of men. She was fond of outdoor life, and openly rebelled at her father's lack of management and thrift.

Those who questioned her regarding her inheritance received brief replies. She had had but a very slight acquaintance with Mr. Manchester and no knowledge of his intentions concerning herself. She could not say why he had been so strangely liberal. This last reply only strengthened the belief that, if she could not say, she knew. The air was full of rumors. Martha had been secretly married to Mr. Manchester; he had been in love with her; he had wronged her; she had once saved his life. These were only a few of the improbable stories in circulation.

The Manchesters called upon Martha. It was a painful interview. The threats and blusterings of the brothers and the scornful innuendos of Mrs. Ford moved her not a whit, but before the tearful reproaches of Mrs. Zanders her stoical calm wavered.

"Do not blame your father," she said, and, contrary to her usual custom, her eyes wandered from the person she was addressing. "What he did was right." This was the sole explanation she gave.

The idea of contesting the will was abandoned; the heirs saw that it would be useless. Mr. Sawyer returned to his home. There was nothing for the Manchesters to do but to accept their diminished inheritance and see the rest of their father's wealth pass into the hands of a stranger.

What would Martha Green do with the property that had so strangely come into her possession? This was a question Lanier considered only second in importance to the one of why the money had come to her.

There was no sudden change in the spinster's life. She went out sewing no more. Her two oldest brothers—Wilbur, aged twenty, and Robert, seventeen—were placed in the Lanier high school. The small mortgage on the Green farm was paid, and in the spring the house was to be enlarged. The mother was relieved from the toil that had long been her lot. Martha bought new books lavishly, many of them treatises on sociological or agricultural subjects.

One fact was apparent. Martha was absolute mistress of the fortunes of the family. Josiah Green's rule as master was ended. He was well provided for and relieved from all labor. It was evident this bound him to silence regarding his daughter—a silence as irksome to him as it was to his neighbors.

Martha purchased a farm of one hundred and sixty acres a half mile distant from her home. The buildings were good and the land was fertile, although years of renting had impaired its present productiveness.

The house was painted inside and out, papered, and furnished in a simple but tasteful manner. There Martha moved in the spring. Robert was to live with her, continuing in school until the end of the year. Wilbur was at the head of the home farm. The remaining children—twelve-year-old Fred and Dorothy, who was eight—were kept in school.

Martha's work was laughed at by her neighbors, and dubbed "agricultural-paper farming." On both places many vegetables were planted, especially celery. The county was north of that part of Michigan now famous the world over for the production of the so-called "Kalamazoo celery," but many claimed the soil of Exter township was suitable for that crop. Besides, the city of Grand Rapids was near enough to afford a market.

The summer was unfavorable for farming operations. Then Martha was a novice, and real knowledge is the growth of experience. She confided in no one, yet all were sure she had lost money.

That winter Wilbur attended the State Agricultural College at Lansing. Robert continued his studies at Lanier. The son of a poor neighbor roomed with Robert, and Martha paid the expenses of both. Martha held herself aloof from the curious, but she was kind and helpful, always ready to support any plan for the good of her home community.

The next summer the vegetable-raising plans were enlarged. They were successful in a marked degree. Martha also put out a quantity of small fruit.

The following spring she persuaded a few of her farmer friends to follow her example. She had built a greenhouse, and offered to give, and send a man to help set out, one thousand celery-plants to any one who would promise to care for them.

Five years after the death of John Manchester Josiah Green died and Wilbur married. Martha had rebuilt and modernized her home. There

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she brought her mother, Fred and Dorothy. To Wilbur was given the old farm, while a new one had been bought for Robert. Both brothers had graduated from the colleges which they had been attending.

Martha Green was fast coming to be considered the benefactor of the community. She helped her neighbors to help themselves. Besides giving young plants, she freely gave time and money to teach others what she had learned herself. A farmers' club was organized, and Martha was elected president. She made arrangements for the shipping of the entire output of vegetables and fruit, greatly reducing the expense.

Five more years went by. Each one of the Green boys owned a good farm. They were all energetic business men—men whose love for the sister who had done so much for them was almost worship. Dorothy was in college. Mrs. Green was happy and contented. Martha had added to the farm she had purchased until she had three hundred acres. She lived simply, but in a gracious, liberal manner. She was greatly honored and loved. Under her fostering care the district school near her home had become the best in the county. There was a free township library and an excellent lecture course, both of which was the result of Martha's work.

A few days before the tenth anniversary of John Manchester's death each one of his children received a note from Mr. Lee, asking him or her to come to the office of the lawyer on the morning of that anniversary. They had continued to look upon Martha with disfavor, and her beautiful, helpful life had not reconciled them to the strange terms of their father's will.

The morning dawned clear and bright, and the Manchesters arrived promptly. They were seated and looking expectantly at Mr. Lee when the door opened to admit Martha Green.

The years had developed and perfected her nature. Her clear, dark face was flushed with health. She wore a tailor-made suit of dark-green broadcloth. Her expression was that of a woman who had found real happiness in life. Bowing to the little party, she began speaking without a trace of embarrassment.

"It was at my request Mr. Lee invited you here. You know the plan of life I have carried out. This plan of developing the resources of this community, and of building up, first, the fortunes of my own family, second, those of my neighbors, had birth in my mind fifteen years ago. Doubtless its origin was the fear that my brothers would grow up to be like our father. I could do much to inspire these brothers; I could do little to aid them materially, because of a lack of means. I pondered long over the subject. It seemed unjust that the use of money for a time be denied me. One day I was sewing in Lanier when a bold plan suggested itself to my mind. When my day's work was done I went out and made my way to the home of Mr. Manchester, your father. He answered the bell, and as no one chanced to see me enter or leave the house, the interview was known to only us two. I told him my plan, and asked him to loan me ten thousand dollars to make my experiment. If I failed he was to lose the money; if I succeeded, I would pay him back the principal, and the interest should be his share in the good done.

"Perhaps it was a wild scheme. Perhaps any business man would have laughed in my face, as Mr. Manchester did. A slow anger burned to a white heat in my heart, and I said some bitter but true things to the old man. I told him his wealth was a God-given responsibility, and that the curse of a righteous Creator would rest upon it, as well as upon him and his, should it be used only for selfish pleasure. Then I went away and never heard one word from John Manchester, until two years later Mr. Sawyer came and told me of the legacy left me.

"There is little more to tell," she went on, after a brief silence, in which the children of John Manchester stared blankly at each other. "No word of explanation or direction was left me. Of the long hours of thought your father gave this matter, of the desire which came to him to aid those less fortunate than himself, of the confidence he came to have in my plan—of all these things we have no record. I took the money not as a gift, but as a sacred trust. According to my original plan I helped, first, my brothers, then others. I have done this by teaching them to help themselves. I have a good home and means to carry on this work, although in a smaller way. That is my wages for ten years. Last night I signed papers giving to John Manchester's heirs fifty thousand dollars. The interest on this for ten years has been used. That is neither yours nor mine. It is John Manchester's gift to humanity." As she concluded she turned and left the room before a word could be said.

**AS USUAL**

"The sun was setting in the west  
Just at the close of day"—  
So runs the song; no doubt it's true,  
Because nobody ever knew  
The orb to set  
Itself get set  
In any other way.

"The stars were shining overhead,  
And night her sable wings had spread,"  
According to the song.  
Why should we doubt the singer, say?  
For isn't that, in fact, the way  
They do it right along?

"The gentle breezes softly blow,  
The autumn day was fair."—  
Ah, well indeed the singer knew,  
For on such days what else is there  
The gentle breeze can do?

—Colorado Springs Facts.

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"ALL THINGS WORK TOGETHER FOR GOOD"

Tho' the shuttle fly east or the shuttle fly west, More swiftly than you can see, Backward and forward it brings out the best Of beauty that is to be.

Tho' the wheels turn left or the wheels turn right, No wheel ever turns in vain; And by and by shall be brought to light They turn for our common gain!

Tho' the shadows may come and the shadows may go, Over these lives of ours, In the glad "Some time" perhaps we shall know The clouds bring the blessed showers!

Yes, all things are working together for good, Sweet message to you and me, And so the truth forever has been, And so forever shall be.

Yes, all things are working together for good, To him who but loveth well, And by and by shall be understood What time refuses to tell! -Rev. C. W. Stephenson, in The Methodist Recorder.

PLAIN—AS A PIKESTAFF

TWO women in the early part of the last century lived in Virginia. They were noted for their common sense, and many of their sprightly sayings are quoted and enjoyed to this day. They were both Methodists, and their house was a place of resort for the clergy of that denomination. Of one of the women, known as Aunt Sally, the following story is told:

She had a black silk dress which she was accustomed to slip on when she attended church. It seems that once when conference was being held near her house a Methodist minister, who had enjoyed her hospitality and was saying good-by, ventured to remonstrate against her use of costly apparel.

"Well, Aunt Sally," said he, "you have been very kind to me and my wife during our stay at your house, and we appreciate your kindness. We shall never forget it. But, my dear sister, before parting with you I must say that it has troubled my wife and myself very much to see you a devotee to the fashion of the world. I notice with pain that you wear your silk dress every day to church, contrary to the rules of our order, and I hope that hereafter you will refrain from such a display of worldly-mindedness. I also hope you will pardon me for calling your attention to it."

"My dear brother," said Aunt Sally, "I did not know that my plain black silk was troubling anybody. It hangs up there behind the door, and as it needs no washing it is always ready to slip on when company comes or when I go to church, and I find it very handy."

"But, my dear brother, since you have been plain with me, I must be plain with you. Since you and your wife have been staying here I and my cook have some days had to stay at home and be absent from church because we were doing up the white dresses of your wife, that she might look well at the conference. Pardon me for explaining, and when you and your wife come this way call again."—The Christian Observer.

SOMETHING WHICH HE LEARNED

A soft answer has not only the effect of turning away wrath, it may serve to avenge an injury. Years ago Rev. J. H. Jones was making a visit to Boston, and attended a bi-weekly conference at Divinity Hall. Just at that time he was out of sorts with the East, and his address reflected an acrid mood. Especially did he insist "they didn't know everything down in Judea," or even in Cambridge.

When he sat down there was a momentary hush, and then the late Dean Everett slowly rose. He began in his usual soft and hesitating tone, "There are doubtless a great many things which Mr. Jones knows and we do not know, but there are also a few things which we know that he does not."

Then followed a pause, during which each man held his breath, for the dean was known to carry on his lips a dagger which sometimes found its unerring way to the hearts of men and things; but after due pause he continued, gently:

"And chief among them is, how glad we always are to see him!"—Youth's Companion.

LIVE IN THE KINGDOM OF HOPE

Life is a struggle, a school, a test of fitness; no struggle, no school; no school, no fitness; no fitness, no future, either in this world or in any that may follow. If a man keeps steadily in view the end he had in view in his creation, sooner or later his time will come. To be prepared, to be honest, to be true—that it is to merit success; and when it is really merited it is given.

Let no man despair because of the prejudiced frown of his neighbor. If he has within the witness of his own spirit, let him believe in himself and live. For if he accepts the judgment of those who enter into competition with him he is condemned already. They will damn him with faint praise, or perchance, if more honest, give him the coup de grace at once and forever. No man of mark ever yet accepted as final the judgment of other men regarding himself. Of some completed work of his he may, and often will, do well to heed the opinion of the world; but in himself he will keep his faith to the end, sure that somehow, somewhere, the brightest visions of his youth will yet come true. He must live in the Kingdom of Hope. The very air of that land is inspiring. All truly great men have breathed it. But if one attempts to follow their example, let him be sure of himself—this first of all. Let him not accept the honeyed words of friends and relatives, who may possibly regard him as near perfection already. No loyal wife or doting mother can be trusted here. We must know ourselves as we are.—Governor Rogers, in Success.

A MODEL STABLE-KEEPER

Not long ago I was spending a night with a friend in New York, and was invited to an early ride in Central Park. The offer was gladly accepted, as I knew he had a number of valuable blood-horses, which were kept at a public stable. When I expressed surprise at his willingness to intrust such valuable horses to the care of any one but his own trained groom he said, "The man who keeps this stable is a born stable-keeper and a gentleman. His men are carefully selected, and the following are his rules: First, no man will be employed who drinks intoxicating liquors. His men, like his horses, must drink water, cold water only. Second, no man must speak loud to any of the horses, or in the stable where they are. Horses of good blood are nervous, and loud, excited conversation is felt by every horse in the stable who hears it. Excited words addressed to one horse are felt by every other horse who hears them, and keep them all nervous and uneasy. Third, no man may use profane language in the hearing of the horses."

I was not surprised after this that my friend was willing to leave his horses in such hands.—Our Dumb Animals.

A SENSIBLE GIRL

At our hotel was a beautiful young girl, educated, clever, thoroughly up to date. A handsome fellow was paying her devoted attention, whenever he was sober enough to do so. All of us felt anxious lest his attractive manners and lavish display of wealth should win the girl. One evening late she came into my room and, settling herself among the pillows of the couch, said, "John proposed to-night; went down on his knees, said I was the only power that could save him, and if I didn't consent to become his wife he would fill a drunkard's grave."

"What did you say?" I asked, breathlessly. "I told him that I was not running a Keeley Cure, but if he really wanted to be saved from a drunkard's grave I could give him the address of several I had heard highly commended."—Baptist Standard.

THE TEXT SHE LIKED

Small Madeline is something of a humorist. The other day she came home from church in a highly pleased frame of mind.

"Oh, mama!" she said, "you just ought to have been at church to-day. The preacher had such a good text; just the kind I liked."

"What was it, Madeline?" asked mama. Seriously answered small Madeline, "It was, 'The Lord loveth a cheerful giggler.'" —Bathmore Methodist.

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Dr. W. O. Coffee, the noted eye specialist of Des Moines, Iowa, has perfected a mild treatment by which anyone suffering from failing eyesight, cataracts, blindness or any disease of the eyes can cure themselves at home.



Dr. W. O. COFFEE, M. D. fect eyesight. If you are afflicted with any eye trouble write to Dr. Coffee and tell him all about it. He will then tell you just what he can do. He will also send you Free of charge his 80 page book, "The New System of Treating Diseases of the Eye." It is full of interesting and valuable information. All cures are permanent. Write to-day for yourself or friend to W. O. COFFEE, M. D., 819 Good Block, Des Moines, Ia.

## Farming in Colorado and New Mexico

The Denver & Rio Grande Railroad, "The Scenic Line of the World," has prepared an illustrated book upon the above subject, which will be sent free to farmers desiring to change their location. This publication gives valuable information in regard to the agricultural, horticultural and livestock interests of this section, and should be in the hands of every one who desires to become acquainted with the methods of farming by irrigation. Write S. K. Hooper, G. P. & T. A., Denver, Colo.

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PATENT SEAMLESS HEEL. Quickly cure Leg Swellings, Varicose Veins, Ulcers, Weak and Swollen Joints, Inflamed and Rheumatic Conditions. We weave them to your measure, of new elastic (made by us), and sell and ship direct from the looms to you at manufacturers' prices.

Our Stockings are peculiar in this—they FIT and WEAR WELL.

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\$3 a Day Sure. Send us your address and we will show you how to make \$3 a day absolutely sure; we furnish the work and teach you how, you work in the locality where you live. Send us your address and we will explain the business fully, remember we guarantee a clear profit of \$3 for every day's work, absolutely sure. Write at once. ROYAL MANUFACTURING CO., Box 206, Detroit, Mich.

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WANTED. Reliable men or women to sell our goods to the consumer in communities from 1,000 to 10,000 population; permanent employment at good pay. Address THE GREAT EASTERN COFFEE & TEA CO., 301 S. 10th Street, St. Louis, Mo.

MEN To Learn Barber Trade. We can offer better inducements now than any other season. Prepare for Spring rush, only eight weeks required, tools presented, positions guaranteed. Catalogue mailed free. MOLER BARBER COLLEGE, Chicago, Ill.

SALESMAN WANTED. To handle our automatic or self-operating sprayer. Splendid chance for hustler. Address L. P. GUNSON & CO., Rochester, New York.

If afflicted with weak eyes, use Thompson's Eye Water



### DER LAST OF BAALAM

BY EDGAR A. PORTER  
Olt Baalam vos an honest mule  
Vot always took life easy;  
He leefed oup to der Golten Rule,  
Unt kept hees shaw-pones beesy.

Of anyding should venture near  
Ven Baalam took hees meals,  
Dot mule vos apt do set in gear  
Der cog dot vorked hees heels.

Von tay hees owner prought from down  
Some sticks of tynamide;  
Quide garelessly he lait dem town  
Unt ventured outd of sightd.

A peeg vos rootin' in ter yard—  
Von leedle Perksire hog—  
Mooch vatter as a bail of lard,  
Dees selfsame leedle hog.

He spied dot tynamide so quivck—  
Dot leedle, greety shoadt—  
Unt soon der last remaining stick  
Vos schlipping town hees droadt.

Indo der stable den he shoots  
Do pay der mule a call;  
Unt roundt apout hees heels he roots,  
Midout soom fear ad all.

Olt Baalam sadly sevitched his tail,  
Den raised hees foot instanter,  
Unt on dot peeggy's tinner-pail  
Quide sooddenly did plant her.

Den come von lout, oxblusive roar  
Vot proke der vinders out;  
Dot leedle peeg's career vos o'er—  
Alas! he vos knocked outd.

Der donkey unt der stable vos  
Both dead, eet's safe do say;  
Der moral of der story vos,  
Dot keeckin' doos nod bay.

### SO ANXIOUS TO MEET HIM

A FEW minutes before the afternoon train from New York got into the Pennsylvania station the other day a beautiful young creature waited herself over to the man stationed at the exit gate and proceeded to hypnotize him.

"Will you please let me through?" she said, appealingly.  
"Can't do it, miss. It's against the rules," said the man at the gate.

"But I do so want to meet him when he gets off," said the beautiful young thing, looking into the man's face searchingly with her imploring violet eyes. "And he will be so disappointed if I am not right at the car to meet him when the train gets in."

The man at the gate looked and hesitated.  
"Please," said the lovely young creature, rustling her silk skirts nervously and seeming to hang on the gateman's nod.

"Well, maybe I can take a chance," said the gateman, and he pulled the gate open and admitted her.

"S'pose she's only been married a little while," reflected the gateman, "and her husband's coming back after being away the first time since they were spiced, and she wants to hand him out the big hug before he's more'n landed from the car-steps. Well, I guess we all have it that bad once in our lives, anyhow," and he looked thoughtfully down the siding where the radiant young creature stood, impatiently tapping her foot.

The train pulled in a couple of minutes after. The young woman ran alongside the baggage-car, and the baggagemaster handed her out a miserable little specimen of a stuck-up, hideous, muzzled pug-dog, which she took in her arms and loaded down with caresses.

As she passed out of the exit gate with the pug in her arms she bestowed a bewitching smile upon the gateman.

"And I was come-on enough to pass her through and to weave pipe trances about the reason why she wanted to get through," said the gateman, disgustedly, to the station cop. "Say, I don't belong here. I ought to be doing plowing somewhere!"—Washington Post.

### DOOLEY ON WHISKY

"Whisky is called th' divle, because 'tis wan iv th' fallen angels," he says. "It has its place," he says, "but its place is not in a man's head," says he. "It ought to be th' reward iv action, not th' cause iv it," he says. "It's fr th' end iv th' day, not th' beginnin'," he says. "Hot whisky is good fr a cold heart, an' no whisky's good fr a hot head," he says. "Th' minyit a man relies on it fr a crutch he loses th' use iv his legs. 'Tis a bad thing to stand on, a good thing to sleep on, a good thing to talk on, a bad thing to think on. If it's in th' head in th' mornin' it ought not to be in th' mouth at night. If it laughs in ye, dhrink; if it weeps, swear off. It makes some men talk like good women, an' some women talk like bad men. It is a livin' fr orators an' th' death iv book-keepers. It doesn't sustain life, but when taken hot with wather, a lump iv sugar, a piece iv lemon-peel, an' just th' dustin' iv a nutmeg-grater, it makes life sustainable."

### GARLAND'S GREATNESS

At a recent gathering of writers some new stories were told to illustrate the intense appreciation of his own worthiness which a popular young author of fiction now tries to conceal, and one of the men present told this story of Hamlin Garland, which may or may not be true. The author of it has done some things in the fiction line himself: "I have a boy who is about five years old," he said, "and I am very proud of him. Mr. Garland was my guest not long ago. I told him of my pride in my boy Tom, and he said, 'I would like to meet Thomas.'"

"That pleased me, of course, and I sent for the boy. Tom came into the room and looked at Mr. Garland critically. Mr. Garland looked at Tom. Then he reached down and picked up Tom. As he held the boy up in his arms he said to him, earnestly, 'Thomas, my boy, when you grow up you may truthfully say that you have been in the arms of Hamlin Garland. Remember that, Thomas.'"

"I am now hoping that the memory of that occasion may not make Tom unduly conceited."—New York Sun.

### AN EASY WINNER

A minister was one day walking along a road, and to his astonishment he saw a crowd of boys sitting in front of a ring with a small dog in the center. When he came up to them he put the following question: "What are you doing to the dog?"

One little boy said, "Whoever tells the biggest lie wins it."

"Oh!" said the minister; "I am surprised at you little boys, for when I was like you I never told lies."

There was silence for awhile, until one of the boys shouted, "Hand him up the dog!"—London Labor Leader.

### ALL SHE NOTICED

Detective—"Did you see a man and woman driving past here in a buggy about an hour ago?"  
Mrs. Blank—"Yes."

Detective—"Ah! we're getting on track of them. What kind of a horse was it?"  
Mrs. Blank—"They were driving so fast I didn't notice that. But the woman had on a Scotch mohair and wool jacket of turquoise-blue, last year's style, with stitched lines, a white pique skirt with deep circular flounce, a satin straw hat, tilted and rather flat, trimmed with hydrangeas and loops of pale blue surah, and her hair was done up pompadour. That's all I had time to see."

### THE IRONY OF FATE

Louder—"Jerry, who is that dried-up, consumptive little fellow who requires so much attention and seems to have so much money to spend?"  
Athletic attendant (at sanatorium)—"Don't talk so loud, he'll hear you. He's a rich manufacter of health foods."—Chicago Tribune.

### A GOOD JOKE

Passenger—"Sandy, what are you laughing about?"  
Elevator-boy—"I've got such a good joke on Mr. Striblin. He says to me awhile ago, 'Sandy,' he says, 'don't ye know what floor to put me off at, ye infernal Irish idiot!' An' I'm Scotch. Haw, haw!"—Chicago Tribune.

### DIPLOMACY FOR HOME USE

"Oh, yes, I always let my girl go just as soon as the summer fairly begins."  
"Why? Do you prefer to do your own work in hot weather?"  
"No; but it gives me an excuse to let my husband know that we can't possibly be visited by any of his people."—Chicago Times-Herald.

### THE WAY TO SUCCESS

The elderly gentleman—"The true secret of success is to find out what the people want."  
The younger man—"And give it to them, eh?"  
The elderly gentleman—"Naw; corner it."—Indianapolis Press.

### UNGUARDED SPEECH

Mrs. Bingo—"You must be careful what you say to the cook, dear, or she will leave."  
Bingo—"Why, was I hard on her?"  
Mrs. Bingo—"Were you? Why, any one would have thought you were talking to me!"—Titbits.

### ROLL-CALL

The Breakfast Cereals were holding their annual convention when a roll-call was ordered.  
"Hominny of us are here?" cried a voice. And that is why they voted to send the Cracked Wheat to the insane asylum.—Newark Advertiser.

# NEW CURE FOR KIDNEYS AND BLADDER

Bright's Disease, Rheumatism, Gravel, Pain in the Back, Dropsy, Etc., You Will Upon Request be Mailed

## A LARGE TRIAL CASE FREE

Disorders of the Kidneys and Bladder cause Bright's Disease, Rheumatism, Gravel, Pain in the Back, Bladder Disorders, difficult or too frequent passing of water, Dropsy, etc. For these diseases a Positive Specific Cure is found in a new botanical discovery, the wonderful Kava-Kava Shrub, called by botanists the piper methystricum, from the Ganges River, East India. It has the extraordinary record of 1,200 hospital cures in 30 days. It acts directly on the Kidneys, and cures by draining out of the Blood the poisonous Uric Acid, Lithates, etc., which cause the disease.

Rev. W. B. Moore, D.D., of Washington, D. C., testifies in the Christian Advocate that it completely cured him of Kidney and Bladder Disease of many years' standing. Hon. R. C. Wood, of Lowell, Ind., writes that in four weeks the Kava-Kava Shrub cured him of Rheumatism and Kidney and Bladder disease after ten years' suffering, the bladder trouble being so great he had to rise ten to twelve times during the night. Many ladies, including Mrs. C. C. Fowler, of Locktown, N. J., and Mrs. James Young, of Kent, Ohio, also testify to its wonderful curative powers in Kidney and other disorders peculiar to womanhood.

That you may judge of the value of this great discovery for yourself, we will send you one Large Case by mail Free, only asking that when cured yourself you will recommend it to others. It is a Sure Specific and cannot fail. Address The Church Kidney Cure Company, 471 Fourth Avenue, New York City.

## NOT A PIG



in a poke, but did you ever hear a Pig Sing? Well, this Musical Pig right from the Paris Exposition, is the latest and greatest wonder out. Most fun with this cute little porker than anything ever invented. You simply blow him up like the picture here then the Pig begins to Sing. After singing awhile he squeals, then collapses, then gives up the ghost with a last faint grunt and finally dies. Everything about the tragic ending is so laughable, however, that you nearly burst with hilarity, so funny is the ending of poor Piggy. Thousands of these Musical Dying Pigs were sold in Paris at the Exposition this season and they are now all the rage in New York. Don't fail to get one if you want some fun. They are strongly made of a thin rubber substance so you can carry them in your vest pocket and suddenly blow him up and then there is more fun ahead than a box of monkeys. Just get one and try it. Agents can sell them at the rate of a hundred an hour in a crowd. We send one FREE with 15c. three months' trial subscription. One Doz. \$1.00, postpaid. Address, COMFORT, Box 738, Augusta, Maine. Two sent for 25c., or five for 50c.

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The Trustees of the American School of Correspondence will award a limited number of Free Scholarships in Mechanical, Electrical, Marine, Stationary, and Locomotive Engineering, including a complete course in Mechanical Drawing. Application blank on request. American School of Correspondence, Boston, Mass. (Chartered by the Commonwealth of Massachusetts.)

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with your name and address and we will send you this high grade Stradivarius Model Violin, Case, Bow, extra set of Strings, Fingering Chart. Examine it carefully; if you find it the most stupendous bargain ever offered pay your agent \$2.65 and express charges, otherwise return it at our expense, and we will REFUND your deposit of 50 cents.

ORGANS and PIANOS fully guaranteed of fine tone, elegant finish and thorough workmanship, sent on 20, 30 or 60 days' free trial at one-half dealers' prices. Pianos from \$122.75 up; Organs from \$21.75 up. A \$300 Kenwood Piano \$150; a \$75.00 Organ \$29.50. Write to-day. GASH BUYERS' UNION, (Inc.) 160 W. Van Buren St., B-7, Chicago

## LIFE SIZE DOLL FREE "Baby's clothes will now fit Dollie."

Girls can get this beautiful Life Size Doll absolutely Free for selling four boxes of our Great Cold & Headache Tablets at 25 cents a box. Write today and we will send the tablets by mail postpaid; when sold send us the money (\$1.00) and we will send you this Life Size Doll which is 2 1/2 feet high and can wear baby's clothes. Dollie has an indestructible head, Golden Hair, Rosy Cheeks, Brown Eyes, Kid Colored Body, a Gold Plated Beauty Pin, Red Stockings, Black Shoes, & will stand alone. This doll is an exact reproduction of the finest hand painted French Doll, and will live as long as your memory long after childhood days have passed. Address: NATIONAL MEDICINE CO., Doll Dept. 17 C, New Haven, Conn.

DO YOU WANT A WATCH that runs & keeps good time. This watch has a SOLID GOLD case, is made of diamond dust proof, adjusted to position, patent escapement, and highly finished. This is a remarkable watch. We guarantee it, and with proper care it should wear and give satisfaction for 20 years. It has the appearance of a SOLID GOLD one. The watch is accompanied with a 20 YEAR GUARANTEE. The cases are beautifully made by the most skilled workmen. The movement is an AMERICAN STYLE, expanded steel, balance, quick train, and you can rely upon it that when you own one of these truly handsome watches, you will at all times have the correct time in your possession. Do you want a watch of this character? If so, now is your opportunity to secure one. WE GIVE IT FREE as a premium to anyone for selling 12 pieces of our handsome jewelry, for 10c. each (each set with an exquisite watch chain). Regular price \$25.00. Simply send your name and address and we will send you the 12 pieces of jewelry postpaid. When sold send us the \$1.80, and we will send you this handsome watch. We trust you and will take back all you cannot sell. We propose to give away these watches simply to advertise our business. No catch-words in this advertisement. We mean just what we say and allow a cash commission if preferred. You require no capital while working for us. Address, SAFE WATCH CO., P. O. Box 180, New York.

HOUSEHOLD

[CONTINUED FROM PAGE 13]

KNOWLEDGE OUTGROWN

BY KATE KAUFFMAN

"I understand you, friend," I said one day;
And blissfully our eyes exchanged swift glance,
For very sweetest words that friend can say
Are these the height of friendship's sweet romance.



200,000 PACKAGES TO BE DELIVERED FREE BY MAIL

Dr. Whitehall, the noted rheumatism specialist of South Bend, Ind., writes that he will send a package of his remedies to every reader of FARM AND FIRESIDE who is suffering with rheumatism.

A representative who called on Dr. Whitehall the other day was shown a large file case full of letters from people who had been cured.

Elder J. C. Shelton, Brooksville, Blount Co., Ala., wrote: "My wife had rheumatism spells every two or three weeks for 45 years."

Mrs. M. S. Hoadley, of Sedalia, Mo., quoted in her own words: "It is wonderful what your medicine has done for me."

Mr. A. May, aged 63, Butler, Ind., said he took seven different kinds of medicine without relief.

The Spring Housecleaning

can be accomplished so much easier and better if free use is made of PURE POWDERED BORAX

It is the great labor saver in restoring to healthy and cleanly conditions hardwood or other floors, all woodwork, shelves, sinks, bathtubs, utensils, matting, carpets, rugs, painted surfaces, marble and metals—in every room, cellar, laundry, kitchen, parlor, attic, and all the rest.

It is harmless, antiseptic insecticide. To know all about why and how to use Borax intelligently, send for our free book, "Borax in the Home," to our Chicago office,

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HAIR SWITCH FREE

ON EASY CONDITIONS.

Cut this ad. out and mail to us. Send a small sample of your hair, cut close to the roots. SEND NO MONEY; we will make and send you by mail, postpaid, a FINE HUMAN HAIR SWITCH, an exact match, made 22 inches long from selected human hair, 2 1/2 ounces, short stem. We will inclose in package with switch sufficient postage to return it to us if not perfectly satisfactory, but if found exactly as represented and most extraordinary value and you wish to keep it, either send us \$1.50 by mail within 10 days or TAKE ORDERS FOR 3 SWITCHES AT \$1.50 EACH among your friends and send to us without any money, we to send the 3 switches to them direct by mail, to be paid for 10 days after received if perfectly satisfactory, and you can then have the switch we send you free for your trouble.

We give Planos, Organs, Sewing Machines, Dishes, Furniture, Watches, Bicycles, Cameras and other premiums for taking orders for Our Switches. One lady earned a Piano in fifteen days, one a Sewing Machine in 9 days. Order a Switch at once or send to-day for FREE PREMIUM OFFER. Ladies' Hair Emporium, Dept. T 2, CHICAGO

ECZEMA Facial Blemishes, Tetter, Salt Rheum, Barber's Itch, Scald Head, Ring Worm, Itching Piles, Sore Eyelids, and all Skin diseases promptly cured by Spencer's Ointment. Sent to any address on receipt of 25c. A. O. PILSON, Pharmacist, 1827 W. Baltimore St., Baltimore, Md.

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ASTHMA Quick relief. Permanent cures. Treatment sent free. If benefited send \$1. Otherwiser don't. G. W. Caldwell, M.D., Dept. 7, Auburn, N.Y.

CRAZY WORK SILK REMNANTS, enough for quilts, 60c. BILK MILL, Box 22, JERSEY CITY, N. J.

BIG MONEY made with our 500 best sellers. Send 5c. for sample and particulars. I. H. HFG. Co., Little Falls, New York.

TESTED CAKE RECEIPTS

FRUIT COOKIES.—Three cupfuls of sugar, one and one half cupfuls of butter, two eggs, one cupful each of hickory-nut meats and almonds (nuts must be rolled), one pint of raisins and one cupful of figs (all chopped), one teaspoonful of soda, two teaspoonfuls of baking-powder sifted with the flour; mix all well, add one cupful of sweet milk or water and flour sufficient to make a soft dough. A splendid receipt if carefully followed.

ICE-CREAM CAKE.—Make a good sponge-cake; any good receipt will do, but the following never fails: One cupful of sugar, three eggs, three tablespoonfuls of cold water, one and one half teacupfuls of flour, one and one half teaspoonfuls of baking-powder sifted through the flour. It should be very thin when poured into the pan, and about half an inch thick when done. Let it get perfectly cold; beat one pint of thickest sweet cream until it looks like ice-cream, make very sweet and flavor with vanilla; blanch and chop a pound of almonds, stir into the cream, and spread very thick between the layers. The queen of all cakes.

CHOCOLATE CAKE.—One cupful of butter, one and one half cupfuls of sugar, whites of four eggs, one cupful of sweet milk, two cupfuls of flour, two teaspoonfuls of baking-powder, flavor to taste. Make the following frosting to put between the layers: One cupful of sweet milk, one half cupful of sugar, one fourth of a cake of chocolate, butter the size of a walnut. Boil in a pan, stirring carefully until as thick as desired.

MRS. J. D. CONWAY.

HOT CROSS-BUNS

These are the famed Good-Friday cakes. To make a baker's dozen of these toothsome dainties, dissolve in one cupful of lukewarm milk one yeast-cake, or its equivalent in liquid yeast, and stir in enough flour to make a very thin sponge; set in a warm place to rise until its bulk is doubled. Cream two heaping tablespoonfuls of butter and four even ones of sugar, add two of cream and two well-beaten eggs. Mix these ingredients thoroughly, then add, a little at a time, one half pound of sifted flour; mix this with the light sponge, cover closely, and stand in a warm place for three hours. The dough should be first covered with a buttered paper, then with a tin cover. When risen dredge with flour, do not knead, roll out, cut into buns, score with a sharp knife, to form a cross, cover, let rise another hour, score again, brush with caramel, and bake in a hot oven for fifteen minutes.

KATHERINE E. MEGEE.

EASTER JELLY

Color jelly (made from gelatin) a bright yellow by steeping a small quantity of dried saffron-leaves in the water. Pare several lemons, and cut the parings into long, thin strips; boil until tender, then throw into a rich syrup and cook until clear. Make a common blanc-mange, color one third pink with cochineal, one third green with spinach and leave the remaining third uncolored. Take the desired number of eggs, remove the shell from one end, pour out contents, wash each shell clean, then fill with the blanc-mange, alternating the colors; use a funnel for this purpose. Stand in a cool place until needed. Form a nest of jelly in a round, shallow dish, scatter the lemon straws about the edge, remove egg-shells carefully from the blanc-mange and fill the nest with the tricolored eggs.

KATHERINE E. MEGEE.

FREE TRIAL

CLERGYMEN TESTIFY TO THE MARVELOUS CURATIVE POWERS OF SWANSON'S "5-DROPS."

"This time a year ago I was obliged to use crutches on account of Rheumatism, but now, thank God and the regular constant use of '5-DROPS,' I am active and able to attend to all the duties of my sacred calling."

"For twenty long years my wife suffered untold tortures from Sciatic Rheumatism and Neuralgia, and I thank God for the day that your heaven-sent remedy fell into my hands, for it completely cured her."

The above testimonials are certainly proof that it is worth while to secure at once a trial bottle of this marvelous remedy. It is absolutely free. All you have to do is to write for it.



5 DROPS CURES

Rheumatism, La Grippe, Neuralgia, Indigestion, Dyspepsia, Backache, Asthma, Bronchitis, Catarrh, Sleeplessness, Nervousness, Nervous and Neuralgic Headaches, Heart Weakness, Toothache, Earache, Croup, Malaria, Nervous Prostration, Hay Fever, Creeping Numbness and all Blood Diseases. It does not matter whether you are suffering from Inflammatory, Nervous, Muscular or Articular Rheumatism; whether your whole system is full of uric acid; whether every part of your body is aching and every joint is out of shape, "5-DROPS" if used as directed in the necessary quantity will positively give instant relief and effect a permanent cure.

50,000 BOTTLES To Be Given Away.

A trial bottle will be mailed free of charge to every reader of this paper who is a sufferer from any of the above-named diseases. All that we ask you in return is that you take it as directed, and you will find it all that we claim.

NOTE—Large size bottles (300 doses) will be sent prepaid to any address for \$1.00. If it is not obtainable in your town, order from us direct.

AGENTS WANTED—Write for Terms and Territory. SWANSON RHEUMATIC CURE CO., 312 to 362 Swanson Block, CHICAGO, ILL.

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Hundreds of People, Suffering from So-called Incurable Diseases, Permanently Restored to Health

Dr. J. M. Peebles has done more for the afflicted than any man known to history.



DR. J. M. PEEBLES

ceived through Dr. Peebles' treatment. She suffered

for years from falling of the womb. Francis Waverling, Seattle, Washington, suffered for twenty years with a severe case of Catarrh; completely cured through the psychic treatment. Geo. H. Weeks, 53 Minerva Street, Cleveland, Ohio, sends heartfelt thanks for restoration of health after suffering from nervous prostration and insomnia; says he now enjoys restfulness and sleeps sound every night.

TEACHES HIS SCIENCE Dr. J. M. Peebles teaches his noble science to others. It is the grandest and best paying profession of the age. Taught by mail. Full instructions free. Address Dr. J. M. Peebles, Department U, Battle Creek, Michigan.

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On the request of the Post-office Department, and for the purpose of illustrating what kind of a country it runs through, carrying a postal route, the passenger department of the Missouri Pacific Railway and Iron Mountain Route has prepared a collection of one hundred pictures, themselves works of art and uniquely and handsomely framed, for exhibition at the Pan-American Exposition at Buffalo in May, in the Government Building.

This collection will illustrate every conceivable phase of activity on either of these popular lines, and runs the entire range of photographic expression, from the peaceful exposition of a meadow and farm scene to the most bustling of manufacturing cities, from the quietest of Arcadian simplicity to the almost infernal activity of the great mines and smelters in the great mineral region through which the lines run, through the rugged beauty of the Ozark Uplift, and the stirring scenes of progress with rod and with gun, in the hunters' paradise of Arkansas, where the game of the bygone pioneers is as plentiful as in their own days.

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BED-WETTING CURED. Sample FREE. Dr. F. E. May, Bloomington, Ill.

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If afflicted with weak eyes, use Thompson's Eye Water

A YEAR'S SUBSCRIPTION FREE

We will give you a year's subscription to the WOMAN'S HOME COMPANION free if you will sell 12 copies of the attractive Easter number. It will contain a number of the most beautiful of our series of reproductions of

One Million Dollars' Worth of Grand Paintings

We send you the 12 copies by mail, post-paid, and you sell the 12 copies to your friends at ten cents each. Send us the money, one dollar and twenty cents. We will then enter your name on our list for a year's subscription free of all cost. If you are already a subscriber we extend your subscription one year. Write at once.

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This plan not only saves you the middle man's profit, but at the same time gives you the best all round farm fence that can be made from wire. Many heights to suit all farm purposes. Entirely interwoven. No loose ends to unravel. Send at once for circulars, and special discounts.

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# FARM SELECTIONS

## GOVERNMENT SEED DISTRIBUTION

**U**NDER the pretense of fostering agriculture the national and state governments waste incredible sums of money from the tax-payers. Possibly the most outrageous of these expenditures is the seed distribution of the national government. The excuse is that new and improved varieties may be widely extended. Our wide-awake seedsmen get novelties long before the government officials get them. There is nothing in this plea. Of the hundreds of thousands of dollars that have been spent in this way in recent years it would be difficult to name a single item in which they have been ahead of the trade. At any rate, if a government be justified in "improving" agriculture in this generous way they would be still more justified in distributing "improved" breeds of fowl, swine, horses and cattle. If we must have free seeds, let there be government stock-raising farms, and free distribution of the breeds. As a factor in politics the stock distribution would beat the seed-packages clean out of sight.—Meehan's Monthly.

The seeds are the beginning of the crop, and it is now time to buy before stocks are seriously depleted. Every farmer or gardener ought to know exactly what he wants, and buy exactly what he wants. Everywhere people are receiving packages of seeds from their congressmen. What does the average congressman know about the varieties needed, or their adaptability to the conditions of the agricultural voter? But many will plant these seeds in a hurry and repent at leisure. Congressional seeds are sent out absolutely without regard to desirability of variety or adaptability. Some of them are good for chicken feed, and some are not.

There is nothing so kingly as kindness and nothing so royal as truth.—Alice Cary.

## CATALOGUES RECEIVED

**J. G. Harris & Sons, Berlin, Md.** Illustrated catalogue of fruit-trees and plants.

**The Butler & Jewell Co., Cromwell, Conn.** Illustrated catalogue of fruit and shade trees, plants, vines, etc.

**A. B. Davis & Son, Purcellville, Va.** Illustrated catalogue of everything for lawn, flower-garden and conservatory.

**J. M. Philips' Sons, Mercersburg, Pa.** Illustrated catalogue of garden, field and flower seed and thoroughbred poultry.

**L. L. Olds, Clinton, Wis.** Catalogue of field and garden seeds. Specialties—Pat's Choice, Pingree and Vigorosa seed-potatoes.

**E. W. Reid's Nurseries, Upland, Ohio.** Illustrated catalogue of "Everything for the Fruit-grower;" direct, practical and truthful.

**G. Camerer, Madison, Ind.** Catalogue of vineless and choice sweet-potatoes, and Golden Wyandotte and Rose-combed Brown Leghorn chickens.

**James Vick's Sons, Rochester, N. Y.** Vick's garden and floral guide. Complete and handsomely illustrated with color-plates and many half-tones.

**Enterprise Windmill Co., Sandwich, Ill.** Large illustrated catalogue of windmills, towers, tanks, tank-beaters, feed-grinders, fence-machines, lawn-furniture, etc.

**P. M. Sharpless, West Chester, Pa.** Calendar hanger describing the Sharpless tubular cream-separators, butter and cheese apparatus, dairy supplies, etc.

**The Henneberry Company, Chicago, Ill.** The Standard Belgian Hare Book. A concise treatise on the Belgian-hare industry. By M. D. Capps. Price 25 cents.

**Stark Bros., Louisiana, Mo.** Leaflets and beautiful color-plates from the Stark Fruit Book, showing the Chicago, apple and Burbank's five greatest creations in fruit.

**John W. Hall, Marion Station, Md.** Annual catalogue of second-crop seed-potatoes, choice berry-plants, etc., setting forth the advantages of planting true second-crop seed-potatoes.

**Experiment Farms, Southern Pines, N. C.** "Plant-Food: Its Nature, Composition and Most Profitable Use." A pamphlet prepared to aid practical farmers in the selection and use of fertilizers. Free.

**Geo. J. Charlton, General Passenger Agent Chicago & Alton Railway, Chicago, Ill.** Pamphlet illustrated with half-tones describing "The Largest Photograph in the World of the Hand-somest Train in the World." Price 2 cents in stamps.

**W. Atlee Burpee & Co., Philadelphia, Pa.** Series of "Leaflets," for free distribution with orders for seeds: "Salads and Garnishes: Their Use and Cultivation;" "Remedies for Insect Pests;" "Three Experts on Tomato-growing;" "How to Grow Dahlias;" and "The Man Without the Hoe"—the three seven-hundred-dollar prize poems.

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To every person mentioning this paper we will send, absolutely free, four beautiful Paris Exposition model pianos in miniature. The illustration herewith is a reproduction of one. All we ask is that the person shall be genuinely interested in pianos. If you intend to purchase a piano, either now or at some time later, we will gladly send this embossed set to you. These miniatures have been made at great cost. They are the most expensive advertisement we have ever issued; we believe it will pay us, because the beauty of these models can not fail to win your admiration. With the miniatures we will send our SOUVENIR CATALOGUE telling how to have

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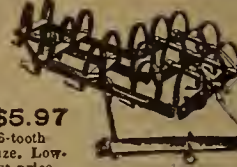
Ready for the table 10 days ahead of any other variety. Sweet as honey and very productive.

**For 10 cents** we will mail you a package of this corn, sufficient to plant thirty hills; our catalogue for 1901 which is full of good things of proven merit, and our interesting booklet, SEED TRUTH, which contains information of vital importance to every seed buyer, no matter where he gets his seeds.

Order at Once as this Offer will NOT Appear Again.

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 <b>50 cts.</b> Seasoned oak double shovel plow complete, painted and varnished, worth \$2.50 anywhere. Weight, 33 lbs. Lowest price, lowest freight.	 <b>\$1.59</b> Buys this full sized.	 <b>\$6.79</b> Full size.	 <b>\$5.97</b> 16-tooth size. Lowest price ever made. Seasoned oak frame with guard rail and whiffletree complete. Painted and varnished. A regular \$14.00 harrow. 18, 20 and 24-tooth at corresponding low prices. Ships at 150 lbs.																	
				<table border="1"><tr><th>Freight Cost on</th><th>100 lbs. wire</th><th>Dbl Shovel Plow.</th><th>Breaking Plow.</th><th>Spring-Tooth Harrow.</th></tr><tr><td>For 100 miles</td><td>9 cts</td><td>20 cts</td><td>31 cts</td><td>48 cts</td></tr><tr><td>For 200 miles</td><td>12 cts</td><td>26 cts</td><td>40 cts</td><td>56 cts</td></tr><tr><td>For 300 miles</td><td>14 cts</td><td>34 cts</td><td>49 cts</td><td>62 cts</td></tr></table>	Freight Cost on	100 lbs. wire	Dbl Shovel Plow.	Breaking Plow.	Spring-Tooth Harrow.	For 100 miles	9 cts	20 cts	31 cts	48 cts	For 200 miles	12 cts	26 cts	40 cts	56 cts	For 300 miles
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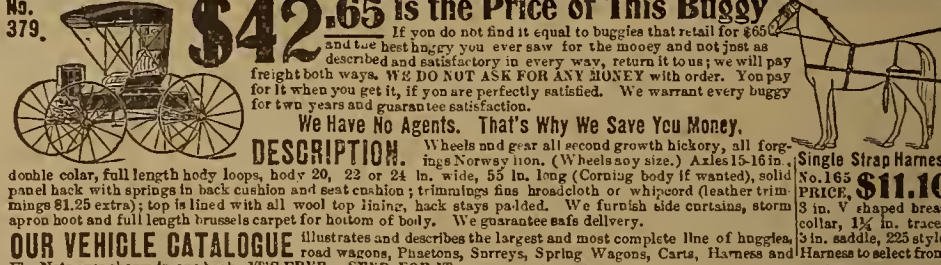
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KIEFFER Pear. Enormously productive. Handsome fruit—ripens late. A rapid grower.

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# FARM SELECTIONS

## SEEDING LAWNS AND PERMANENT PASTURES

**M**ANY inquiries are received at the Ohio Experiment Station for information respecting the best grasses for lawns and permanent pastures and for instructions in seeding. The station has successfully established several lawns by the following method: As soon as the ground is dry enough to work in the spring it is plowed and thoroughly pulverized by harrowing and cross-harrowing until in the condition of a garden. Unless the soil is very rich it should be made so, either by the liberal use of manure or of a complete fertilizer, the latter being preferable because of the seeds of weeds and coarse grasses usually carried in manure. For lawn purposes the fertilizer should carry four to six per cent nitrogen, eight to ten per cent phosphoric acid and six to eight per cent potash, and should be used at the rate of six hundred to eight hundred pounds to the acre.

A mixture of equal weights of Kentucky blue-grass and redtop, with a pound of white-clover seed to a bushel of the mixture, is then sown broadcast, at the rate of two or more bushels to the acre of the mixed seed, and harrowed in with a fine-toothed harrow. If the ground should be very dry it may be rolled as part of the preparation for sowing, but the finishing touch should be given with a smoothing-harrow or other fine-toothed harrow, as this leaves the surface in such condition as not to be so liable to be injuriously packed by rain as if finished with the roller.

The reason for mixing the Kentucky blue-grass with redtop is that the two grasses mature at different seasons, the redtop reaching maturity some weeks later than the blue-grass, thus keeping up a better succession through the season, while the blue-grass is better adapted to the drier and the redtop to the moister portions of the land. The clover is not only useful in thickening the sod, but by its ability to gather nitrogen it assists the growth of grasses with which it is sown.

For permanent pastures no better grasses have been found by the Ohio station than the varieties above recommended for lawns. Sown together they give a succession throughout the season, and adapt themselves to differences in soil, thus giving much better results than if either be sown alone. The seed of these grasses is relatively expensive, however, and it is more economical to reduce the quantity of seed of these varieties and substitute a moderate quantity of red-clover and timothy seed. The first year after seeding the crop may be chiefly clover, and should be mown for hay. The second year it will be chiefly timothy, and after that the timothy will gradually disappear and the pasture grass take its place. By this method of seeding not only will the first cost be reduced, but the clover will serve a most useful purpose in preparing the way for the grasses which are to follow. A mixture of equal weights of clover and timothy sown at the rate of a bushel to six or eight acres, and cross-sown with half a bushel to a bushel to the acre of mixed blue-grass and redtop, the whole harrowed in together, will make a fair seeding. In the case of pastures, as well as of lawns, the land should be manured or fertilized if not already rich, and here manure is the better material.

All old pastures or lawns should have an occasional dressing of manure or fertilizer. The object-lesson in the scattered cattle droppings on the pastures demonstrates this point effectively. Such treatment will often thicken up the grass in an old lawn without reseedling, but if bare spots have made their appearance it will sometimes assist matters to apply a dressing of air-slaked lime, at the rate of a bushel to the square rod, work it into the surface with a sharp harrow, and after a few weeks reseed as for a new lawn. —Bulletin of the Ohio Experiment Station.

### WHAT YOLK IS

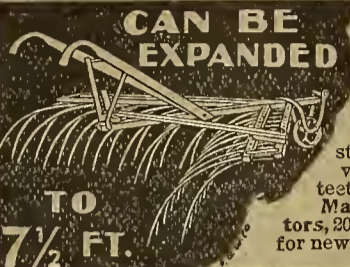
The yolk in wool is the oily secretion which gives color, softness, pliancy and luster to the fleece. The composition of the yolk consists of a soapy matter, principally oil and potash, which promotes the growth of the fleece and prevents friction, wearing of the fibers and cutting. Good feeding, shelter and care promote liberal secretion of yolk, while exposure and alkali soils result in injury to wool by diminishing the yolk. Blanketing and confinement in warm quarters stimulate the production and insure a finer fiber.—Wool Markets and Sheep.

## DOUBLE DUTY GARDEN TOOLS.

If you have a small vegetable garden, and enjoy working it yourself, or if you hire the work done you will find this "Planet Jr." No. 4 Combined Hill and Drill Seeder, and Wheel Hoe Cultivator, Rake and Plow to be almost indispensable. In sowing it equals our best seeders; in cultivating it is the equal of our best wheel hoes. Drills or drops all garden seeds regularly producing regular stand and even growth. Cultivates all vegetables between the row, on each side of the row, throws dirt to or from the row, hills up, plows, rakes, levels, etc. Instantly changed from one to the other. This tool cannot be over recommended.

One of our 350,000 catalogs for 1901 should be in every landowner's hands. Tells all about our "Planet Jr." line of Seed Drills, Wheel Hoes, Horse Hoes, Cultivators, Two-Horse Cultivators, Sugar Beet Seeders and Cultivators, and our reduced prices for 1901. Shows photographic pictures of their uses at home and abroad. Sent free on request.

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Two Gold Medals at Paris Exposition; Highest Award.



CAN BE EXPANDED TO 7 1/2 FT.

## THE KEYSTONE

### Adjustable Weeder and Shallow Cultivator

because of its "A" shape, adjustment and ground wheel excels all others. Shape enables it to fit all rough and uneven surfaces. Wheel makes it run steady—prevents all vibration and "wobble." Adjusts to 7/8 feet wide for cultivating entire surface. Narrows to 30 inches for cultivating "middles." Round teeth, blunt points for light soil. Flat teeth, diamond points for heavy soils. We Mail Weeder Booklet Free. Also make 10 styles of Corn Planters, 13 styles Cultivators, 20 styles hand and power Corn Shellers, Harrows, Rollers, Feed Cutters, etc. Write for new Catalogue C

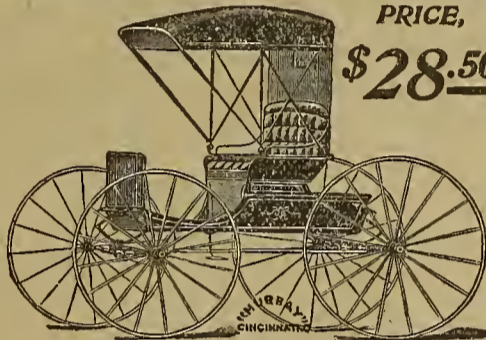
KEYSTONE FARM MACHINE CO., 1551 N. Beaver St., York, Pa.



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## WE'RE JUST AS THANKFUL

PRICE, \$28.50



### "MURRAY" TOP BUGGY.

For your order for a single buggy or one set of harness as we are for a carload. If we receive your order for one item others will come in time. That's how we've built up our business to its present mammoth proportions. Our "Murray" work has stood the test of years and our best customers are those who have been purchasing of us from the time we started in business 15 years ago. We sell to you direct from factory our celebrated "Murray" Buggy Harness at \$4.75 per set and up, and "Murray" Top Buggies at \$28.50 each and up. Our mammoth line of Buggies, Phaetons, Driving Wagons, Surreys, Pleasure Wagons, Spring Wagons, Milk Wagons, Bakery Wagons, Delivery Wagons, Grocery Wagons, Laundry Wagons, Farm Wagons, Buggy Harness, Wagon Harness, and Saddles, is an exposition in itself, and we invite you to call and make our place your headquarters when visiting Cincinnati. It will be a pleasure for us to show you through, whether you wish to buy or not. To those who are unable to call and examine our stock in person, we will gladly mail FREE upon application our large illustrated Catalogue, No. 46 giving prices on our "Murray" work, which we sell direct from factory to consumer, and which we ship anywhere with privilege of examination without one cent in advance. ALL OUR "MURRAY" WORK IS GUARANTEED FOR TWO YEARS AGAINST BREAKAGE.

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## Rough Rider Strawberry

Best shipper, best keeper, best seller, latest and most productive strawberry in existence. \$1150 from 2 1/4 acres in 1900. Was shipped to England successfully. We offer \$25 in gold for largest berry produced in 1900. Agents wanted in all strawberry sections. We control the originator's plants. Buy at headquarters and get genuine plants. Catalogue free. L. J. FARMER, Introducer, Box 14, PULASKI, OSWEGO CO., N.Y.



## Sent on Trial

We will send you our QUAKER CITY GRINDING MILL, and you may try it on corn and cob and all small grain, in competition with any mill of any make. If ours is not the most satisfactory and the best, send it back to us without cost to you. Send for our 32nd annual catalogue I—it's free.

A. W. STRAUB & CO., 3737 Walnut Street, Philadelphia, Pa. The A. W. STRAUB CO., Canal and Randolph Sts., Chicago, Ill. Also Western Agents for "Smalley" Powders, Shellers, Cutters, etc.

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\$5.48 for a 3-foot, 190-pound, 78-tooth, 2-horse Harrow. \$7.12 for a 16 1/2-foot, 240-pound, 102-tooth, 3-horse Harrow. \$9.92 for a 26-foot, 360-pound, 150-tooth, 4-horse Harrow. Guaranteed the best genuine Boss highest grade, heavy seasoned oak harrow made. AT THESE SPECIAL PRICES we ship direct from the factory in Southern Wisconsin or Minneapolis, the point nearest you. The freight will amount to nothing compared to the money saved.

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if you live within 500 miles of Chicago or Minneapolis (if farther send \$1.00), cut this ad. out and send to us, state whether 78, 102 or 150-tooth harrow, we will send the harrow to you by freight C. O. D., subject to examination. You can examine it at your freight depot, and if found perfectly satisfactory and exactly as represented, the equal of harrows that others sell at double the price, then pay the freight agent our special price and freight charges. THESE ARE THE HIGHEST GRADE WOOD HARROWS made, made for us under contract by one of the best makers in this country. The bars are made from 2x3 1/2-inch high grade selected seasoned oak, eveners are made from 2x1-inch best seasoned oak; teeth are one-half inch square, highest grade drag steel with dagger point or square center point; sections are independent and connected with eveners by eye bolts, so as to secure a perfect hitch, allowing the sections flexibility and vibration without permitting the teeth to drag or follow each other. The two-horse harrow consists of center section and two next sections adjoining. The four-horse consists of all the sections illustrated. AT OUR SPECIAL \$5.48, \$7.12 and \$9.92 PRICES we furnish draw bars to match the number of sections complete with connections. Our special prices are based on the actual cost of material and labor, less than dealers can buy in carload lots. For astonishingly low prices on all kinds of wood, steel and disc harrows, write for Harrow Catalogue. SEARS, ROEBUCK & CO., CHICAGO, ILL.

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and Liquor Habit cured in 10 to 20 days. No pay till cured. Write DR. J. L. STEPHENS CO., Dept. A, Lebanon, Ohio



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" " Cardinal.	" " Gol'n Yellow
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All seed warranted to be pure and reliable, as per page 2 of catalogue. Our trade with market gardeners is immense; and market gardeners buy none but the best of seed. Write for our new Vegetable and Flower Seed catalogue—free to everybody.

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Hardy sorts, Nursery grown, for wind-breaks, ornament and hedges. Prepaid, \$1 to \$10 per 100-50 Great Bargains to select from. Write at once for free Catalogue and Nurgain Sheet. Local Agents wanted. D. Hill, Specialist, Dundee, Ill.

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**FARM SELECTIONS**

**RAISING DAIRY-COWS**

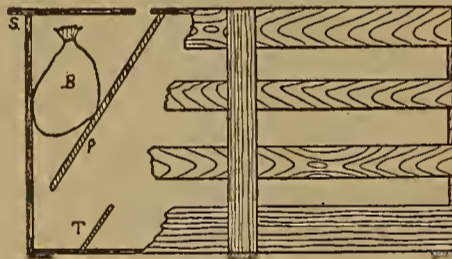
**T**HE first and most essential thing in raising a dairy-cow is breeding. Feeding and handling are of the utmost importance, but without right breeding to start with no amount of skill or care in feeding and handling can make a first-class dairy-cow, just as no amount of cultivation and manure will convert a crab-apple into a Newton Pippin.

In my opinion, the only right way to begin to make a first-class dairy-cow is to procure a Jersey heifer calf from a bull and cow that have an established reputation for breeding first-class cows. Then keep the calf in a perfectly healthy, growing condition. While she should not be overfed, she should never be allowed to go hungry or miss a meal. Her food should be for the first three days the milk of the dam taken in the natural way; after that, for ten days or two weeks, the fresh milk of her dam; then begin to mix skim-milk with the whole milk, gradually reducing the whole milk and increasing the skim-milk, but always fed warm. As soon as the calf will take it, feed a little ground oats, and put into a pasture if the weather permits.

Exercise is almost as essential to the health of young animals as food. Keep the calf's sleeping-place perfectly dry and scrupulously clean, protected from drafts, but with plenty of ventilation. A calf or heifer needs very little, if any, corn-meal, and never any cotton-seed meal. Grass, bran and ground oats will keep a calf growing and healthy if allowed plenty of fresh air and exercise. Keep the calf gentle by handling it every day. The dairyman or herdsman whose cows are afraid of him has no business with a Jersey cow.—Jersey Bulletin.

**SHIPPING-CRATES**

The illustration herewith shows a very satisfactory shipping-crate. Part of the front side is cut away to show the inside arrangement. A good size for a pig three months old is forty inches in length, twenty-three inches in depth and eleven inches in width. For a pig eight weeks old, a length of thirty-two inches, a depth of eighteen inches and a width of nine inches will be about right.



Crates for shipping by express must be made as light as is safe from breakage. It is not fair to make a purchaser of a pig two months old pay express rates on thirty or forty pounds of crate when they can be made sufficiently strong and weigh but half as much. For ends and bottoms take five-eighths-inch seasoned spruce or other tough light wood, one-half-inch stuff for sides and cover, with space between slats. In front is a trough, T, for feed and water. Just above is a sloping board, P, running to the top, through which the feed in transit is given. The upper compartment is provided with a slide, S, on top, and inside is the bag, B, containing the meal and grain fare ample for the journey. In cold weather the sides may be boarded up almost tight. To pigs weighing seventy-five pounds a standard of one-half-inch stuff is nailed in the center of the sides. Shavings from a shingle-mill make the best bedding.—J. A. Macdonald, in Breeder's Gazette.

**LICE ON YOUNG ANIMALS**

Years ago we heard a farmer ask another what he should use to kill the lice on his calves. "Well," said the old man, "a little grease will drive them off." "How shall I use it?" was the next query. "If you can put it under the skin it will be the best way," was the answer; and as the calves were very lean the reply was as good as could have been made. It is a fact that fat calves or other young animals are seldom lousy, and if they get so the vermin do not seem to be very long-lived. We have not seen lice on anything but poultry for many years, and hope the time may come when they will be banished from the poultry-yard. Good feed, good care and cleanliness are the things those pests will not thrive upon.—American Cultivator.

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if you live within 500 miles of Chicago (if farther send \$1.00), cut this ad. out and send to us and we will send you this End Gate Broadcast Seeder by freight C. O. D., subject to examination. You can examine it at your freight depot, and if found perfectly satisfactory, exactly as represented, and the equal of seeders that others sell at double the price, then pay the freight agent our SPECIAL OFFER PRICE - - and freight charges (or less \$1.00 if sent with order). The seeder weighs about 100 pounds and the freight will average 65c for each 500 miles. OUR SPECIAL \$5.75 PRICE is based on the actual cost to manufacture, is less than dealers can buy in carload lots. This is the HIGHEST GRADE END GATE BROADCAST SEEDER made. Made for us under contract by the best seeder maker in America. Made from the very best material that money can buy. Will sow more evenly and more satisfactorily than any other seeder made. Will sow 100 acres of wheat per day, other seeds at proportionate rates. VERY LATEST MODEL FOR 1901. Embodies every improvement every good point of every other broadcast seeder made, with the defects of none. Write for Free Agricultural Implement Catalogue. Address, SEARS, ROEBUCK & CO., CHICAGO, ILL.



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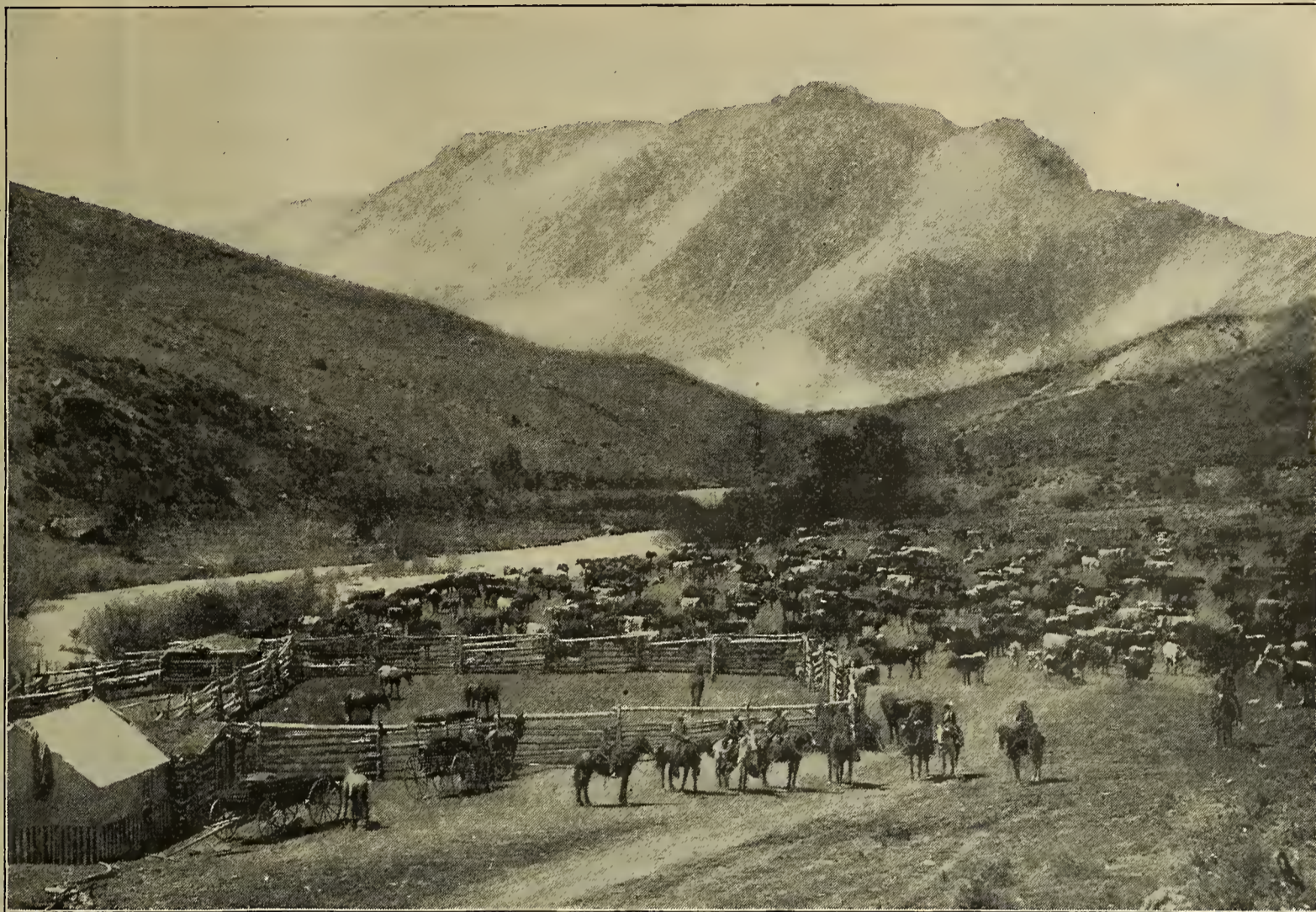
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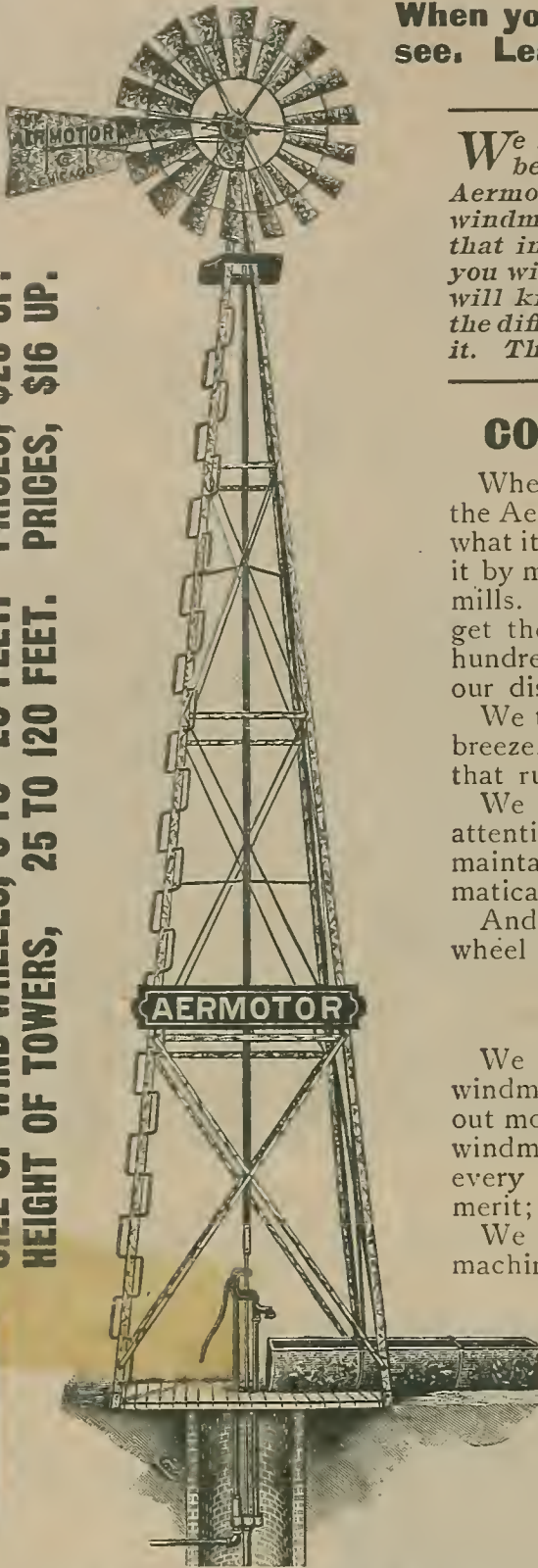
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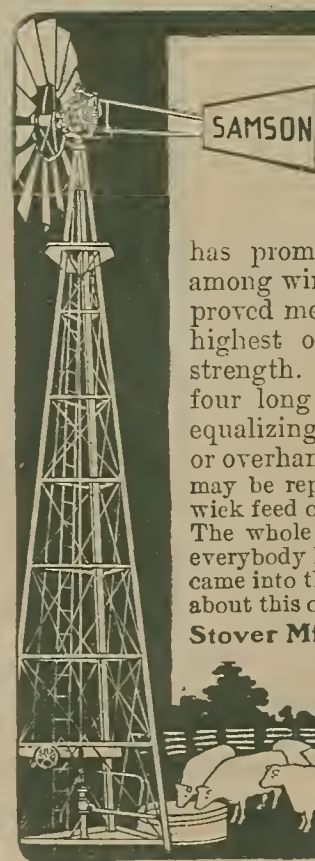
HIGH GRADE DROP-HEAD CABINET NEW QUEEN SEWING MACHINE, by freight, C. O. D., subject to examination. You can examine it at your nearest freight depot, and if found perfectly satisfactory, exactly as represented, equal to the highest grade sewing machines advertised by other houses at \$20.00 to \$30.00, and as good a machine as you can buy from your dealer at home at \$30.00 to \$40.00, the greatest bargain you ever saw or heard of, pay your railroad agent OUR SPECIAL OFFER PRICE \$11.25 and freight charges. Give the machine three months' trial in your own home and we will return your \$11.25 any day you are not satisfied.

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